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An Address

ON

HUMAN ANATOMY IN ENGLAND DURING THE NINETEENTH CENTURY.

Delivered to the Students of the London Hospital

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GENTLEMEN,—In the opinion of the great majority of medical men the subject of human anatomy, so far as it can serve the purposes of the physician and surgeon, has become in our time as perfect as the skill of man can make it. I will not venture to say that such an opinion is unreasonable. The human body is a comparatively small and strictly circumscribed field wherein generation after generation of anatomists have laboured during many centuries, treasuring and perpetuating their observations in an almost endless series of tomes. If finality be possible we ought now to have reached it. One who believes that the stage of perfection has been reached might cite our modern text-books of anatomy as evidence; they seem to leave nothing further to be desired; their bulk ought to betoken finality. Never before has the structure of the body been displayed so exhaustively, so accurately, or so temptingly as to the young man who commences the study of medicine to-day. But unfortunately the condition of a subject, its perfection or imperfection, cannot be measured by an examination of its text-books. As regards human anatomy it can be judged only by seeing how well it serves the needs of medical men, and when modern anatomy is measured by this standard it seems to me to fall very far short of perfection.

To make my meaning clear, let me cite a number of structures on which anatomists, physicians, and especially surgeons have concentrated their most strenuous endeavours during the last two or three decades. I will select the appendix vermiformis as my first instance. Its size, shape, position, variations, and development are described in the most elaborate detail, but nowhere can one find answers to these questions: Why is its lumen so small, its muscular coat so thick, and its supply of lymphoid tissue so abundant? Why does it, like the thymus, tonsil, Peyer's patches, and lymphoid structures generally tend to undergo an atrophy with age? Yet the answers to these questions seem to me to constitute the very essence of the anatomy of the appendix. Could the anatomist answer these, then indeed we should know something of its nature. To call the appendix a "vestigial structure" or a "cæcal tonsil" is merely a manner of covering our ignorance of its nature by a gloss of knowledge—a very remarkable thing in the case of a structure that causes the death of thousands of persons. The great intestine will serve as another instance. It has been most minutely described and demarcated into segments; its fixation, its tæniæ, its form, and course are set forth in our text-books at great length. But no one asks why it is so placed and fixed, why its outer muscular coat is grouped in tæniæ, or why it takes such a remarkable and tortuous course. Certainly the theory of its being a useless structure and a cesspool, promulgated by Metchnikoff and accepted by so many, will not assist us in explaining the significance of these features. Many other structures might be cited, such as the gall-bladder, the prostate, the epididymis, the antrum of the mastoid, the nasal air sinuses, the semilunar cartilages of the knee, the erector spinæ, or the folds and arrangement of the peritoneum. On each one of these structures anatomists and surgeons have focussed their attention of late years with the result that we have accumulated an enormous catalogue of their physical characters, but of their nature, meaning, or function little or nothing. That a generation of medical men in seeking to establish a scientific basis on which to apply treatment should rest content with merely describing the physical characters of parts which are so often the seat of disease seems to me a very remarkable defect in our modern methods of anatomical inquiry. This grave defect I believe to be a direct result of the modern conception of human anatomy.

What is our modern conception of human anatomy? If you turn to examination papers you will find it; most of the questions begin with the word "describe." Turn to our text-books and you will find that such and such a part "presents for description or examination the following features" as if the main reason for the very existence of the part was for "the purposes of description." Our anatomical text-books are what they claim to be—works on "descriptive" anatomy. The art of description has become the chief purpose of anatomy. We describe to you the heart in its utmost details—its shape, surfaces, borders, and grooves; we treat it as a still-life study, a thing of crests and angles so utterly unlike the palpitating organ you afterwards have to place your stethoscope over that you cannot imagine the anatomical and clinical heart to be the same thing. In my student days two books on anatomy were held up for particular commendation; one was Ward's "Osteology," the other Ellis's "Anatomy" (now in my opinion much improved). Both are magnificent examples of accurate and painstaking observation and description. If anatomy be but the correct description of parts, then, indeed, our subject has reached a finality. To my mind the apparent futility and barrenness which characterise so much of our modern anatomical work are due to the fact that this *descriptive* ideal has been accepted and that the business of the anatomist is to describe appearances, not to explain them.

The remarkable story of how anatomy came to be regarded in England as a "descriptive science" commences towards the close of the eighteenth century. In the latter part of that century British anatomists were, as indeed they had always been, much more than mere describers. John Hunter in London and Alexander Monro (secundus) in Edinburgh had modelled themselves on the prototype of English anatomists, William Harvey. In no sense was Harvey a descriptive anatomist: he studied the human body to understand the significance, not the form of the various parts. He perceived that the hypotheses of his time did not account for the structure of the heart nor for the arrangement of its blood-vessels. It was to explain these that he postulated the theory of the circulation of the blood, the truth of which he afterwards proved by experiment. It was in the same spirit that Hunter, Monro, and the two Bells pursued the study of anatomy in England in the later decades of the eighteenth century. To Hunter the observation of a fact was but the prelude to an attempt to explain its significance. It was not enough to record that the wall of the aorta was twice as thick as that of the pulmonary artery or that the walls of some veins were thick and of others thin: he immediately set to work to find out the significance of these facts; he appealed to comparative anatomy, to embryology, to pathology, and experiment for an explanation. Monro formed a true conception of the manner in which the cerebral circulation was carried on from a consideration of the anatomy of the parts; he did not rest content with merely describing the venous sinuses within the skull but sought for the reason why the larger intracranial veins assume such a peculiar form. In the "System of Dissections" by Charles Bell,[1] and in the text-book first issued in 1793 by John and Charles Bell, one sees the same spirit at work. Thus, up to the end of the eighteenth century there was a strong school of British anatomists who regarded dissecting as a means for obtaining not a description but an understanding of the human body. By the end of the second decade of the nineteenth century this robust British school had almost ceased to exist, its extinction being due to the introduction of a French fashion. At that time our young men turned to Paris for their medical ideals, just as now our young women seek there the standard of fashion. Our young anatomists preferred the clear, methodical descriptive manner of the Parisian school to the heavier methods of their predecessors. Descriptive anatomy had thriven amazingly in the French schools. It was the creation, I think, of the famous Winslow, professor of anatomy, physic, and surgery in the University of Paris, in the middle decades of the eighteenth century. He had (but to a very high degree) that gift which many of his countrymen still retain of engaging the rapt attention of his readers and hearers by the sheer lucidity and orderliness of his descriptions. While merely conveying to his hearers or readers what they might see with their own eyes at a glance he left with them the pleasant impression that they were drinking at the very fountain-head of pure knowledge. This special gift of vivid description has often

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END OF THE FIRST VOLUME FOR 1908.

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ere infers that neither orifice can be closed; that they are ways open, in systole and diastole; and that regurgitation blood during the contraction of the auricle is prevented r the pressure in the veins being normally greater than e diastolic pressure in the right ventricle. I am now nvinced that, as far as concerns the inferior caval orifice, hn Bell's conception is true, and I am not so certain I was that the band of muscle above mentioned—the nia terminalis—is absolutely sufficient to occlude the per orifice in man, although there can be no doubt from s arrangement that it does diminish it in auricular systole. ithin the right auricle, too, turning again to modern xt-books, the student is expected to examine the tubercle Lower which is believed to direct the current of blood owing in from the inferior vena cava—a miniature breakater. Bichat expresses a doubt as to the tubercle; he eaks of it as the "tubercle which Lower saw or believed e saw." Bell expresses a more definite doubt. "It is mmonly absent," he states, and adds "if it were not really n imagination of that celebrated anatomist." Now, what ower represents in the figure showing this "tubercle" is e heart of the calf or sheep, in which the upper and lower enæ cavæ enter the right auricle close together and set at a irly acute angle to each other, so that the band of muscle etween their orifices is very apparent on the interior of the uricle. It was to this intercaval band of muscle which ower gave the name of tubercle, a term inappropriate in he sheep's heart and altogether inapplicable to the human eart.

Many further instances might be cited to show how far the doption of the descriptive method has obscured our real bject in studying the anatomy of the heart. I will refer to nly one—namely, the structures concerned in tricuspid regurgitation All of us who now teach human anatomy must ave been familiar as students with the clinical doctrine that nder certain conditions the tricuspid valve became incompetent. Yet, in our published descriptions we never ask the tudent to look beyond the cusps of the valve and the fibrous ing—a very delicate ring it is—which *surrounds* the orifice s the means of securing competency. The relationship of he musculature at the base of the right ventricle to this rifice and the effect of its contraction on the size of the rifice were scarcely mentioned, yet from a clinical point of view the surrounding musculature is infinitely more important than the surrounding fibrous ring. In spite of the teaching and discoveries of embryology we still confuse under the term "base" two totally different parts of the heart—namely, the commencement and end of the cardiac tube. The conical shape of the heart—its apex and base—we assume as axiomatic and incapable of explanation. We describe the walls of its chambers as if they were rigid, overlooking the fact that they are composed of a pulsating musculature arranged so as to produce definite movements by which their contents are propelled.

So far my argument has been to show that our progress in real practical human anatomy during the nineteenth century has not been so great as is generally supposed, the lack of progress being due in the first place to our acceptation of "descriptive" anatomy as the real anatomy, and, in the second place, because side issues have been allowed to draw anatomists away from their real work. But it might be urged that the defects I see in modern anatomy are the result of the separation from it of physiology—a separation necessitated by the growth of knowledge. That a separation was necessary I fully admit, but that the dividing line should have been drawn where we now find it has proved, as I have just shown, a great misfortune, not only for the progress of anatomy but also of physiology. It is an artificial line established by Winslow's unhappy facility of description. Between anatomy and physiology has been left a no man's and and yet one of great importance to medical men. I refer especially to the muscular mechanisms of the body—the mechanism of respiration, circulation, digestion, deglutition, micturition, and locomotion, subjects at present indifferently taught and indifferently understood, because the man who teaches the action has forgotten the structures that are involved, and the man who describes and knows the structures has not troubled to discover how they act. In our school, as in many others throughout the country, the gap between anatomy and physiology, which tends to widen, has not been felt because of the harmonious workings of the two departments, yet I think the time has come when a reconsideration of the present dividing line is necessary in the interests of all concerned.

There are many reasons that make a reconsideration of the present scope of anatomy urgent. There is, in the first place, the enormous growth of physiology; already those that teach that subject find its present scope beyond the powers of one teacher. There is, in the second place, the necessity of finding more time for the subjects absolutely essential to the profession of medicine—the old but ever-growing subjects of medicine, surgery, and midwifery; the newer subjects—pathology, bacteriology, pharmacology, hygiene, and special diseases. Something has to be unloaded to make proper room for those, and we anatomists, who like thrifty housewives have treasured everything, have to unload our share and, for my part, I will willingly let go much of that material we dragged ashore in our close-meshed descriptive net. If to the splendid basis of descriptive anatomy we have now at our disposal we were to add the practical spirit of the eighteenth century anatomists I feel certain we should secure a future of great prosperity for anatomy.

A Lecture

ON

THE STUDY OF EMBRYOLOGY.

Delivered at King's College, London,

BY PETER THOMPSON, M.D. VICT.,

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GENTLEMEN,—It may be a commonplace remark, but it is nevertheless true, that in tracing the evolution of the present state of knowledge of any subject one engages in a task which is at once illuminating and stimulating. How interesting it is, for example, to come across such observations as those of Rathke and Valentin, two distinguished men who lived in the first half of the last century and who clearly saw the great future which lay before the science of embryology. Thus Rathke, in 1832, commences his anatomical and philosophical researches, &c., with a praise of our subject: "In order to understand the laws which lie at the foundation of animal creation," he says, "one must not look only at the fully-developed animal but also turn attention to those in process of development. For here you see an organ gradually converted from a simple into a complex one. Moreover, it stands to reason that one is able to recognise the laws of creation sooner whilst they are actually being carried on than when they are completed." And Valentin, in 1835, remarks: "Almost all physiologists and anatomists who have been active and celebrated in our time have directed their attentions to the development of the individual as opposed to the problem of the relationships of the animal world—i.e., comparative anatomy. Both together are the foundation on which the true and genuine conception of animal life must be based."

In tracing the history of embryology we see that although the study of the actual development of animals during their evolution from the egg has attracted attention from very early times, little advance was made until comparatively recent years. Indeed, it is only within the last 20 or 30 years that the enormous powers of embryology as an instrument for unravelling the problems of early growth have been manifest, and one can clearly see the main factors which have contributed to this change of affairs: the promulgation of the cell theory, the invention of the microtome, Darwin's theory of the origin of species, and lastly the many observers who, with modern weapons, have explored the little-known country hitherto visited by a small but valiant band.

Striking, therefore, as were the advances made in all branches of biological inquiry during the nineteenth century, in few was this advance more marked than in that of embryology. From its commencement, through the genius of Harvey, Haller, and Wolff in the seventeenth and eighteenth centuries, little progress was made until the early years of the nineteenth century, which through the researches of Pander and von Baer practically witnessed the birth of embryology as a science. Pander's investigations have become classical and the results of his work are to be found in our modern text-books of embryology and are taught to-day. Through the interest thus associated with Pander and his time it may be recalled that it was in 1817 that he deluded scholars into *mistaking* the shadow for the substance. A system of knowledge which settles home too easily in one's understanding is just the knowledge to be accepted with scrutiny. Winslow purposely abstained from attempting to explain the meaning of the structures which he described, *proposing to relegate* all that related to function to another volume. In so doing he emasculated anatomy; but the *system* he initiated prospered abundantly, and at the end of the eighteenth century, in the hands of his able follower Bichat, it came to be regarded, in France at least, as the ideal conception of anatomy.

In the opening years of the nineteenth century we can see the French influence at work in the British schools. In 1804 and 1807 appeared Sir Astley Cooper's famous folios on Hernia. They differ totally in spirit from the anatomical works of the previous age—those of Hunter and Monro. They are minute, elaborate, and rather irksomely accurate descriptions of parts; he never stops to ask why the parts are so arranged but is content to have described them. The "London Dissector," a popular guide in the dissecting-room during the earlier part of last century, is a purely descriptive work with the merit of brevity. The "Dublin Dissector" is unmistakeably founded on the teaching of Bichat. When in 1828 Jones Quain published the first edition of that famous work, which has had many rivals but, in my opinion, no equal, he quotes with commendation the *system* of description enunciated by Béclard—namely, that in dealing with a structure the *following* order should be observed: (1) form and outline; (2) situation and relationship; (3) direction of its axis; (4) size; (5) physical characters; (6) anatomical composition; (7) chemical composition; (8) secretions; (9) properties during life; (10) vital action; (11) sex and age change; and (12) morbid changes. Béclard's is certainly a comprehensive formula, but still it is a formula, and nothing is more certain than that the introduction of a formula into any *system* of knowledge whatsoever means a cessation of all rational endeavour in that system. But to see with what avidity the conception of anatomy as a "descriptive science" was accepted in Britain one must turn to the *writings of that ill-starred* whirlwind, the brilliant anatomical demagogue, Robert Knox of Edinburgh. It seized him with all the force of a revelation; in season and out of season, by translation of French treatises and popular lectures, he preached the adoption of the methods and ideals of Bichat and Cuvier as the salvation of British anatomy. If other British anatomists adopted these ideals more quietly than Knox they were *nevertheless* sound converts and by the middle of the nineteenth century we see the French *formularies* brought to perfection in the hands of Ward and Ellis. Throughout the whole of the nineteenth century British anatomists built on the plan designed by the French anatomists of the eighteenth century. That this plan has provided a sound foundation for the accumulation and systematisation of anatomical *fact no one* can deny who is familiar with our magnificent modern text-books, wherein, at a length of some 800,000 or 900,000 words, the medical student is presented with an exhaustive description of the *dead* human body. If we had remained true to the ideals of the earlier British anatomists they would have portrayed a picture of the *living* human body.

While the *general trend of anatomy* in this country during the nineteenth century was mainly determined by the acceptance of the French ideals, yet *even* a brief account would be altogether misleading unless other influences are noted which came to bear on British *anatomists* and determined the direction of their observations. In the opening decades of the nineteenth century Cuvier's influence was *profound*. He had demonstrated to all the world that anatomy provided the data by which the members of the animal kingdom might be arranged in a natural and orderly system of groups. Anatomy, which had been the humble utilitarian drudge of medical men, was *promoted to be* the handmaid of men whose aim was pure science. Human anatomists gladly forsook the task of trying to discover the *mechanism* of the human body and set out on the high task of setting the animal kingdom in order. The methods of descriptive *anatomy*, however imperfectly they may answer the purposes of medical men, were admirably adapted for the needs of the comparative anatomist. *Owen* became the first effective exponent of the Cuvierian school in England and I know of no finer irony in fate than that the Hunterian collection which the eighteenth century master had built up to elucidate the contrivance of the human body in particular and the *organisation* of living things in general, should have been placed in the hands of one who, however brilliant his powers of description, was a believer in archetypes rather than in function. Owen's fame and name were great, and if he exercised no direct effect on the *body* of knowledge *which* we call human anatomy, yet one can see that *from* 1830 onwards he gave many anatomists a bent towards vertebrate morphology, and *thus to* some degree modified the undercurrent of *our anatomical text*.

There is a very remarkable *parallelism* between the three men who dominated anatomical work in France during the earlier decades of the nineteenth century and the three men who exercised a *similar* influence in England during the great Victorian period. Cuvier was accompanied by two men, Etienne Geoffroy St. Hilaire and Lamarck. They were interpreters of fact, and Cuvier, a *describer and classifier*, used his predominating influence to suppress them. Owen was also accompanied by two interpreters of fact; in place of Geoffroy St. Hilaire stands Huxley, in place of Lamarck, Darwin, but in England it was the interpreters of fact who proved victorious. Darwin and Huxley had a profound influence on the work of British anatomists; they brought them back to the study of the human body; evolution *provided* a key to many structures which puzzled the human anatomist. But while man's position in the animal world was being determined with great success his place in the medical world was well-nigh forgotten.

In the last three decades of the nineteenth century a movement in a new direction became general amongst anatomists. The development of the body became more and more a subject of investigation. In this movement the late Professor His exercised a predominating influence; it was patent to all that the reconstructional and modelling methods which he employed with consummate skill provided the *material for the foundation* of a *sound and* progressive system of knowledge. *In* the main His was a descriptive embryologist; *he carried* the ideals current amongst anatomists of his time into a new field of work. Far be it from me to deprecate the value of *descriptive* work in embryology or anatomy; only I would most strenuously urge, what is so frequently forgotten, that description is only the *beginning*, not the end, of all embryological and anatomical investigation.

Thus it *comes* to pass that a *young man commencing* the study of medicine in 1907, although he may obtain a truer conception of "*Man's Place* in Nature" and a *fuller* knowledge of the development of the human body than was possible for his predecessor of 1807, yet holds little or no advantage over him as regards the available stock of practical anatomical knowledge. For proof of what I maintain one may turn to the account of the heart, that *organ* which in all times has been accounted the most important in the *study and practice of medicine, given in* Bichat's "Traité d'Anatomie Descriptive"[1] and *compare* it with the descriptions given in the latest *editions of* our *modern text-book* of anatomy and it will be found that, as far as concerns the naked eye anatomy of the heart, the *one* account differs very little *from* the other; indeed, if anything, the older book gives the better working picture of the heart. The same parts are enumerated and described; in the right auricle, for instance, the student is asked to observe the openings of the *superior and inferior vena cava, but in neither* the old work nor the new is any mention made of the arrangement of the musculature round these *orifices, the* student apparently being expected to presume that they are always open. Bichat, it is true, *describes* a rounded band of musculature in the right auricle crossing in front of the superior caval orifice but of its significance says nothing. In *modern* text-books this same band is described as a crest—the crista terminalis, the very name showing how *far* anatomists have lost sight of function when they name a *contracting* band of muscle a crest. From the physiologist the modern student learns that these *orifices* are *closed during auricular* systole by the surrounding circular musculature, but when he comes to examine the human heart he will find that there is no circular musculature round the inferior caval orifice, while he will find it *difficult to believe that the* muscle round the upper orifice is sufficient for the task ascribed to it.

Having compared the best of the early nineteenth century with the best *of* the early twentieth century anatomies, let us turn *to* the account in the last *of* the truly British text-books, Bells' "Anatomy of the Human Body." From an examination of the parts the anatomist

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[1] *Paris*, 1803.

26 years of age, he became, through Meissner's promotion to Freiburg, professor of anatomy and physiology in his native town. *Owing to his youth and natural modesty*, he was somewhat diffident of his power for carrying on the work of the two subjects, but the Chancellor of the University (Herr Peter Merian) remarked to him: "Wir haben sie ins Wasser geworfen, sie mogen nun zusehen, wie sie schwimmen" ("We have thrown you into the water, see to it that you now swim"). It is well known how brilliant his career has been and how richly his labours have been rewarded in that realm of science over which he held almost sovereign sway. His has acknowledged, however, in allusion to the remark of the Chancellor that several times in the first year after his appointment, when day by day he was engaged in preparing lectures, demonstrations, and experiments, "Der Wasser ging mir allerdings weit an den Hals herauf," or, in other words, that he often felt like drowning. He remained in the University of Basle until 1872, when he succeeded E. H. Weber as professor of anatomy and director of the anatomical laboratories in the University of Leipsic. Simultaneously with his appointment, W. Braune, Weber's son-in-law, became professor of *topographical anatomy in the same* University. These two men, differing in age by only a few days, but differing markedly in their general temperaments, became very close friends, and on the death of Braune in April, 1892, the loss was felt by His to be well-nigh irreparable. His's work was done first in the old, then in the new buildings of the institute at Leipsic. The new buildings were erected under his supervision and have become a model for successive generations. With regard to his original work, it may be said at once that he contributed valuable papers to nearly every department of anatomy, but it is as an embryologist that he is best known in this country, where his name has been familiar to every medical student during the last 20 years. In 1885 he completed the great work which he published under the name of "Anatomie Menschlicher Embryonen" and which has *formed the basis of all* subsequent text-books dealing with embryology. His's monographs and miscellaneous papers exceed one hundred in number. He passed away in May, 1904, in his seventy-third year, the promise of his earlier days being amply fulfilled, and he has left a legacy of enormous scientific value to his successors.

To the medical student anatomy very often means simply human anatomy. But this is anatomy in a very restricted sense. Anatomy when regarded as a science includes embryology and comparative anatomy, whilst anatomy essential to the physician and surgeon is really applied anatomy. The three subjects, human anatomy, comparative anatomy, and embryology, constitute what is known as morphology and the specialist in anatomy of to-day must be acquainted with all three. Similarly a well equipped anatomical institute must contain laboratories for the prosecution of research in these three directions. Moreover, in view of the supreme importance of a precise and accurate knowledge of the anatomy of the human body and the limited time for the study of the preliminary and intermediate subjects, it is not surprising that the medical student should have *less* regard for the study of embryology and comparative anatomy than for human anatomy. But practical embryology is a fine training for anyone who proposes to enter the medical profession, whether he intends to be a surgeon, a physician, or a general practitioner. The patience, skill, and thoroughness necessary to work successfully through an embryo train his powers exactly in the right direction, and in some of the universities in Germany medical students who have the time and inclination are encouraged to take up work of this class.

We have seen how in the prosecution of embryological research serial sections became imperative. Odd sections taken here and there and studied apart instead of in conjunction with neighbouring sections could only lead to speculation and error. Even with a complete series of sections of an embryo it is often difficult to read them correctly; it is therefore necessary to visualise them in some way and this is now done by reconstruction methods. If you will pardon the simile, it might be said that just as by means of a piano the beauties of a piece of music in manuscript can be rendered manifest, so by reconstruction in wax, one can visualise and make manifest the form of the embryo from a series of microscopical sections. It is *easier* to appreciate music when it is actually played on an instrument and it is easier to interpret and appreciate microscopical sections of embryos when they are reconstructed in wax in the form of a model The employment of serial sections therefore leads naturally enough to the discovery of reconstruction methods. To Professor His must be given the credit of perceiving the *need of reproducing in some way the bodily form of the* object which had been cut into sections. This necessity he met by his "*projective reconstruction method.*" May I describe this very briefly? He employed millimetre paper, each line of which was taken to represent a section. Beginning from a base line, the back in case of a profile reconstruction, and the middle line of the body in case of a frontal reconstruction, he measured along the lines of his paper the distances of any organ as shown in the drawings which he made of the sections enlarged, say, 100 times. When he had *entirely worked through his series of sections* the corresponding points on the lines were joined up, and thus was projected on paper the profile form of the object with which he was dealing magnified 100 times. After working through the sections of the embryo in this most exact way he set to work to freely model the embryo in clay or wax. That is to say: he had obtained such a knowledge of the embryo from working through the serial sections that he was able to take some clay and make a model of the form he conceived the embryo to be, controlling all the time the size and distances, &c., by means of callipers and references to the enlarged drawings of the sections. *In this way* many well-known models were made which have become familiar to all students of biology and anatomy throughout the world, and I would mention particularly the series of models illustrating the development of the chick, the salmon, and the human embryo. How necessary it was to visualise the sections in some such way as this is shown by the fact that Krieger quite independently thought out the same idea. He employed *the same methods* in the study of the central nervous system of the crab and about the same time, or a little later, other methods were suggested which served the same purpose. His's projective reconstruction furnished drawings and freely modelled objects. In the making of the models he has had no successor. The art required a particularly *high technical gift* to overcome the many obstacles and to neutralise the many sources of error. Moreover, a new method was suggested by Professor Born which entirely displaced it. This was, after various *modifications*, eventually extensively employed and was utilised by *His himself in* his later years.

Before proceeding to give an account of Professor Born's method of reconstruction by means of wax plates I wish to refer to a very interesting point in connexion with the *history of the method*. Born's method was briefly announced in 1876 and was fully described by him in 1883, and there seems no doubt that the credit of first publishing the method rightly belongs to him. But when in conversation recently with the librarian of the Royal Microscopical Society I was greatly interested to hear that something similar had been published quite independently in England about the same time. On Jan. 24th, 1879, Mr. E. T. Newton read a paper before the members of the Quekett Microscopical Club explaining how he had made a model of the brain of the cockroach. He evidently had experienced the *great difficulty* of visualising the form of objects cut into serial sections, for he remarks in his paper: "Anyone who in working out structures by means of sections has endeavoured to trace the various parts through a series of sections will understand how difficult it is to *keep in mind* the structures seen in each, so as to picture to himself the form of any part when entire. And still more difficult is it to convey to others the knowledge which one has gained by the examination of such a series." In order to explain to the members of his club the details of the structure of the brain as obtained by an examination of the sections, Mr. Newton made plates of soft pinewood, each one-eighth of an inch in thickness, each plate corresponding to a section and cut out by a saw in the form of the section. When these were piled one on the other an entire view of the brain enlarged was obtained in the form of a *wooden model*. There seems no doubt that Mr. Newton thought out quite independently the main principle underlying the method of reconstruction by plates, though it was some three years later than Born's first publication.

[A demonstration was then given of the details of Born's method of reconstruction by wax plates, illustrated by model- and *lantern slides*. In brief, this may be described as follows. The sections of the embryo are drawn on a thin sheet of paper either by the aid of a camera lucida or a projection apparatus and special drawing board at a magnification of 25, 50, or 100 times the size of the section, as desired. Each sheet of paper is then placed on a stone, and von Baer proceeded to Würzburg to work under Döllinger, and as a result of his advice and influence Pander carried out important researches on the development of the chick. Thus was formed, as von Baer himself has told us, a noteworthy association, destined to have far-reaching results, between Döllinger, the grey-haired veteran in physiological researches, the youthful Pander, burning with zeal for science, and the incomparable artist Dalton. Von Baer was so impressed with Pander's zeal that he, too, determined to devote himself to the pursuit of embryological problems. In 1819 he proceeded to Königsberg, and for several years enthusiastically applied himself to the elucidation of the developmental phenomena of animal organisms. The first volume embodying the results of the monumental work was published in 1828, entitled "Observations and Reflections on the Development of Animals." The second volume was published in 1837, and a third one in 1888, after his death. These publications contain not only the main results of Baer's scientific inquiries but also form the basis on which all modern embryology practically rests. Referring to them, Huxley justly observes: "Baer's book on the development of animals contains the deepest and soundest philosophy of biology and zoology which has ever been presented to the world," and Kölliker is in agreement with him when he says "Baer's works ought, on account of their richness and excellence of facts, the erudition and the magnitude of the developmental observations, certainly to be regarded as the best which the embryological literature of all times and all nations has to show." Amongst Baer's observations one stands supreme—viz., the finding of the mammalian ovum in 1827. This discovery was published in a short pamphlet entitled "De Ovi Mammalium et Hominis Genesi," and he subsequently demonstrated before a society of natural philosophy in Berlin preparations showing the extremely small mammalian ovum inclosed within the Graafian follicle.

But besides von Baer, to whom must be ascribed the first place amongst the workers in embryological science, many others were engaged about this time in similar problems in Germany and other countries. In Germany, Oken and Meckel, Carus and Rathke, Johannes Müller, Huschke, and Siebold; in France, Butrochet, Prévost, and Coste; in England, Allen Thomson, Wharton Jones, and Martin Barry; in Italy, the famous Rusconi—each made valuable contributions to the rapidly growing science.

Here let me say a few words about Allen Thomson, whose son we have amongst us as Vice Principal of this College. He is rightly regarded as the father of embryology in this country. He published as early as 1839 papers dealing with early human embryos, and even before this date—i.e., in 1831—he proved by means of sections cut by hand that the main aorta is formed by the median fusion of two vessels previously separate, a most interesting and noteworthy discovery. Moreover, we ought not to forget that prior to 1830 little was known of embryological science in this country and that between 1830 and 1845 the only anatomist who was devoting himself to human embryology was Allen Thomson and that it was in this field that he won his laurels. It is an interesting fact and shows the bent of his mind that at 21 years of age he published a paper on the development of the vascular system, and throughout his life embryology continued to be the favourite subject of his study and researches.

Now may I remind you that the work done in the field of embryology in the first half of the century was done before the discovery of the microtome, an instrument which, though universally used at the present day, is of comparatively recent introduction. Indeed, so little advance had been made in methods of technique that Pander and von Baer practically used the same methods as Haller and Wolff had done in the century preceding. I gather from a paper by Professor Minot that "sections, though more or less used in the early half of the century, were not much relied upon until the second half of the century had been reached, and we may say that it was approximately about 1860 that section cutting began to come into favour among microscopists. But it was not until 1874 that microtomes began to make their way." How then did the old embryologists arrive at their conclusions? An interesting sidelight is thrown on this question by Huschke mentioned above. This observer published in 1832 an account of the formation of the otic vesicle and the lens. As he studied the growth of the eye in the chick he noticed in the middle of the eye vesicle a little spot which he imagined to be the anlage of the lens. He explored it with a fine hair, with the point of which he slipped into an opening. "Now I am free from all doubts," he says. "I knew at once how the lens, the lens capsule, and particularly the labyrinth of the ear were developed. I saw they were formed from a depression or invagination of the external skin."

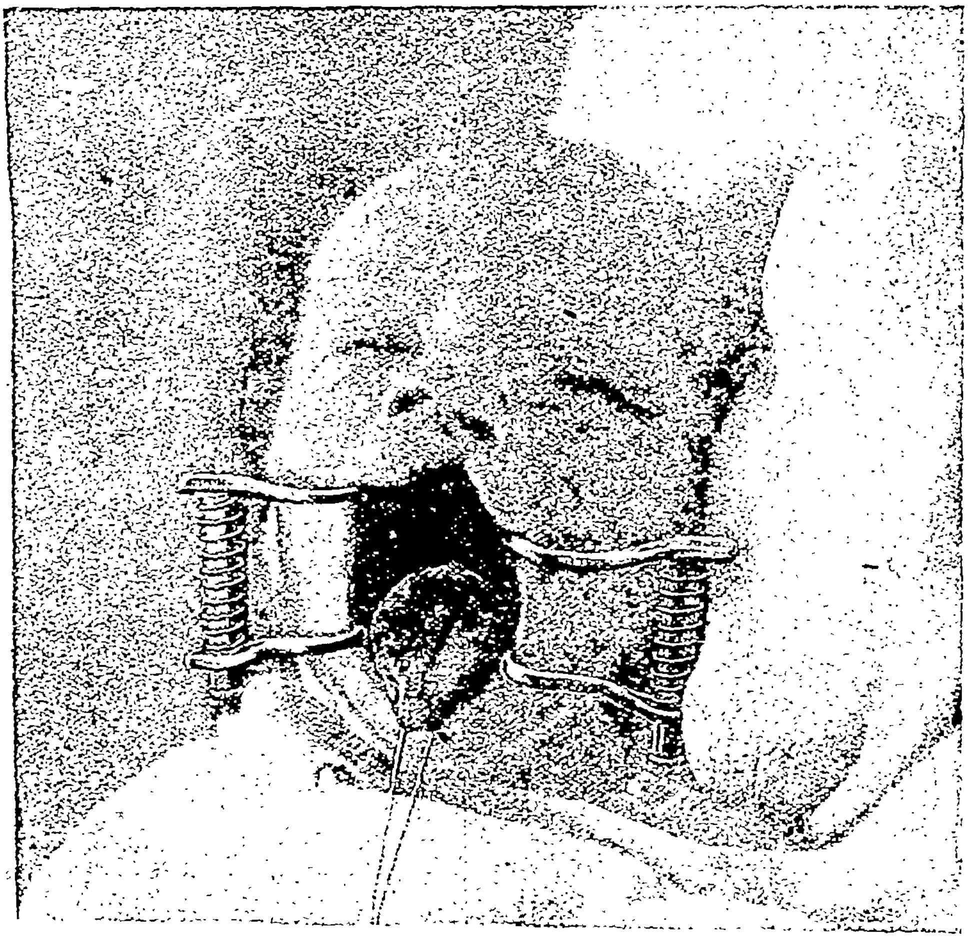
And so with such simple apparatus as a magnifying lens, scissors, knife, and razor the pioneers of embryology pursued their way. Then came the wonderful discovery of Schwann that all animal tissues were composed of cells. With this new impetus it is not surprising to find that embryology was for a time included as a branch of physiology. The delicate methods employed in histological research were just those necessary for the study of young embryos and the subject was therefore taught by physiologists. But the anatomists soon woke up; they saw a new world ready for exploration, a world which for them offered a solution of many completely unintelligible anatomical facts. It was therefore absolutely essential for them to master the new science and with as little delay as possible they entered into possession of their kingdom. Schwann's discovery ultimately had a transforming influence on embryological technique. The methods of the old teachers were no longer sufficient. It was recognised that what the atom was to the chemist the cell was to the embryologist, and nothing short of thin sections, high power of magnification, and elaborate methods of staining would suffice. It was imperative that there should be some means of obtaining thin even serial sections and this demand was soon supplied by the genius of His.

The first microtome, the instrument by which serial sections of objects are obtained, which at all corresponded in principle to those in use at the present day is apparently the one described by His in 1870. Previously to that time a form of microtome known as Valentin's double knife had been employed, but the principle of this was altogether different from that of the microtome in use now. The essential points of His's microtome were a mechanically moved razor and an arrangement for mechanically advancing the block, and although the means of obtaining these essential points have in later years been improved they constitute the basis on which all microtomes are constructed. I think it may not be without interest to quote the following statement made by His, for nothing could better illustrate the enormous progress that has been made since 1870. Professor His, speaking of the advantages of his own instrument, said: "I have used the instrument since 1866 and I have prepared during this epoch (i.e., four years) over 5000 sections." My assistant Weston has recently cut, by means of a modern microtome, nearly 5000 serial sections in a fortnight in the odd intervals snatched during the day from the ordinary routine work of the department.

Striking as was the work of Pander and von Baer in the earlier part of the century, in no less degree was that of Wilhelm His in later years. His influence on embryology has been incalculable, and if I were to mention particularly one of his researches in preference to others, it would be the wonderful monument of neurological investigation, which stands unique. Indeed, so far-reaching has the influence of His's life been on all subsequent workers in the field of embryology that it may not be out of place to give a brief sketch of the career of this remarkable man.

Wilhelm His was born in Basle in 1831 and it was there that he commenced his medical studies in 1849. In the year following he moved to Berne where he had some relatives connected with the university of that city. Here Theile taught anatomy, Valentin physiology, and Bernard Studer geology. From 1850 to 1852 His was in Berlin, where he came under the influence of Johannes Müller and Remak. He was much impressed by the great biologist, whose lectures on human and comparative anatomy were at that time perhaps unequalled. Indeed, Professor His has left it on record that the first lecture of J. Müller which he attended was a perfect revelation in the way of teaching and erudition. It was, too, from Müller and Remak that he learnt the elements of embryology, and thus laid the foundation of the great work which he was destined to carry out in the future. From Berlin he went to Würzburg, where he stayed three terms (1852–53). Here he came under the notice of Virchow and worked in his laboratories. Shortly afterwards, in 1854 he returned to Basle to complete his examinations and then he proceeded to Paris. In Paris he met Claude Bernard and Brown-Séquard, and worked for some time in the laboratory of the Collège de France. In 1857 he became a privat-docent under Professor Meissner, and in the same year, when only which I perform for cleft palate is to close in the interval between the edges of the cleft by muco-periosteum in the case of the hard palate and by mucous membrane and submucous tissue in the case of the soft palate. In the latter every care is taken to avoid damage to the muscles and nerves, the interval between the segments of the palate being filled in by a soft elastic curtain made up of opposing layers of mucous membrane and submucous tissue. If hare-lip exists the cleft or clefts in it are closed at the same time as the cleft in the palate. This is done for three reasons. The first and most important is that the soft parts which are removed necessarily from the margins of the lip may be of the greatest service in completing the closure of the anterior part of the cleft. The second reason is that I find that postponing the hare-lip operation for a time reduces the chances of union. The third reason is that the sooner the pressure of the complete lip is brought to bear upon the segments of the upper jaw as well as upon a displaced premaxilla, should it exist, the more rapid is the approximation of the bones forming the *front of the cleft* and the restoration of the premaxilla to its normal relationship. The muco-periosteum covering the premaxilla is also useful in helping to close the cleft.

FIG. 1.



Shows gags in position *for operation*, the tongue being drawn forward by a silk thread passed through the tip.

Practically the flap formation employed to close in the hard and soft palate resolves itself into two methods. If the soft parts overlying the edges of the cleft are thick and vascular a flap is cut from the mucous membrane, submucous tissue, and periosteum *of one side*, having its attachment or base along the free margin of the cleft. The palatine vascular supply is divided while the flap is being reflected inwards and it depends for its blood-supply on vessels entering its attached margin. The *mucous* membrane, submucous tissue, and periosteum are raised from the opposing margin of the cleft by an elevator, an incision being made along the length of the edge of the cleft. The reflected flap with its scanty supply of blood derived from small vessels in its attached margin is then placed beneath the elevated flap the blood-supply of which is ample and it is fixed in position by a double row of sutures. In this manner two extensive raw surfaces well supplied with blood and uninfluenced by any tension whatever are retained in accurate apposition. If, on the other hand, the cleft is too broad to admit of its safe and perfect closure in this manner, one flap, comprising all the mucous membrane, submucous tissue, and periosteum, on one side is raised except at the point of entry of the posterior palatine vessels, while the soft parts on the opposite side are raised in a flap from which the posterior palatine supply has been excluded and which turns on a base formed by the margin of the cleft. Here we have a mobile, well-vascularised flap which can be thrown as a bridge in any direction and can be superimposed on the flap of the opposite side, the closure being necessarily rendered complete by flaps *from the edges* of a hare-lip. Obviously the surgeon must be guided entirely by his instincts and experience as to the best mode of closing any particular cleft, and this description of methods must be of necessity of a general *character*.

As time goes on the damage done to the temporary teeth by the separation of the superjacent mucous membrane becomes steadily greater. Still, this is a matter of no moment as compared with the importance of the early closure of the cleft, since the milk teeth are often unsatisfactory in cases of cleft palate apart from operative interference, while the permanent teeth escape damage from it if undertaken *sufficiently early* in life.

I now purpose to describe in detail the measures by which the principles that I have laid down for the closure of clefts are applied. In Fig. 2 I have attempted to indicate such as is used in lithographic work, and melted wax is poured over it. When partly solidified it is well rolled, the thickness of the wax being determined by two brass strips, one on either side of the sheet and either one-half a millimetre or one millimetre in thickness, according to a calculation based on the thickness of the section and the magnification of the drawing. In this way wax plates are obtained from which the shape of each drawing can be readily cut by a sharp knife. These are all piled one on the other and when completed give a reproduction in wax of the form of the embryo magnified in accordance with the number arranged at the time of drawing.]

The special features of Born's method of wax plates are its comparative simplicity and its accuracy. It largely excludes the personal element in the making of the model and does not demand a great degree of technical skill or dexterity. Patience, thoroughness, trustworthiness, and enthusiasm, with dogged perseverance are the attributes necessary for him who will reconstruct in wax a complete model of a human or any other embryo in the early stages of development. As I said before, the training is an excellent one and the experience gained is invaluable for carrying on future work in whatever branch of medicine that work is to be done. I hope that the time is not far distant when some of our students who have the opportunity and the inclination will be prepared to take up work along these lines. They will not regret it. "*The harvest truly is plenteous, but the labourers are few.*"

Most of you will doubtless remember the following words of the Right Hon. Lord Avebury in his charming book "The Pleasures of Life": "There never was a time when thought was freer or when modest merit and patient industry were more sure of reward." How very applicable these words are when applied to the study of embryology by means of modern methods. We must not, however, regard embryology "as a master-key that will open the gates of knowledge" and remove all the difficulties in our way without great efforts on our part. As A. M. Marshall remarked in one of his lectures: "It is rather to be viewed and treated as a delicate and complicated instrument, the proper handling of which requires the utmost nicety of balance and adjustment, and which, unless employed with the greatest skill and judgment, may yield false instead of true results. We are indeed only just beginning to understand the real power of our weapons and the right way of employing them, and in the future embryology, especially when studied in connexion with palæontology, may be confidently relied on to afford a far clearer insight than we have yet obtained into the history of life on the earth." Born's method is obviously a most valuable aid in embryological research and is almost universally used in the German universities. In England, up to the present, it has not been much in evidence and there is, I think, a great future for an embryological school in London. If our University could see its way to provide such an institution, properly equipped and endowed, there might be a better chance of contributing our fair share towards the elucidation of the multitudinous problems in embryology which are still waiting solution. A great deal has already been done in this country but there is an enormous amount still to be accomplished, and this can best be dealt with by providing special facilities for those who are anxious to take a share in the task.

Much has been made in the past of the similarity in external form and internal structure which characterises the embryo of man and other animals in the early stages of development. That this is an embryological truth of the first magnitude no one will deny, and Haeckel, Darwin, and Huxley have drawn important deductions from this striking law. Von Baer himself having three unnamed embryos in his collection could not say in which group of vertebrates, reptiles, birds, or mammals, they were to be placed, and a still more striking illustration is afforded by the remarkable controversy which was kept up for many years over Krause's famous embryo. "In 1875," Marshall tells us, "Krause described an early human embryo which appeared to differ from all known human embryos in having a large vesicular allantois like that of a chick or a reptile instead of the allantoid stalk by which the human embryo is normally connected with the chorion. The peculiarity with regard to the allantois was so marked that doubts were at once raised as to the embryo being really a human one, and Professor His asserted roundly that Krause must have made a mistake and that his specimen was a chick embryo and not a human one at all. An ardent, almost furious, discussion arose and continued for many years; indeed, it was only in 1892 that the points at issue were finally put at rest, and it was shown that while Krause was right in describing his embryo as a human one he was mistaken in regard to the supposed peculiarity in the allantois, the bladder-like vesicle which he took for the allantois being merely a pathological dilation of the allantoic stalk."

There seems, however, very good reason for believing that when the early embryos of man, ape, dog, rabbit, and other animals are reconstructed and enlarged in the same way as the human embryo shown this afternoon and compared there will be little or no difficulty in distinguishing one from the other. I anticipate that as other models are made by Born's method certain characteristics will become evident in each series—characteristics difficult to recognise and appreciate before the enlargement is carried out. I wish I could obtain embryos of the gorilla, chimpanzee, and orang-outang of approximately the same age as the human embryo, the model of which is on the table. If these could be reconstructed in wax enlarged, say, 100 times, I would not be surprised if certain differences became apparent, from a study of which it would be possible to realise that the human embryo as early as the third week of development possesses certain characteristics by which it can at once be separated from those to which it is, zoologically speaking, nearest akin.

I trust, therefore, it is clear that the evolution of embryology as a science took place to a greater extent in the nineteenth century than in the centuries before. It is, indeed, at the beginning of the twentieth century still a comparatively new kingdom with vast territories still waiting to be explored. There is no royal road to it, only the strait gate and narrow path. There are few excitements; only the daily round and common task. There are no rewards as the world would count them; only the joy and gladness which come from a close communion with Nature and the chance of wresting from her some of her secrets. In "Sartor Resartus" Carlyle has sounded the call afresh which men have heard all down the ages, "Produce! Produce! Were it but the pitifullest infinitesimal fraction of a Product, produce it in God's name, 'tis the utmost thou hast in thee: out with it then." The torch of science burns brighter than ever to-day, and who can foresee what it shall illumine? As the illustrious von Baer eloquently expressed it: "Die Wissenschaft ist ewig in ihrem Quelle, unermesslich in ihrem Umfange, endlos in ihrer Aufgabe, unerreichbar in ihrem Ziele" ("As for science, its source is eternal, its comprehension is immeasureable, its task is endless, and its final goal is unattainable").

References.—I should like to acknowledge my great indebtedness to the following writers whose works I have freely drawn upon for this lecture: (1) Dr. Oscar Hertwig ("Handbuch der Entwickelungs-lehre der Wirbeltiere Erste Lieferung"); (2) Karl Peter ("Die Methoden der Reconstruktion"); (3) C. S. Minot ("The History of the Microtome"); and (4) A. M. Marshall ("Lectures and Addresses"). The sketch of His's life is taken from the obituary notice which I contributed to the *British Medical Journal* in May, 1904.

THE MODERN TREATMENT OF CLEFT PALATE.

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IN THE LANCET of Feb. 22nd, 1902, p. 498, my teaching on cleft palate, together with the technique of my operative procedure, was explained, and I now propose to submit with as little repetition of my former communication as possible my present-day practice in regard to the more difficult cases of cleft palate.

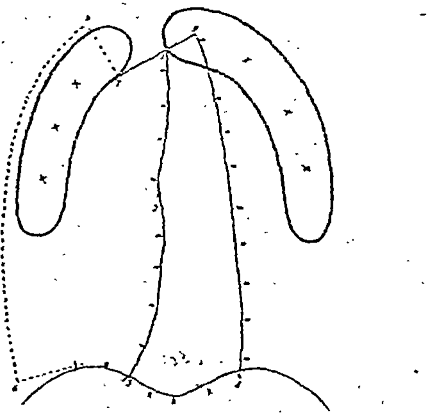
In early infancy it is possible to provide a well vascularised thick flap which is practically three times as broad as can be obtained when the teeth have begun to encroach materially on the mucous membrane or to perforate it, since the muco-periosteum covering the under and the outer surface of the alveolus can be made to form the outer two-thirds of the flap. In Fig. 1 there is represented an infant with gags in position for operation, the tongue being drawn forwards by a silk thread passed through the tip. The figure gives a good idea of the space gained for operating.

The general principle underlying the various operations

4 the posterior free margins of the reflected flaps are shown joined by sutures.

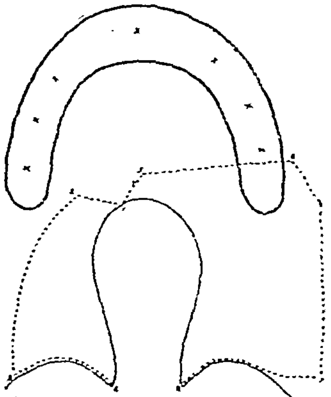
Should the cleft involve only the soft palate, as is shown in Fig. 7, the same method can usually be applied. The uvula on the left side of the diagram is pulled forwards so that the upper surface of the palate is exposed, and an incision is made from 1 to 2 to 3 to 4, through the mucous membrane and submucous tissue, which are dissected off the subjacent parts inwards to the margin of the cleft. From the area of the soft palate corresponding to the right portion of the diagram a flap is raised from its under surface by an incision from 1 to 5 to 6 to 7 to 8, and is reflected inwards to the margin of the cleft.

FIG. 6.



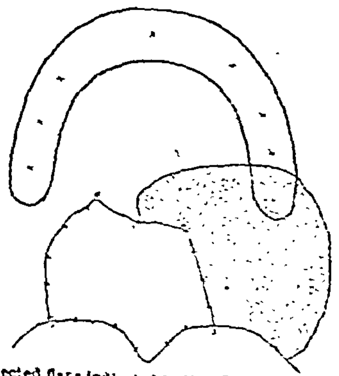
Flaps indicated in Fig. 5 shown in position.

FIG. 7.



Broad cleft of soft palate, incisions being indicated by dotted lines.

FIG. 8.

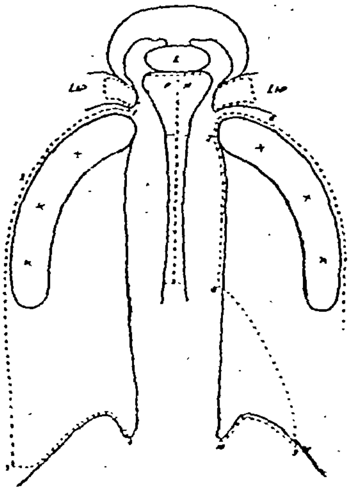


Reflected flaps indicated in Fig. 7 shown in position.

Fig. 8 shows the flaps sutured firmly in position, the darkened area representing the portion of the palate left uncovered by mucous membrane. The deep sutures uniting the edge of the flap obtained from the under surface of the palate on the right side to the raw upper surface of the palate on the left side are indicated between 6 and 7, while along 1. 2, and 3 are shown the sutures connecting the edge of the flap reflected from the upper surface of the left side of the palate to the raw under surface of the palate on the right side. Between 7 and 3 are the sutures connecting the posterior free edges of the flaps. The terms right, left, refer to the diagram and not to the body. I would point out that within a fortnight or three weeks any raw surface left becomes so perfectly covered in by new tissue as almost to defy differentiation from the adjacent mucous membrane.

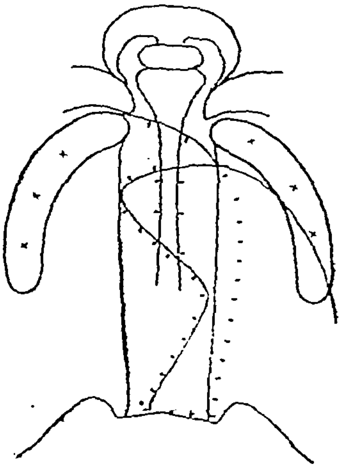
The application of the combination of reflected and pivoting flap is well illustrated by Fig. 9. This is intended to represent a double cleft palate with the premaxilla (P M) lying well in front of the level of the alveolar arch and fixed to the under surface of the tip of the nose, L being the small mesial segment of lip fixed to the anterior surface of the premaxilla. The reflected flap is obtained by an incision extending from 1 along the outer aspect of the alveolus, through 2, and on to 3, when it bends inwards along the free margin of the soft palate to the uvula 4 The pivoting flap is obtained by an incision from 5, along the outer aspect of the alveolus, through 6, along the margin of the cleft in the hard palate from 7 to 8, along the upper surface of the soft palate to 9 and then to 10. The area of mucous membrane corresponding to the triangle 8, 9 and 10 is raised and reflected inwards. The area of muco periosteum included in 5, 6, 7, and 8 is raised from the subjacent bone except at the point of entry of the

FIG. 9.



Complete cleft with double hare-lip.

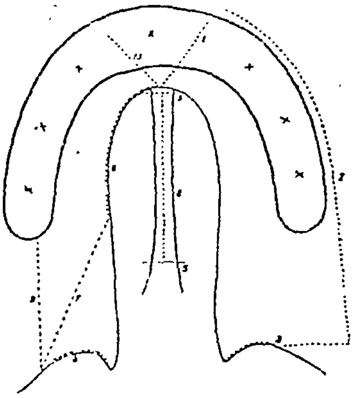
FIG. 10.



Large flaps indicated in Fig. 9 in position.

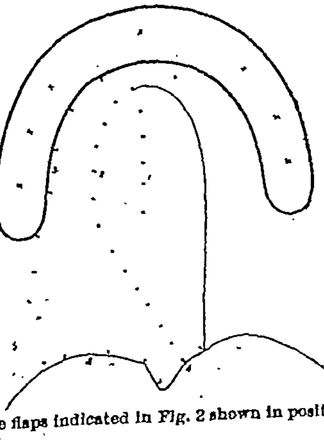
diagrammatically the details of the first method which I have described. It is intended to represent the roof of the mouth of an infant, showing a broad cleft involving almost the entire palate. The position of the alveolus is indicated by the three crosses X X X. 1 represents the incision which extends forwards and outwards through the muco-periosteum from the anterior limit of the cleft and which passes over and beyond the alveolus to its outer surface; while 2 commences at its outer limit and runs back along the outer surface of the gums about the junction of the cheek and alveolus. An incision (3) is then made from its posterior extremity along the free margin of the palate to the uvula. The flap included between these incisions is raised from the subjacent structures. It happens not uncommonly in the type of cleft palate illustrated by Fig. 2 that the septum presents a free margin which extends almost, if not quite, to the level of the cleft. In these cases I make an incision (4) through the mucous membrane and periosteum or perichondrium along the middle line of the septum with two small transverse incisions (5) at either end and turn down laterally the narrow flaps so formed, leaving the cartilage or bone bared and exposed. By placing the flap, which has been raised, in position, the line along which it will rest on the septal margin can be readily defined. With a sharp knife the surface of the reflected flap is denuded of its covering of mucous membrane along the area of impact. By a series of sutures perforating the superjacently imposed flap and the margin of the septum if it be not too hard, or the flaps of muco-periosteum if the edge be bony, the reflected flap is pinned securely to the septum. 6 shows the incision along the free margin of the cleft continued as 7, obliquely outwards and backwards along the upper surface of the soft palate. The incision 8 extends from the posterior limit of 7 along the lower free margin of the soft palate to the tip of the uvula and the incision 10 forwards and outwards from the anterior limit of 6 on to the alveolus. This last incision facilitates the raising of the flap on this side and of the introduction beneath it of the reflected flap from the opposite side. After the muco-periosteum external to the incision 6 has been raised from the bone, the soft palate is freed from the posterior margin of the hard palate and the mucous membrane on its upper surface turned outwards to the position of 9.

FIG. 2.



A broad cleft involving almost the entire palate. The incisions indicated by dotted lines.

FIG. 3.

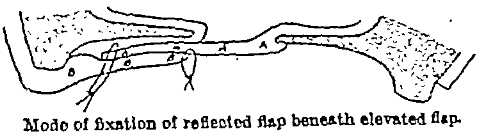


The flaps indicated in Fig. 2 shown in position.

In Fig. 3 the flaps are shown in position. The sutures along the line 1 represent those attaching the septum to the reflected flap. Those along the line 2 show the sutures which unite the free edge of the raised flap to the under surface of the reflected flap, those along the line 3 anchor the edge of the reflected flap, and those along the line 4 connect the flaps where they form the free margin of the new soft palate.

In Fig. 4 is illustrated the method of fixation of the reflected flap A A A A beneath the elevated flap B B B. The left portion of the diagram shows the flap raised from the bone through an incision along the free margin of the cleft while fixed to it by a double row of sutures is the reflected flap which has been separated from the roof through a marginal incision along the outer aspect of the gum.

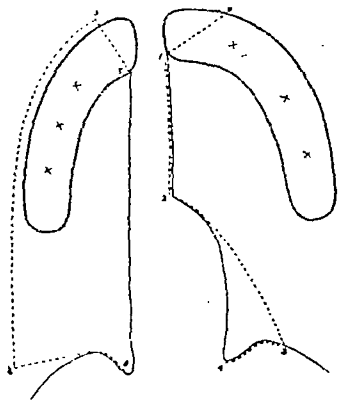
FIG. 4.



Mode of fixation of reflected flap beneath elevated flap.

Another common type of cleft palate in which the same method is frequently applicable is that illustrated in Fig. 5. The cleft in the hard palate is to one side of the mesial line where the septum is formed continuous with the margin of the cleft. The cleft in the soft palate is much broader owing to its *inclination* towards the side containing the septum. The alveolus, which is cleft also, is represented by three crosses—X X X. The reflected flap is obtained from the segment of roof, shown in the left portion of the diagram, by an incision extending from 7 to 5 to 6 to 8. The mucous membrane, submucous tissue, and periosteum are raised from the bone and aponeurosis of the soft palate. On the other side an incision is made from 9 to 1 along the edge of the cleft to 2, along the upper aspect of the soft palate to 3, and from 3 to 4. The triangular area of mucous membrane and submucous tissue included within the triangle of flap on the upper surface of the soft palate is reflected inwards to the free margin of the cleft, while the muco-periosteum is raised from the bone by an elevator and scissors introduced through the incision 1 to 2. The reflected flap is then placed beneath the elevated flap, and is retained firmly in position by a double row of interrupted sutures.

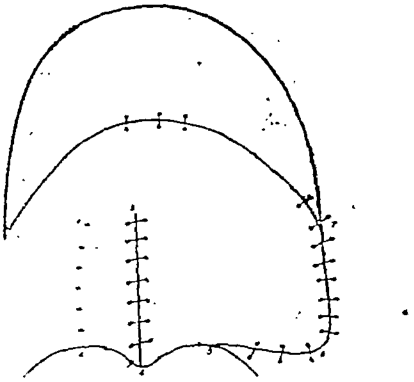
FIG. 5.



A type of complete cleft, the incisions being indicated by dotted lines.

Fig. 6 shows the flaps sutured firmly in position. Along 9 to 4 are indicated the deep sutures which pass through the margin of the reflected flap and perforate the superjacent elevated flap, while those along 1, 2, and 3 represent the superficial sutures uniting the edge of the elevated flap to the adjacent under surface of the reflected flap. Along 3 to it is impossible to close the whole length of the cleft by one single operation.

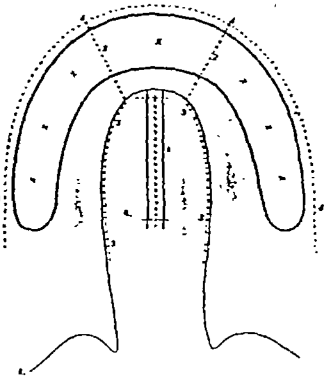
FIG. 15.



Reflected and pivoting flaps in position.

Fig. 16 illustrates such a condition. The cleft is a very wide one and it is found inadvisable to attempt to close it by the reflection of flaps in the manner already described. An incision is made along the entire outer aspect of the gum along the line indicated 1, 4, 4, 4, 4. Two are made along the direction of 2 and two others along the free inner margins of the cleft along dotted lines 3, 3. Flaps are also separated from the septal margin.

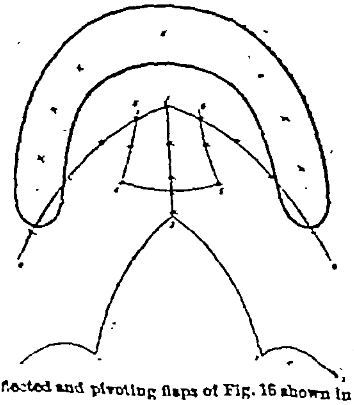
FIG. 16.



Broad cleft of hard and soft palate.

The flap included between 1 and 2 on either side is turned back, great care being taken of its posterior attachment, which is usually very thin. The flaps comprised between 2, 3, and 4 are raised from the bone from before backwards, care being taken to avoid any damage to the descending palatine vessels. These flaps are then displaced inwards as in Fig. 17, upon the subjacent flaps 3, 4, 5, 6, the margins of which are united by sutures to the superjacent pivoting flaps 1, 2, 7, 8. The apposing margins of the pivoting flaps are then sutured together and to the subjacent mesial flap and, if possible, to the septum also along the line 1, 2.

FIG. 17.

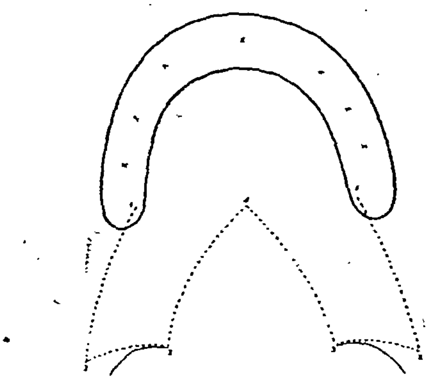


The reflected and pivoting flaps of Fig. 16 shown in position.

At a later period the posterior portion of the cleft may be closed in various ways, the method varying with the breadth of the cleft and the extent of material at disposal. The first and more generally applicable method is by reflecting a flap inwards on one side, leaving it attached by its inner margin, the other flap being rendered raw on its posterior surface and its area extended, as in Figs. 7 and 8. The second method is to reflect a flap inwards as before, while the flap from the opposite side is raised from the subjacent parts by an incision extending along its inner, posterior, and outer margins, so that it pivots anteriorly and can be made to cover the flap reflected from the opposite side. Or both flaps may be made, as in Fig. 18, to pivot upon their anterior attachments; their internal edges are sutured carefully together, the outer free margins being anchored wherever a suitable attachment can be found. The free inner margins of the cleft are also pinned down to the superjacent flaps by sutures.

In Fig 18 the dotted outline 1, 2, 3, 4 represents the form of the flap cut from the under surface of the palate. This pivots upon its attachment 1, 4.

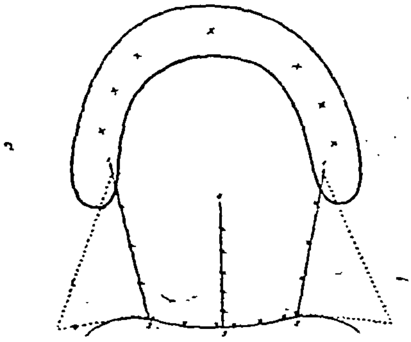
FIG. 18.



Mode of employment of pivoting flaps to close gap left in Fig. 17.

In Fig. 19 these pivoting flaps are shown in apposition along the line 4, 5, where their edges are united to one another. Their outer margins are united to the exposed surface of the soft palate along the line 1, 2.

FIG. 19.



Pivoting flaps outlined in Fig. 18 shown in position.

Cavendish square, W.

THE SANITARY INSPECTORS EXAMINATION BOARD.—An examination for certificates of qualification for appointment of sanitary inspector or inspector of nuisances under Section 108 (2) (d) of the Public Health (London) Act, 1891, will be held at the Examination Hall, Victoria Embankment, London, on Tuesday, Jan. 14th, and the four following days. Particulars will be forwarded on application to the honorary secretary, the Sanitary Inspectors Examination Board, 1, Adelaide Buildings, London Bridge, London, E.C.

A PRELIMINARY NOTE ON THE KINEMATOGRAPH IN MEDICINE.

BY H. CAMPBELL THOMSON, M.D. LOND., F.R.C.P. LOND.,

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THE results which I have obtained with the kinematograph as an aid in the teaching of nervous diseases, and which I have been able to demonstrate at the Middlesex Hospital and elsewhere, have met with such expressions of encouragement from my colleagues and other members of the medical profession as to lead me to think that it may be of some interest to publish a few notes on the uses and possibilities which this method of demonstration appears to offer. In connexion with the teaching of medicine diseases of the nervous system are especially well adapted for bioscopic illustration, since the abnormalities of movement can be all faithfully reproduced.

The illustrations accompanying this article are enlarged from isolated examples taken from a section of films and they depict the momentary attitudes of the patients as photographs were being taken of them at the rate of 16 a second. For the care and trouble taken in producing these films I have to thank Mr. Charles Urban. From the appearance of these enlargements some idea may be gathered of the sharpness of definition which is obtained in the original films. These are all pictures of abnormal movements of pronounced character and will form the basis of the demonstration which, at the invitation of the council, I hope to give before the Medical Section of the Royal Society of Medicine at the end of January.

The first figure illustrated is that of a man with ataxy of the limbs who is depicted in this photograph as he is in the act of turning and the position of the left leg, in which the trouble is the more pronounced, gives some idea of the type of gait which can be so well seen in the moving pictures, as likewise can the incoördination of the arms, and the tendency to fall backwards, to which he is also subject.

The next two figures are illustrations from a case of disseminated sclerosis. The ataxic-paraplegic walk and the attempts to preserve the balance by the movements of the arms are well shown; in the second picture the patient has been photographed while in the act of drinking in order to bring out the "volitional" tremors. His efforts to raise the glass to his lips, accompanied as they are by tremors of increasing amplitude and spilling of the water, make up a picture which cannot fail to impress itself on all who see it. From this case films have also been taken to show nystagmus and the rapid oscillations of the eyes as they are turned to one side or the other can be clearly seen and, moreover, can be contrasted with an example of slow nystagmus which has been obtained from a case of Friedreich's disease.

In the fourth figure we have an example of a paraplegic gait resulting from a myelitis.

The fifth picture is taken from a case of pseudo-hypertrophic paralysis in which the characteristic waddling method of progression is shown, and here the instantaneous photograph has depicted the patient's right leg in the position of "high-stepping" gait which is so apt to be assumed by patients with such muscular weakness as makes it difficult for them to clear their feet from the ground. Bioscopic illustrations have also been obtained of the method by which this patient gets up from the ground by "climbing up his legs."

The sixth figure is taken from a case of cerebral diplegia with athetosis. The continual squirming, involuntary movements which affect the head and face as well as the hand, are realistically shown and films have also been obtained of the patient walking.

The seventh figure illustrates the posture of a case of paralysis agitans, and by means of the bioscope the characteristic tremor of the hands can be seen. The typical "mask"-like face can be easily identified by a series of pictures which show the rigidity of the countenance being maintained while the patient is talking, and this has been made still clearer by comparison with the facial expression of another case in which tremor has arisen from a different cause.

The last picture shows the act of testing the knee-jerks.

Enough has been said to give a general outline of some of the movements which have been already photographed for demonstration, but it is, of course, possible to record all the main diagnostic points of a case, as in one instance has been done. The absence of signs can also be recorded as well as their presence and the presence or absence of anæsthesia can be demonstrated by asking the patient to raise his hand or to make other signs indicating his abilities to feel or not as the case may be. To begin with, one has naturally chosen cases where the movements have been of an exaggerated nature, but the fact that nystagmus can be shown is a clear indication of what can be done with movements which are less pronounced. Indeed, given a suitable light, it is possible to take the finest movements and I hope shortly to be able to demonstrate this by showing the movements which occur during the electrical reactions of muscles.

No doubt ideas will occur to readers in which a record of many medical cases other than those of nervous diseases will be useful, for the whole aspect of a case is often different according to whether it can be seen in lifelike movements or only in stationary illustrations. The practice of surgery would also seem to offer great facilities for demonstration by kinematograph, but hitherto, so far as I am aware, little or no serious work has been undertaken for purposes of teaching. It is true that a French surgeon has had bioscopic pictures taken of some of his operations, and extremely interesting as these pictures are in depicting technique and in demonstrating the possibilities which are thus opened up they cannot be regarded as being of serious use for systematic instruction. For the purpose of instruction it is necessary that the great principles should be illustrated and for this purpose it will almost certainly be best to take photographs from the cadaver where the desirable positions and lights can all be arranged at leisure. Operations on the eye would probably afford excellent examples for teaching purposes, as also would the manipulations of dislocations and fractures. Needless to say it is neither necessary nor desirable that the identity of the operator should be brought into the pictures. Only his hands need be taken and, indeed, apart from obvious ethical reasons, to do otherwise would to a large extent decrease the value of the photograph by obtaining an extended field at the expense of a loss of detail.

Photographs of moving micro-organisms must be ranked among the most striking results that have hitherto been obtained with the kinematograph. The movements of the various bacilli—e.g., those of typhoid fever—can be shown on the screen and should be of value in the teaching of hygiene and bacteriology. The teaching of physiology should also benefit by this method, inasmuch as various physiological experiments which it is frequently impossible to repeat before a class could be demonstrated as often as required.

For the general purposes of class teaching in medical and other forms of education there can be no doubt that the kinematograph will prove to be very useful and its management is but little more trouble than that of the ordinary lantern. Moreover, with the most modern types of machine it will be possible to stop at any one picture and thus to combine with the kinematograph all the advantages of an ordinary lantern without any danger of firing the films.

It may be taken, however, that we are as yet only at the beginning, so to speak, of this method of observing pictures of moving life, and, indeed, I am given to understand that at the present time a small hand machine in which the movements will be obtained by a simple clockwork motor and for the illumination of which the reflected light of an ordinary electric lamp, candle, or daylight will be sufficient, is in course of construction. Such a contrivance will form an important addition to the equipment of the practitioner who is unable to keep in touch with the larger centres of education, for in addition to his reading he will be able to study many of his cases as they appear in life, and to the student there will be given another valuable method of revising and summarising his knowledge.

Queen Anne-street, W.

DESCRIPTIONS OF ILLUSTRATIONS ON PAGE 13.

Fig 1.—Case of ataxy showing patient in the act of turning.

Fig. 2.—Case of disseminated sclerosis showing an ataxic-paraplegic gait.

Fig. 3.—Intentional tremors in disseminated sclerosis. *Note the spilling of the water as the patient attempts to raise the glass to his mouth.*

Fig. 4.—A case of paraplegia following myelitis. Note the manner in which the left foot is being dragged along.

Fig 5.—A case of pseudo-hypertrophic paralysis showing the waddling and "high steppage" gait.

Fig. 6.—A case of cerebral diplegia with bilateral athetosis.

Fig. 7.—A case of paralysis agitans in characteristic attitude.

Fig. 8.—Photograph to show the knee-jerks being tested.

FIG. 1.

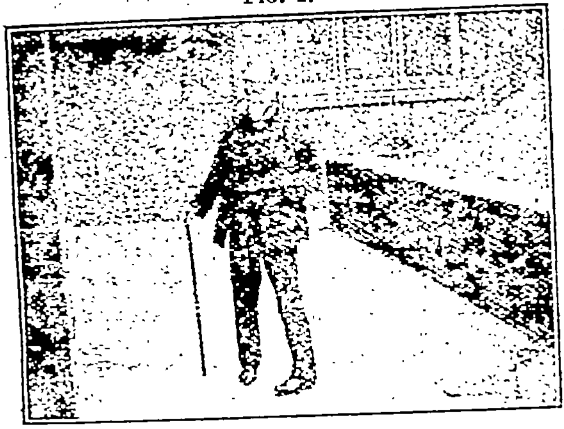


FIG. 2.

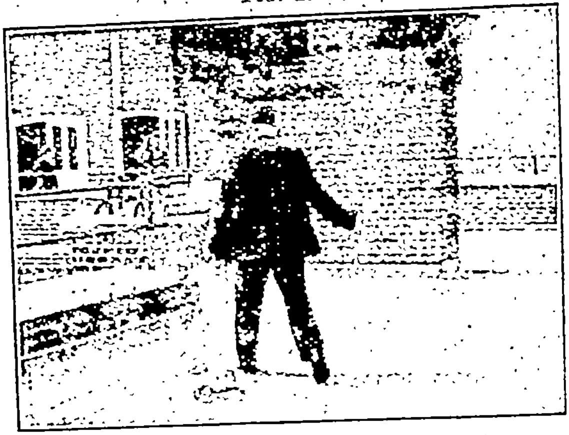


FIG 3.

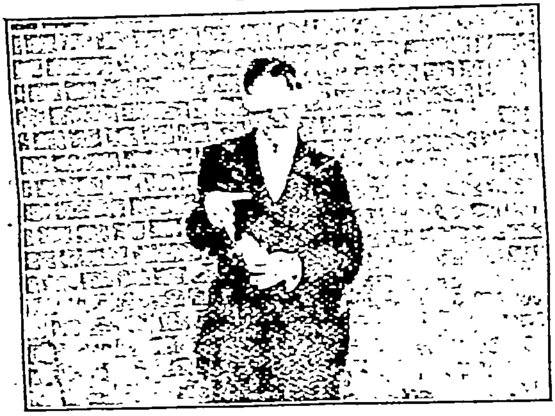


FIG. 4.

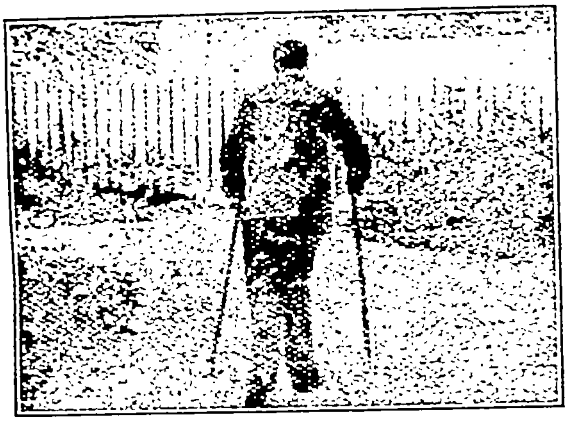


FIG. 5.

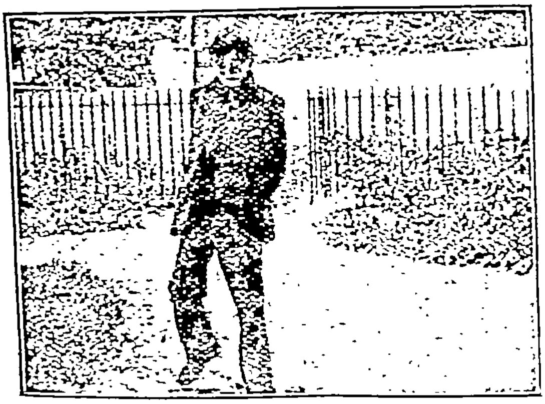


FIG. 6.

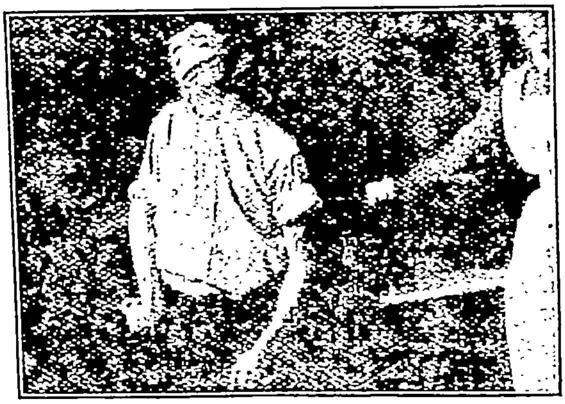


FIG. 7.

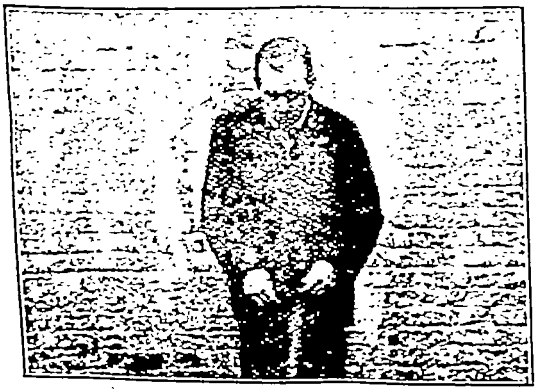
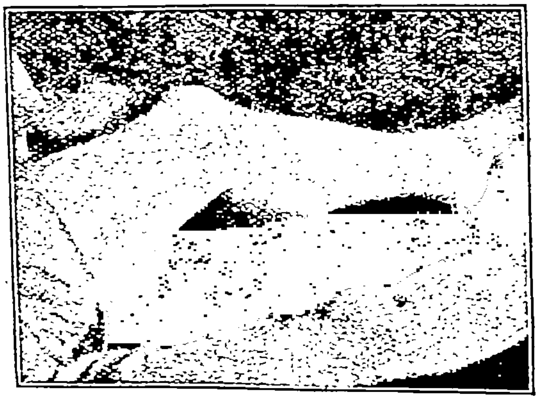


FIG 8.



DIABETES MELLITUS IN TWO BROTHERS, WITH NECROPSIES.

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THE following cases of diabetes appear to possess some points of interest which may render them worthy of record. The first patient came under my care on the occasion of his first stay in hospital, after the most acute period of his attack was past, the credit for the successful treatment being due to Dr. F. W. Mott, whom I have to thank for permission to publish these notes.

CASE 1.—The patient, a boy, aged 14 years, was admitted to Charing Cross Hospital on May 16th, 1905, complaining of increased hunger and thirst, of loss of flesh, of the passage of large quantities of urine, and of pain in the abdomen. All these symptoms were of five weeks' duration and had apparently arisen almost suddenly. For the last three weeks the lad had noticed that his sight was bad and he had stayed away from school in consequence. His past history had been uneventful, but he had suffered from alopecia areata for the past five years and at the time of admission exhibited extensive areas of baldness chiefly affecting the right side of the scalp. His mother and a cousin had died from diabetes, and both of these relatives had been affected with alopecia in the same region as the present patient.

On examination the patient was found to be a somewhat emaciated youth, with a flushed face and somewhat dirty tongue. The lower border of the liver was palpable just below the costal margin; no knee-jerks or plantar reflexes could be obtained. His mental condition was dull and drowsy but he answered questions intelligibly when roused. During the first 24 hours—being on an ordinary diet—he passed 56 ounces of urine containing 9·1 per cent. of sugar (nearly 153 grammes). No acetone or diacetic acid was detected by the ordinary tests. On the 17th he was ordered a strict anti-diabetic diet with the exception of a daily allowance of two pints of milk, He was also given 25 minims of solution of morphine three times a day. The quantity of sugar in the urine increased instead of diminishing. On the 19th he passed 374 grammes of sugar; the drowsy condition had deepened and acetone and diacetic acid were now present in the urine in considerable amounts. On the 20th and 21st he was practically comatose but could just be roused to take nourishment; no symptoms of "air hunger" were noticeable. On each of the last-mentioned days he was given an enema of saline solution containing one drachm of bicarbonate of sodium and on the 23rd the dose of solution of morphine was increased to 40 minims thrice daily. The lad's mental condition gradually improved and the quantity of sugar passed decreased concurrently. Some slight recurrence of the drowsiness was observed between July 3rd and 6th, but it did not become deep. Acetone and diacetic acid were detected daily in the urine up to June 14th and a trace of one or other was found on a few subsequent occasions. On the whole, fairly steady improvement took place. On the 16th it was discovered that by a mistake on the part of the nursing staff the patient had been receiving a daily "portion" of milk pudding (rice, tapioca, sago). This was ordered to be discontinued. The subsequent history of the case while in hospital was uneventful. The reduction in diet was not immediately followed by any marked diminution in the amount of sugar excreted in the urine but gradually the quantity of urine fell, the percentage of sugar remaining at first pretty constantly about 4 per cent. The dose of morphine taken was reduced on July 1st to 25 minims and on August 8th to 15 minims thrice daily. The boy left the hospital much improved on August 19th.

The patient was readmitted on Jan. 9th, 1906. His weight was then 6 stones 4½ pounds. For the first month of his stay in hospital, during which he was placed on a strict anti-diabetic diet with the exception of the same allowance of milk as before, he passed on an average 266 grammes of sugar per diem. On Feb. 23rd he was ordered one ounce daily of acid extract of duodenum (secretin) kindly supplied by Professor E. H Starling. The amount of sugar excreted appeared quite uninfluenced by the remedy; the acetone and diacetic acid present in the urine seemed to increase slightly but they were not quantitatively estimated. The secretin was discontinued on March 1st. On the 7th the patient was given a daily portion of tapioca pudding; again there seemed to be some increase in the amount of acetone bodies excreted in the urine but the amount of sugar did not rise, the average at this period being approximately 200 grammes daily. Gradual diminution in the quantity of urine was recorded after this date. On April 11th the boy was allowed four ounces of potatoes daily but still no increase in sugar-excretion occurred. He left the hospital, improved in general condition, on April 18th. Subsequently he attended at intervals in the out patient department, remaining apparently in much the same state. At the beginning of November, however, he got rapidly worse and was readmitted on the 27th of that month—his first appearance at the hospital for some weeks. He was now very drowsy and was roused with difficulty. The urine contained 2·5 per cent. of sugar and much acetone and diacetic acid. His weight was 5 stones 2¼ pounds. His temperature rose to 102·4° F. and he died comatose on the second day after admission.

At the necropsy no apparent cause for the fever was discovered. The pancreas was extremely atrophic, weighing only one ounce. Microscopically it exhibited slight fibrosis and some fatty change; the islands of Langerhans appeared normal. The kidneys were large, weighing seven ounces each, and on microscopical examination they showed parenchymatous nephritis.

CASE 2.—The patient, a youth aged 20 years, was admitted to hospital on Dec. 17th, 1905. His illness had begun gradually five years before with thirst as the prominent symptom. Three months before admission the thirst had increased and the patient became weak. His vision grew indistinct and his gums became sore and swollen.

On admission the patient appeared to be weak and listless. He had a small carbuncle on the right cheek, and Mr. E Treacher Collins found commencing cataract in both eyes. The urine contained a considerable quantity of sugar, reaching 340 grammes in the first 24 hours and 470 grammes on the second day. He suffered from what he called "diarrhœa," the frequent passage of large formed motions. On the 20th he was strictly dieted, with the exception of an allowance of two pints of milk. After this the average amount of sugar passed in 24 hours was about 160 grammes. From Jan. 9th to 12th, 1906, he was drowsy; his skin was moist and the "diarrhœa" continued. On the 23rd he was put on secretin, two ounces of the acid extract of duodenum supplied by Professor Starling being given daily. This was continued till Feb. 11th. The amount of sugar passed during this period was on an average 170 grammes. Acetone bodies, which had appeared previously, increased in amount, and the diarrhœa became more troublesome. The motions contained some undigested muscle fibres and 12½ per cent. of fat. On Feb. 7th he surreptitiously ate a currant bun and true diarrhœa with liquid stools supervened. The patient became obviously more ill and drowsy. On discontinuing the secretin gradual improvement occurred—subjective at first, but afterwards objectively apparent. From the 11th to March 2nd the average daily amount of sugar secreted was approximately 124 grammes; the acetone bodies varied in quantity from time to time. On March 8th he was again worse, being more drowsy and having more diarrhœa. He was given strychnine, brandy, and doses of sodium bicarbonate. During the 12th and 13th he was put upon a milk diet alone. In spite of everything the diarrhœa continued to be troublesome and the patient appeared to be getting weaker. On April 4th a change of diet was tried, four ounces of potato being added to the daily portion. The sugar in the urine rose somewhat, averaging during the first week 171 grammes daily. The patient seemed in spite of this to gain strength; the diarrhœa was no worse. On the 11th he was given in addition to the potato a portion of milk-pudding and again the sugar rose slightly, reaching 180 grammes, but the general improvement continued. On the 23rd a final addition of four ounces of bread was made. The sugar rose no further but tended rather to fall in amount, the subsequent average being 136 grammes up to May 7th, the last estimation made. He was discharged to the convalescent home on May 30th still suffering from slight diarrhœa but stronger than he had been for some time. At the end of a week at the home the diarrhœa became so severe as to render it advisable for him to return to hospital.

The patient was readmitted on June 9th, 1906. The diarrhœa was troublesome and there was some œdema of the ankles. The pulse was weak and frequent and the patient seemed ill and exhausted. His weight was now 6 stones 1¼ pounds. He was again dieted and was treated with enemata of starch and opium for the first few days, receiving later a mixture containing salicylate of bismuth. The diarrhœa gradually lessened in severity but remained to some extent throughout his stay in hospital. At one period he developed a small carbuncle in the left external auditory meatus and the parotid lymphatic glands became swollen; this condition subsided satisfactorily. The record of the daily excretion of sugar at this period is unfortunately so imperfect as to render it impossible to draw any valid inferences therefrom. The patient gradually gained weight, reaching 6 stones 5 pounds, and went home on August 22nd at his own desire. He came up as an out-patient on Sept. 7th and again on the 14th. On the latter occasion he looked weak and ill but professed to be as usual and declined admission. In the following week, however, he was much worse and seemed scarcely able to walk. He complained of nothing but the diarrhœa and would not admit that he suffered from thirst, polyuria, cough, or any other trouble. He was readmitted rather against his inclination, it being obviously dangerous to allow him to leave the hospital. On admission he became much collapsed, the pulse being scarcely perceptible. The urine contained a large percentage of sugar but no acetone or diacetic acid. He rallied a little under the influence of stimulants. His temperature rose to 103 8° F. Signs of consolidation of the upper lobe of the right lung were discovered, incontinence of urine and fæces ensued, and he died on the next day from exhaustion without any sign of coma.

At the necropsy the upper lobe of the right lung was found to be covered with a layer of fibrinous exudation. The lung itself was the seat of caseous pneumonia. The duodenum and upper part of the jejunum were thickened throughout and the mucous membrane was covered with a layer of mucoid material. Microscopically the mucosa was infiltrated with leucocytes and the epithelium exhibited an undue number of goblet cells; the peritoneal coat was slightly thickened. There was pigmentation from chronic congestion in the region of the cæcum and here and there throughout the colon. The kidneys showed some cloudy swelling but were otherwise normal. The liver was somewhat fatty. The pancreas was much reduced in size, weighing only 1¼ ounces (37 grammes). The secreting substance was especially diminished in amount, there being a considerable quantity of fibrous tissue around the duct of Wirsung which helped to make up the small weight actually recorded. There was no fibrosis of the gland, although the arteries were much degenerated (arterio-sclerosis). The islands of Langerhans were visible in fair numbers and appeared normal in structure.

Comments.—1. The hereditary incidence of diabetes is well illustrated in the cases recorded, no less than four members of one family being affected. The coincidence of alopecia areata in three of them is remarkable.

2. In Case 1 the rapid onset of the disease is noteworthy, as is also the abdominal pain by which its appearance was accompanied. The occurrence of some acute affection of the pancreas is suggested. In the other brother the disease had lasted for five years and had begun more insidiously. No exciting cause was traceable in either instance.

3. In Case 1 the recovery from so deep a condition of coma was remarkable. The lad subsequently died comatose and the kidneys showed acute inflammation. The association of coma in diabetes with renal defect is worthy of careful investigation, as the rapid accumulation of the poisons at work is most easily explained by the occurrence of some failure in the excretory apparatus. In a recent case of fatal coma occurring in Charing Cross Hospital there was found suppurative nephritis, and in my own experience it is usual to find signs of renal mischief in such cases. The relation of coma to acetonæmia is illustrated in these cases, the second patient who died from pulmonary disease without coma not exhibiting these bodies in the urine at the end. It was noteworthy, however, that Case 1 on first admission was drowsy but exhibited no acetonuria. The dependence of acetonæmia on lack of carbohydrate food was not apparent, the first boy passing into coma and out again while taking a daily portion of milk pudding, and some increase in the amount of the acetone bodies excreted being noted on one occasion (March 7th) immediately after an increase in the allowance of starchy food.

4. In Case 1 the amount of sugar in the urine varied independently of the diet taken. It rose notably as a sequel to putting the boy on a stricter diet—he had been taking ordinary food previously to admission. The subsequent omission of the unauthorised milk pudding did not cause an immediate fall in the excretion of sugar, nor on a subsequent occasion did an addition to the allowance of carbohydrate increase it. In the second case the lad seemed to improve considerably when allowed an additional amount of carbohydrate, in spite of the slight increase of sugar excreted in the urine. The phenomena observed in these two cases seem to me to be in favour of the explanation of the origin of sugar in diabetes which I set out in my Goulstonian lectures in 1905—viz., that some portion of the sugar arises from a breaking-down of the cells of the body, in addition to that which may be due to some defect in the process of absorption of sugar from the alimentary canal or of its destruction in the body. If this be the case a parallel may be drawn between the formation of sugar and that of uric acid, part of each being exogenous, part endogenous.

5. The failure of secretin to act beneficially in either of these patients was disappointing. Since, however, the action of secretin as recognised by its discoverers is to increase the flow of pancreatic (digestive) juice, its employment in diabetes can only be upheld on the principle that the formation of the internal secretion of the pancreas and that of the digestive ferments take place as a single chemical action, the living substance breaking down simultaneously into both these substances. Now if, as I previously suggested, the action of the pancreas lies in neutralising some poison formed elsewhere in the body—such neutralising action consisting perhaps in making use of the substance in question for its own metabolism—the absorption of secretin will not directly affect the relation of the gland to the formation of sugar.

6. The anatomical condition of the pancreas in these two cases was striking; in each there was marked atrophy of the organ without noteworthy alteration of structure, the fibrosis in the second case being comparatively slight. In each case there were plenty of normal-looking islands of Langerhans. It is therefore difficult here to associate diabetes with structural lesions of these islands. The cases tend to support the view of Hansemann that the typical condition of the pancreas in diabetes is atrophy, affecting the secreting cells as a whole. In each of these cases there was well-marked arterio-sclerosis, which is in my experience the most constant feature in the pancreas in cases of diabetes, having been present in every one of eight cases which I have examined in the last two years. The hyaline change met with in the islands in some instances appears to be most often of the nature of an arterio capillary fibrosis; in other cases hyaline blood-clots and degenerate cells may present a homogeneous appearance.

7. The condition of the small intestine in the second case is noteworthy. It was clearly associated with the diarrhœa which was so troublesome during life How far the diminished assimilation of fat and of muscle-fibre was due to the intestinal disease and how far to the pancreatic defect cannot be determined. The fact that some fibrosis of the pancreas occurred in the first case and not in the patient who suffered from duodenal catarrh suggests that this lesion was dependent upon the arterial condition and was not inflammatory.

Harley-street, W.

A CASE OF "DIPHTHERIA OF THE SKIN" OF THREE YEARS' DURATION TREATED BY ANTITOXIN.

BY ALAN B. SLATER, M.D. EDIN.,
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A GIRL, aged 13 years, came under my charge on June 20th, 1907, with the following history. Three years previously she was taken to an eye hospital for inflammation of the eyes. She was treated there at the time but the medical officer at the hospital told the mother that the child was very ill and that she ought to have a medical man to attend her at home. The child, however, improved at home and no medical practitioner was sent for. A week or two later, the exact time is not known, the mother noticed when washing the child's clothes that her linen was stained and on examining the child herself she found two white patches, one on the inside of each labium, and also a thin discharge. This was treated by the mother by bathing with water. Shortly after this blisters began to develop round the vulva and spread on to the abdomen. The child was then taken to a general hospital and was admitted, the vesicles having spread so rapidly that she was practically covered by them about the body and neck, and there were a few on the face and head. She remained in the hospital about five months and during that time made little or no progress, the only change being that the abdomen cleared and the vesicles were confined to the parts round the vulva, the chest, the neck, and the head (including all the face). Since then she has been treated for syphilis, a section taken of one of the vesicles showing some appearance of syphilis.

Mercury and iodides were given for about two years without much effect, but the child's general condition improved and the vesicles still were confined to the vulva, the chest, the neck, and the head, the face being especially affected. Lotions of almost every kind were used without having any effect. Some idea of the amount of discharge from the whole surface of the skin, due to the vesicles rupturing, may be obtained from the fact that during the whole time since she left the hospital her mother has had to change all her clothes, always twice, and as many as four times a day, in addition to wrapping all the affected parts in linen or cotton.

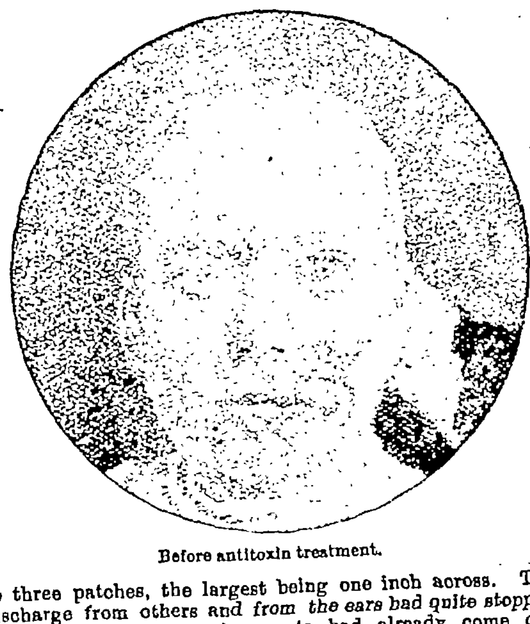
On June 20th the child's appearance and condition were as follows. There were masses of vesicles round the left side of the mouth extending to the cheek, but not into the mouth; others on both eyebrows, the right being worse than the left. The external meatus of both ears was filled with thick semi-purulent discharge, the lobes of the ears and behind the ears being covered with discharging vesicles. Upon the head were large masses of vesicles and some dried scabs where former ones had been. The neck and shoulders had large quantities of vesicles on them extending down to the nipples on either side and as far as the middle of the scapulæ on either side at the back. In the areas affected the space between the vesicles was dark red, but in other areas which had been affected and where the vesicles had disappeared the skin was only slightly erythematous or even normal, no scarring being left behind. The region of the vulva was erythematous and studded with vesicles, but this condition did not go back further than the vulva itself; the whole affected area thereabouts extended to three or four inches down the inner part of the thighs and about four inches up the abdominal wall. All the areas were discharging freely, a thin clear fluid dripping from the chin at the rate of a drop per minute. In many places the vesicles were arranged in crescentic form as though the discharge had run over the surface of the skin and infected it as it went along. The general condition of the child was good; she was well nourished and felt quite well in herself and also ate well. There was no sign of any constitutional disturbance, the spleen was not enlarged, the heart was normal, and the urine was free from albumin. From the following bacteriological investigation I decided to treat her by means of diphtheria antitoxin.

Bacteriological report by DR. J. G. HARE.—On June 30th made a bacteriological examination of the serous fluid which was dripping from the face. Smears were made from the fluid and stained with methylene blue and by Gram's method. In these were observed organisms resembling the diphtheria bacillus. I inoculated an agar tube and also a blood serum tube with the fluid and incubated them at 37° C. A growth appeared on the media 18 hours later. These were then plated and the staphylococcus aureus and albus were isolated, together with a bacillus which formed small cream-coloured colonies on agar. On smears being made from these colonies and stained with Löffler's methylene blue and examined a bacillus was observed closely resembling the bacillus of diphtheria. The organism also reacted to Neisser's stain. (In inoculating the tubes the needle was never allowed to touch the skin, the fluid being merely allowed to drip on to the needle.) The organism was obtained in pure culture on blood serum and when stained and examined showed the characteristic involution (club-shaped) forms. Subcultures were then made on gelatin, on potato, in milk and in broth. On gelatin the growth was slow and without liquefaction. In broth there was a whitish granular deposit at the bottom of the tube, the broth otherwise remaining clear. On potato a faint, almost invisible, growth was seen. Milk was not coagulated. Gas was not generated in any of the media. The indol reaction was obtained by the addition of a nitrite.

Through the courtesy of Professor R. T. Hewlett animal inoculations were carried out at King's College. A 300 gramme guinea-pig was inoculated per peritoneum with two cubic centimetres of serum-suspension of this culture and at the same time another guinea-pig was inoculated with the same quantity of culture + 1·5 cubic centimetres of diphtheria antitoxin. The first guinea-pig died in ten days; the second developed no symptoms. The post-mortem appearance of the first guinea-pig showed extensive œdema of the peritoneum, hæmorrhages, and enlargement of the spleen. Cultivations were obtained from the heart and peritoneal fluid and showed the Klebs-Löffler bacillus in pure culture.

Antitoxin treatment.—This was begun on July 2nd. 2000 units of Burroughs and Wellcome's ordinary anti-diphtheritic serum were injected into the subcutaneous tissue of the abdomen at 3 P.M. At 10 P.M. there was some œdema at the seat of injection together with an erythematous rash all over the body and limbs and also discomfort from thirst. There was vomiting at intervals of an hour until 8 A.M. when it stopped and the child had a good sleep. By 1 P.M. on the 3rd the rash had disappeared and the patient was quite comfortable. By this time there was a marked change in the appearance of the vesicles, which had not only ceased to discharge but were in many places quite dry and beginning to form a crust, the change being remarkable. The temperature remained at 99 8° F. On the 4th constitutional symptoms were still absent and at 1 P.M. 1000 units were injected. At 6 P.M. no rash or other result of antitoxin was present but two of the areas became active again and discharged during the evening. The temperature was 99·8°. On the 5th 2000 units were injected. No constitutional symptoms were observed during the day. The affected areas were reduced to three patches, the largest being one inch across. The discharge from others and from the ears had quite stopped and in many places the crusts had already come off, leaving healed skin. The diet was exclusively milk. The temperature was 99·6°. On the 6th no symptoms were noticed until the evening after an egg and bread-and-butter had been eaten, when a slight erythematous rash appeared on the legs and abdomen. The patient was well in herself and hungry. The temperature was 99 6°. The vesicles were about the same. On the 7th there was a fine papular rash over the abdomen and thighs but no other symptoms. The vesicles were still discharging a little but no more had appeared and large areas on the shoulders and neck and head were quite free, only erythematous skin remaining. The vesicles were confined now to an area one inch across on the right side of the mouth, one similar on the left eyebrow, and two smaller ones on the front of the scalp. The vulva was quite free from vesicles but was still erythematous. The temperature was 99·4°. On the 8th the rash had all disappeared and the child was quite well in herself. The bullæ were painted with a

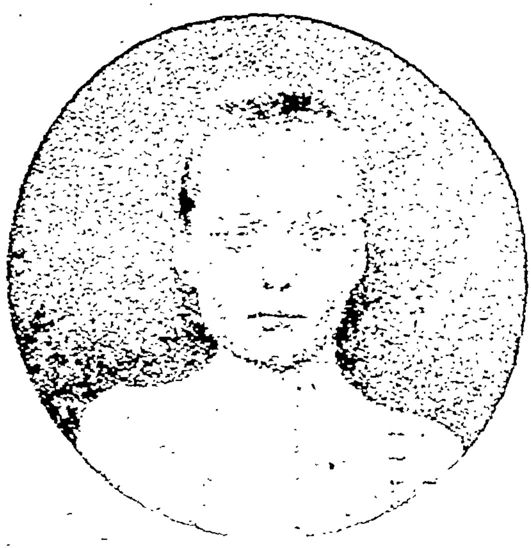
FIG. 1.



Before antitoxin treatment.

mixture of carbolic acid and glycerine. The temperature was 99·4°. On the 9th the vesicles were discharging more and an affected area behind the right ear measuring three quarters of an inch across had appeared. 2000 units were injected. The temperature was 99·2°. On the 10th there was no constitutional disturbance from the last injection. With the exception of that behind the ear all the others were drier and smaller in extent. The neck, the shoulders, and all the back of the head were free from even crusts. The vulva was free from vesicles also. The affected areas were painted with carbolic acid 1 to absolute alcohol 20 and afterwards dusted with boric acid powder. The temperature was 99°. On the 11th 2000 units were injected. All the vesicles were much drier, including the ear. The temperature was normal and the painting was continued. On the 12th no constitutional symptoms were observed. The vesicles were reduced to areas of a quarter of an inch behind the ear, one over the left eyebrow, and one of half an inch on the right side of the mouth. Painting was continued. The condition on the 13th was the same as on the previous day. On the 14th one vesicle reappeared on the front of the scalp and one on the left cheek; others were the same in extent but were discharging a little more. *Other* areas had kept entirely free and in many places the skin was normal; there was no scarring. The temperature was normal. On the 15th 2000 units were injected. Withholding the antitoxin evidently allowed the disease to become active again, as single vesicles appeared in two new places on the face and the *other ones* were discharging more. On the 16th the discharge was less again, the single vesicles were dried up, and other areas were much drier; only three areas were discharging. On the 17th 2000 units were injected. There were no constitutional symptoms and every area was drier. The temperature was normal and painting was continued. On the 18th the patient was quite well generally. The affected areas were still smaller and there was very little discharge. The temperature was normal. On the 19th 2000 units were injected into the thigh. All the areas were frequently bathed with 1 in 20 carbolic lotion, then painted with 1 in 20 carbolic in absolute alcohol, and dusted with boric powder. A culture was taken from the only discharging spot. On the 20th the injection had caused the thigh to swell to almost twice the size and there had been great pain all night. The glands in the groin did not enlarge. The temperature rose to 101°. All discharge had completely stopped and a few crusts only remained. The tube inoculated on the previous day showed no growth of any kind after 24 hours' incubation. On the 21st the swelling of the thigh had disappeared. There was slight swelling over the seat of the injection. The condition had greatly improved and the temperature was normal. On the 22nd the improvement was maintained.

FIG. 2.



After 7000 units had been injected. Showing erythema left behind.

Remarks.—There seems to be no doubt that the most important factor in this case was the Klebs-Löffler bacillus. The disease apparently commenced as an acute attack of diphtheria, the primary seat of infection being the eyes. From this focus the vulva became infected and then the bacteria in some way found their way into the superficial lymphatic circulation, producing a condition resembling herpes, probably as the result of peripheral neuritis set up by the bacilli themselves. This theory is based on the fact that during the whole of the duration of the disease, since the primary acute symptoms, the lesions have been confined to the superficial layers of the skin (proved by the fact that no scarring was left). Whether the staphylococci played any important part is difficult to say, but they probably had only a mild influence, if any at all, as the use of various lotions, such as 1 in 40 carbolic lotion, and perchloride of mercury 1 in 1500 had no effect on the lesions, whereas the effect of the antitoxin was remarkable.

Bryanston-street, W.

AN UNUSUAL PATHOLOGICAL CONDITION OF MECKEL'S DIVERTICULUM.

BY C. H. TURNER, M.R.C.S. ENG., L.R.C.P. LOND.,
CAPTAIN, R.A.M.C.

THE patient, aged 23 years, was admitted to the Station Hospital, Rawal Pindi, on Jan. 4th, 1907. As history it was stated that on the morning of the 3rd, on getting up, he was seized with violent pain in the abdomen, chiefly the lower part, and vomited. He was admitted to the Cavalry Hospital and treated by enemata and fomentations to the abdomen; these were effectual in opening the bowels, which had been constipated, and in relieving the pain considerably. He was transferred on the following morning to the Station Hospital.

On admission the patient's general appearance was good, both as regards colour and facial expression; his tongue was furred but moist at the edges. The temperature was normal and the pulse was 100. He gave an intelligent account of the onset of his illness and complained at the present time of pain in the iliac fossa on the right side, radiating towards the umbilicus. He had vomited once during the night and had not had the bowels open or passed flatus since having the enemata the night before. On examining the abdomen there was seen to be slight distension, and movement on respiration was impaired. There was slight general tenderness over the abdomen, but more marked in the right lower quadrant; resistance here, too, was marked. No tumour could be made out. The percussion note was hyper-resonant over all the abdomen, with the exception of the right flank where the note was dull. A diagnosis of acute appendicitis with fairly extensive localised peritonitis was made and it was decided to operate if the pulse-rate had not dropped by the morning. The patient passed a restless night and the temperature, which had been normal on admission, was 101° F. and the pulse was 112; he had vomited slightly twice during the night; the physical signs were the same, the pain if anything being more severe.

Operation.—Chloroform being administered, the abdomen was prepared, as no previous satisfactory preparation had been possible owing to the tenderness. An incision four inches long was made over McBurney's point, but a little farther out, the muscles being split in the direction of their fibres. On opening the peritoneum about six ounces of turbid peritoneal fluid escaped, and distended and somewhat congested coils of small intestine presented. The cæcum could not be felt in the iliac fossa nor could any large intestine be pulled out. The incision was extended a couple of inches and the whole hand was introduced. A portion of the large intestine could then be felt quite collapsed and lying high up. This was pulled down easily and traced first in one direction where it was found to be continuous with the transverse colon; traced in the other direction it was found to take a turn upwards and forwards towards the umbilicus, and here a slight adhesion gave way and the cæcum was brought out of the wound and examined; it was also collapsed and the appendix was found to be healthy. The ileum was then followed up and the first foot was collapsed and found to be firmly adherent at this point to the anterior abdominal wall, just at the level of, and to the right of, the umbilicus. The first incision was covered up with sterilised gauze and a second incision three inches long was made through the fibres of the right rectus muscle. On incising the posterior layer of the sheath of the rectus what was apparently an abscess cavity containing four ounces of very offensive pus was opened. This was swabbed up and washed out with 1 in 40 carbolic lotion and then explored with the finger; the walls were quite smooth and felt as though formed by mucous membrane. The peritoneal cavity was opened next and carefully packed off. The abscess cavity described above was then found to be the inner surface of the fundus of a dilated and gangrenous Meckel's diverticulum, which was adherent to the anterior abdominal wall. It was then carefully separated and the coil of bowel from which it arose was drawn out of the wound. The diverticulum arose from the ileum, about 12 inches from the ileo-cæcal valve; its proximal portion was stenosed and its distal portion or fundus was gangrenous and dilated (as far as could be judged, for it had contained four ounces of pus) to the size of a Tangerine orange. The pathological condition was on a par with the "appendicitis with stenosis, empyema" classified by Mr. C. B. Lockwood. The diverticulum was removed in the same way as an appendix and the stump was tucked in, the wall of the intestine being brought together over it with Lembert's sutures. The displacement of the cæcum was due to the mesentery of the ileum being adherent to the meso-cæcum and meso-colon, and to slight adhesion of the omentum to the outer and posterior wall of the cæcum. These were separated and all bleeding points secured. A drainage-tube was placed in the whole length of the wound in the middle line and brought out at its lower extremity, and the abdominal walls were brought together over it with one layer of sutures, a separate layer for the peritoneum not being practicable owing to its friability. The wound in the iliac region was closed in separate layers.

The after history of the case was as follows. The patient did not suffer from shock, though the operation lasted about one and a quarter hours. His condition gave rise to some anxiety for the first 36 hours, owing to the difficulty of overcoming the paralytic distension of the bowel, but this was effected by calomel and enemata, and the second day after the operation the bowels opened naturally and the hiccough, which had been rather persistent, stopped and the pulse-rate dropped from 120 to 98. Convalescence was uninterrupted and the wound in the iliac region healed by first intention. There was a fair amount of discharge from the tube in the other wound, but at the end of a week this had stopped and the wound soundly healed in 14 days.

Remarks.—Cases of Meckel's diverticulum are sufficiently uncommon to warrant their publication, and the above case is one of unusual interest from a pathological point of view. Cases in which the diverticulum has caused acute obstruction by strangulating the bowel have been frequently reported, but I have not the literature at my disposal to look up the subject. I should be glad to hear if any cases of a similar nature have come under the notice of any readers of THE LANCET.

Rawal Pindi, Punjab, India.

DELIRIUM TREMENS (MANIA E POTU):

STATISTICAL STUDY OF 156 CASES.[1]

BY L. NAPOLEON BOSTON, A.M., M.D.,
ADJUNCT PROFESSOR OF MEDICINE AT THE MEDICO-CHIRURGICAL COLLEGE; PHYSICIAN TO THE PHILADELPHIA HOSPITAL; AND DIRECTOR OF LABORATORIES FOR CLINICAL RESEARCH AT THE AMERICAN HOSPITAL FOR DISEASES OF THE STOMACH.

I HAVE made a statistical analysis of the hospital records for 156 cases of delirium tremens treated at the Philadelphia Hospital (*Blockley*) between Jan. 1st, 1904, and March 1st, 1907. In compiling statistics so as to display them in the form of tables it was found that the records of 16 of these cases were incomplete, therefore these have been omitted, and the tables include but 140 of the 156 cases treated. A number of cases that have occurred in my private practice could have been added, but it was deemed advisable to include only cases that had received hospital treatment in order that one might obtain statistics that would be of definite value. An analysis of the 140 case records showed age to be not only a predisposing factor to delirium tremens but also to exercise a decided influence upon the gravity of this condition. The number of cases observed at the different decades, the number of deaths, and percentage of mortality are set forth in Table I.

TABLE I.

Age.	Total number of cases.	Total number of deaths.	Pecentage of mortality.
20 to 30 years...	24	8	33·3
30 „ 40 „ ...	48	18	37·5
40 „ 50 „ ...	41	14	32·1
50 „ 60 „ ...	21	9	42·3
60 „ 74 „ ...	6	3	50·0

Delirium tremens is most common between the ages of 30 and 50, yet the death-rate remains almost the same during the second, third, and fourth decades. The prognosis is decidedly unfavourable in those suffering from this condition after the age of 50 years, and while the above statistics show a mortality of between 42 and 50 per cent. for such patients I am confident that a much higher death-rate is seen in private practice. Many of the cases included in Table I. had had a number of admissions to the delirium tremens wards of the hospital during the past 20 years. The greatest number of admissions for any one patient was 42, while many of the patients had had from six to 15 admissions, from each of which attacks they recovered and had been discharged from the institution as comparatively cured. These facts, though not included in any of my tables, are contradictory to the rather popular belief that those suffering from delirium tremens usually end in death during the second or third attack.

Further analysis with reference to season as a predisposing factor and its influence upon the gravity of the condition is revealed by Table II.:—

TABLE II.

Month.	Number of cases.	Number of deaths.	Percentage of mortality.
January	14	7	50·0
February	15	2	13·3
March	11	5	45·4
April	10	1	10·0
May	14	1	7·1
June	5	3	60·0
July	7	2	28·5
August	28	13	46·7
September ...	10	4	40·0
October	7	3	42·8
November ...	8	3	37·5
December... ...	11	8	72·7

It will be seen by Table II. that the largest number of cases developed during the month of August when in this climate the heat is extreme. It is further of special interest to note that August gives a death-rate of 46·7 per cent., while the average death-rate is but 37·1 per cent. Extreme cold is not without influence upon the mortality-rate, since December and January gave the correspondingly high death-rate of 72·7 and 50 per cent. respectively. During the spring months (May, April) delirium tremens is fairly common but the proportionate number of deaths is low, 7·1 and 10 per cent.

The following table (Table III.) is designed to present the various pre-existing and complicating conditions found to

TABLE III.

Pre-existing or complicating diseases.	Total number of cases.	Deaths.	Percentage of mortality.
Cases with pre-existing cardiac disease	13	11	84·6
Cases developing cardiac complications	10	8	80·0
Cases with pre-existing kidney disease	11	11	100·
Cases developing renal complications	4	4	100·0
Cases with pre-existing lung disease	11	5	50·0
Cases developing pulmonary complications	53	35	66·0

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[1] Published through the courtesy of Dr. Joseph Neff, Director of Public Health and Charities, Philadelphia.

influence materially the mortality in 140 cases of delirium tremens studied, and of which 52 were fatal.

Twenty-two of the cases displayed more than one pre-existing or complicating condition of which ten displayed kidney and lung involvement; seven heart and lung; two kidney and heart; and three heart and stomach. Thirty-eight of the 140 cases were uncomplicated and all of these were followed by recovery. Most striking in connexion with Table III. is that all of the 15 cases showing renal complications terminated fatally. Again, great importance is to be attached to the prognostic significance of pre-existing cardiac disease which gave a mortality-rate of 84·6 per cent.; and acute cardiac complications are of but little less importance as regards the seriousness of the condition in question. Those cases developing acute pulmonary conditions (bronchitis and broncho-pneumonia) gave a death-rate of but 66 per cent.

Philadelphia.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

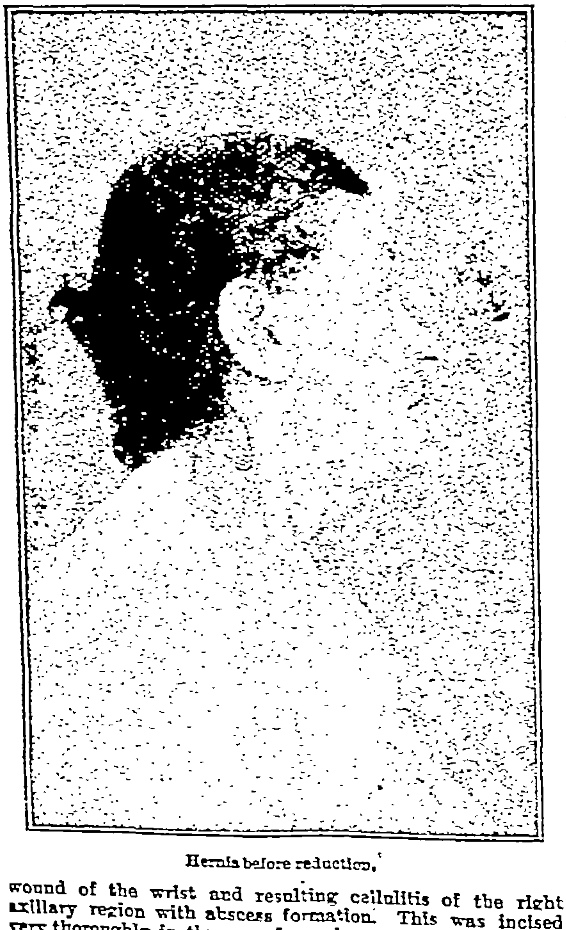
NOTE ON A CASE OF HERNIA OF THE LUNG.

By THOMAS E. COULSON, M.B., CH B. EDIN.,
LATE SENIOR HOUSE SURGEON TO THE SALFORD ROYAL HOSPITAL, MANCHESTER.

OWING to the rarity of the condition the following case seems worthy of record.

In November, 1905 a female, aged 56 years, was admitted into the Salford Union Infirmary suffering from a septic wound of the wrist and resulting cellulitis of the right axillary region with abscess formation. This was incised very thoroughly in three or four places and when she was dismissed in April, 1906, all the wounds had healed. About this time the patient noted a swelling at the lower end of the sternum but did not consult a medical man about it. On May 4th, as she was fixing her handkerchief round her neck, she suddenly discovered another swelling near the upper end of the sternum and went to the out-patient department of the Salford Royal Hospital. I saw her in the out-patient room and admitted her into the hospital under the care of Dr. A. M. Edge.

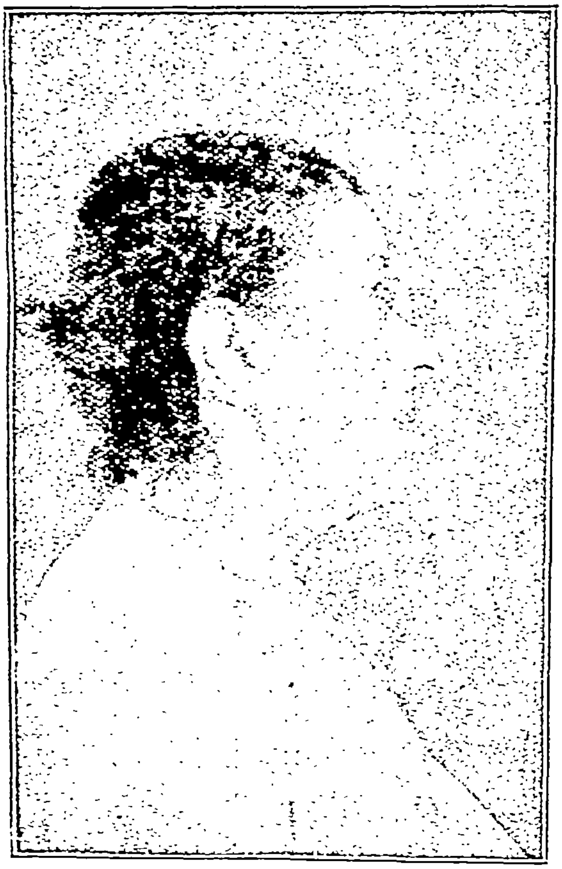
FIG. 1.



Hernia before reduction.

On admission she had two distinct and separate swellings in the region of the sternum, one at the lower end in the middle line and one at the upper end slightly to the right of the middle line. The lower swelling was about 3 inches long by 2 inches wide, tympanitic, soft, and moveable to a certain extent under the skin. There was no impulse on coughing, no breath sounds over it, and it was unaffected by taxis or pressure—evidently a collection of air in the cellular tissue. This gradually disappeared in a month's time. The upper swelling gradually increased in size and presented all the signs of pneumocele.

FIG. 2.



After reduction of hernia.

The notes at this time were as follows. On inspection it is situated over the upper end of the sternum, 5 inches in length and 3 inches in width. The outline is well-defined and smooth and tapering to a blunt point over the first right intercostal space. It moves slightly with respiration relatively to the chest wall. On palpation it is found to be soft and fluctuating. The skin moves over it and it can be moved a limited amount both up and down and side to side. Vocal fremitus is much increased over it and it has a most marked impulse on coughing which is easily visible as well as palpable. It does not pulsate. On percussion it is tympanitic to a marked degree. On auscultation there is bronchial breathing over it, low pitched, and interrupted. Vocal resonance is increased with whispering pectoriloquy. There are no adventitious sounds. When the patient speaks the swelling bulges out and becomes quite tense. There is no pain. The temperature is normal and the pulse is normal.

On manipulation the swelling can be entirely reduced within the chest by gently pressing upon the fundus and fixing the blunt neck at the first intercostal space. The swelling vanishes with a *squeaking sound quite audible both to the* patient and to the operator. The sitting posture and a few coughs bring the hernia again into prominence.

The photographs here reproduced were kindly taken for me by Dr. W. B. Anderton. The one shows the hernia before and the other after reduction.

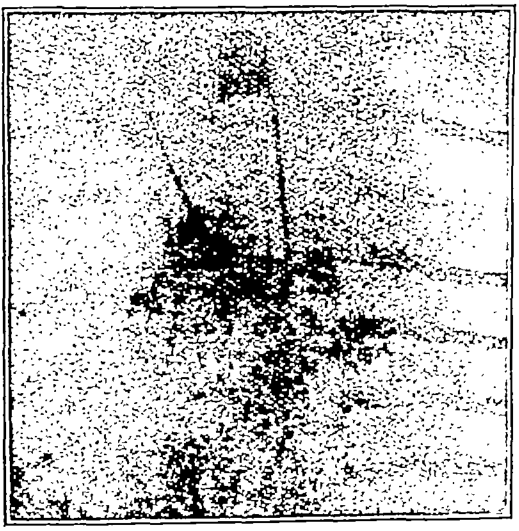
My best thanks are due to Dr. Edge for kindly allowing me to record the case.

Bristol.

OPEN SAFETY PIN IN THE ŒSOPHAGUS OF A CHILD AGED FIVE MONTHS.

BY J. S. MANSON, M.B., CH.B. EDIN.,
SENIOR HOUSE SURGEON, OLDHAM INFIRMARY.

A MALE child, aged five months, was admitted to the Oldham Infirmary on Oct. 26th, 1906, with a history of having swallowed a safety pin one hour previous to admission. A skiagram was taken and the pin was seen to lie about the middle of the œsophagus, open with the point upwards. It seemed a hopeless task to try to get the pin up by means of a probang, so it was resolved to push the pin down into the stomach and hope for the best. An ordinary stomach tube of small size was pushed down the œsophagus, and after withdrawing another skiagram was taken showing the pin lying in the stomach. The child was kept in bed and watched carefully. Milk diet was given and four days after admission a dose of castor-oil. On the afternoon of Nov. 2nd the pin was found sticking half-way out at the anus. The pin took *six and a quarter days* to accomplish the journey from the mouth to the anus and only once or twice did the child seem at all fretful.



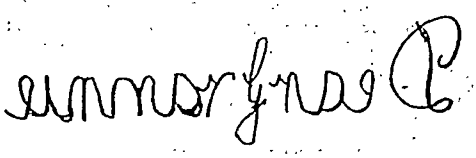
The case seems worthy of note in showing the power of the alimentary canal in dealing with a foreign body of a somewhat formidable nature. I append a *skiagram* of the pin in the œsophagus.

A CASE OF "MIRROR-WRITING."

BY VAUGHAN PENDRED, M.D. DURH, F.R.C.S. ENG.

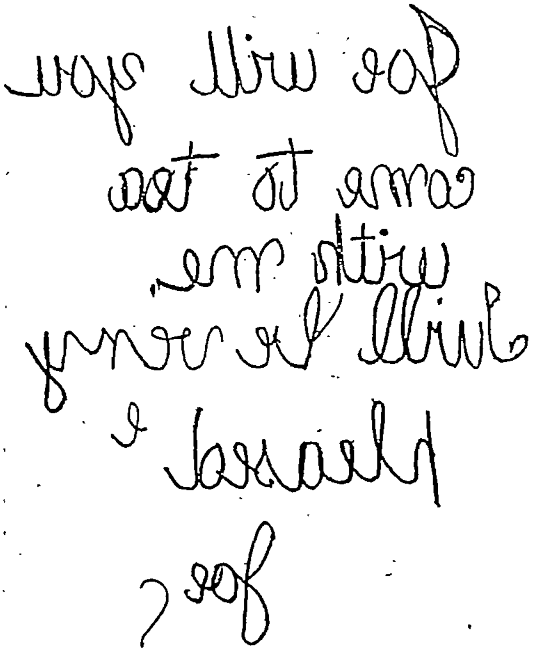
A CURIOUS condition that justly has been called "mirror-writing" has recently come under my observation. A bright, intelligent little lad, aged six years, has been learning to write for the past six months. His governess reports favourably of his application and progress, and no abnormality save the one here reported has been noted. From a copy the boy writes correctly but if left to himself to exercise his new-found accomplishment, of which he is very proud, he starts at the right hand side of the paper and writes backwards, so that to decipher the writing the paper has to be *held* up to a mirror. One day his mother suggested that he should write a letter to his grandmother. He began the letter as shown in Fig. 1 (the G is correctly formed as he copied from a letter in his mother's handwriting). He selects the "*mirror-writing*" when asked

FIG. 1.



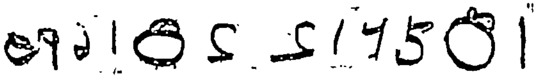
which is correct. He reads with equal facility both the normal and the abnormal types. For example, his mother indited in "mirror-writing" the invitation contained in the three first lines of Fig. 2, to which he instantly wrote, *currente calamo*, the reply contained in the remaining lines of the same illustration. The most extraordinary confusion arises when he attempts "sums," as shown in Fig. 3. A drawing that he made of a Great Northern locomotive engine illustrates the defect in a very marked way. The engine is shown travelling to the left and is very well drawn for so youthful an artist; the letters G N.R. on the tender are in "*mirror-writing*." In writing from dictation, unless he is corrected and carefully watched, he reverses his work.

FIG. 2.



Are the pictures of letters in the boy's memory-centre incorrectly stored and therefore incorrectly reproduced? Does the receptive apparatus in the occipital lobes play this strange prank with the naturally inverted picture of letters received on the boy's retinæ? It must be noted that the letters are not inverted as would be the case if the brain merely failed to right the retinal images. I incline to the former hypothesis as it is only in the reproduction of written words that he *fails* and is quite secure in making a copy.

FIG. 3.



Coventry.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Action of Digitalis in Cardiac Disease.—Reminiscences of an Apprentice 60 Years Ago.

A MEETING of this section was held at the Apothecaries' Hall on Dec. 17th, 1907, Dr. F. H. BURTON-BROWN, the President of the section, being in the chair.

Dr. JAMES MACKENZIE read a paper on the Action of Digitalis in Cardiac Disease. The results of animal experiments, he said, must be accepted with caution. In man the effect of digitalis was entirely dependent upon the particular lesion. If dilatation was absent, and if the tonicity of the heart was preserved, then no good resulted from the use of digitalis. If the heart was of normal size dropsy was not of cardiac origin. The irregular pulse of mitral disease was to be explained by the observation that in these cases of mitral disease there was a ventricular inception of the heart beat. To illustrate these and other points Dr. Mackenzie showed a series of tracings. He also showed a heart dissected to display with great clearness the auriculo-ventricular bundle.—In the discussion which followed Professor A. R. CUSHNY spoke of the immense value of the accurate scientific observations made at the bedside by Dr. Mackenzie. The difficulty of the subject was very great. Even in experimental work with the same dose of digitalis, given in the same way to the same animal, the results varied widely from time to time.—Dr. H. C. CAMERON asked whether Dr. Mackenzie's work had led him to form any opinion as to the rapidity with which digitalis acted.—Dr. MACKENZIE, in reply, stated that as a rule the characteristic changes in tracings due to digitalis were not apparent for about 10 days.

Dr. W. SOPER then read an interesting paper on Reminiscences of an Apprentice 60 Years Ago. He described the forms of treatment which prevailed 60 years ago and compared them with more modern methods. The system of apprenticeship, he maintained, had many advantages.

UNITED SERVICES MEDICAL SOCIETY.

Recent Work on the Cause, Prevention, and Treatment of Mediterranean, or Undulant, Fever.

A MEETING of this society was held on Dec. 12th, 1907, Sir HERBERT M. ELLIS, the President, being in the chair.

Fleet-Surgeon P. W. BASSETT-SMITH, R.N., in a paper on the above subject gave an interesting historical *résumé* of the work that had been done in late years, more especially under the auspices of the tropical diseases committee of the Royal Society. This work was divided into experimental, epidemiological, and prophylactic. Under the first head he instanced the work of Horrocks, Shaw, himself, and others on the life-history and identification of the micrococcus Melitensis and its recovery from the blood and other secretions, and also experiments directed towards discovering the channels by which infection was conveyed in this disease. Under the heading of epidemiology were mentioned the reports of Davies and Johnstone, and under prophylaxis the work of Eyre and Shaw on sera, antisera, and toxins. The most important points brought out step by step were: (1) the great vitality of the organism outside the body when not exposed to direct sunlight; (2) the constant presence of the organism in the peripheral blood of cases suffering from the disease; (3) the escape of the organism from the body chiefly through the urine; (4) the presence of the infective organism in the urine of apparently healthy men; (5) frequent infection of domestic animals, chiefly goats; (6) infectivity of the urine and milk of these animals; (7) the high incidence of cases in patients and staff of hospitals; (8) the high incidence in officers, women, and children; (9) occurrence of localised epidemics; (10) rare recovery of the organism from local mosquitoes and very doubtful possibility of their being distributors of the disease; and (11) complete cessation of cases where infected milk was removed from the dietary or when it was properly sterilised. The prevention of the disease by "protective inoculations" still remained *sub judice.* As regards treatment he had little to say in favour of antisera or vaccines, though in chronic cases the latter seemed to have some slight beneficial effect. No specific drug had yet been discovered, quinine in large doses was harmful, cyllin was disappointing, fresh yeast was inoperative, and quinine combined with chlorine water was very uncertain in its results. Symptomatic treatment might, however, do much to relieve the insomnia and the persistent neuritis of the later stages. For this Fleet-Surgeon Bassett Smith recommended salicylate of quinine, while arsenic and iron were of use in the later cachexia and strychnine for irritable heart should this be a sequela. Touching briefly on pathology he pointed out that the evidence in favour of a general septicæmic infection was very strong, the organism being recoverable not only from the peripheral blood but also from the internal organs. In one case he had known an infective endocarditis to develop. Local lesions also occasionally occurred, sometimes in the form of soft fluctuating swellings, not containing pus but a turbid fluid from which the characteristic organism could be isolated. Ulceration of the small intestine and enlargement of the liver and spleen in chronic cases were also found.

Lieutenant-Colonel W. B. LEISHMAN, R.A.M.C., considered that it was very desirable that investigation should be directed towards ascertaining the line of communication from diseased to healthy goats. He suggested that the disease might be attacked by immunising these animals by means of injection of attenuated cultures of the micrococcus, pointing out that good results had been achieved by this method in other diseases—e.g., in cholera by Haffkine and more lately by Strong of Manila in the case of plague.

Lieutenant-Colonel A. M. DAVIES, R.A.M.C., quoted instances which inclined him to doubt whether milk was the only source of infection in this disease, and thought that the mosquito might still be found to play a part in its dissemination.

Lieutenant-Colonel D. V. O'CONNELL, R.A.M.C., was inclined to agree with the former speaker. He considered opium and morphine as being of great value in treatment but condemned the bromides as useless.

Fleet-Surgeon BASSETT-SMITH, in replying, said he thought that the Maltese would raise no objection to immunisation experiments amongst goats if threatened with destruction of infected animals. He thought that the remarkable success of the Malta Fever Commission was a strong argument in favour of experiments on animals, since without these the work of the Commission could never have been carried out.

The PRESIDENT then proposed a vote of thanks to Fleet-Surgeon Bassett-Smith for his interesting paper, which was carried by acclamation. The proceedings terminated with an exhibition of objects of interest in the Pathological Laboratory of the Royal Army Medical College.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases and Specimens.—Plastic Roentgenography.—Method of Inflation of the Bladder with Oxygen.—Life History of Leucocytes.

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Dr. G. G. STOPFORD TAYLOR and Dr. F. P. WILSON showed a specimen from a case of Enchondroma Cutis.—Dr. WILSON stated that the specimen had been taken from a female child. The mother had had a hæmorrhage during pregnancy and had been delivered a month before full time. When the child was about five months old the mother noticed a bluish stain on the inner side of the left leg just above the knee. This gradually developed into a hard plate. Similar plates subsequently appeared in the skin of other parts of the body. The specimen shown was taken from a plate over the right costal arch. It was so calcified in parts that a considerable effort was required to cut through it with a scalpel. A microscopical examination showed that the epidermis was normal. The corium was somewhat thickened and contained sweat glands with rudimentary hair follicles. In the deepest part of the corium were large irregular blocks of cartilage containing small cartilage cells and fenestrated here and there by spaces filled with a vascular connective tissue. In parts the cartilage seemed to merge indefinitely with the fibrous tissue of the corium. Dr. Wilson then commented on the extreme rarity of enchondromata of the skin and the fact that none of the cases hitherto recorded resembled the present one which was remarkable for the number of the new growths.—Dr. STOPFORD TAYLOR said that clinically the disease was one of cartilaginous plates imbedded in the corium at various depths, and that in one plaque on the outside of the left thigh distinct ossific spicules could be seen and felt, stretching the epidermis.—Dr. R. W. MACKENNA said that the plaques were distinctly cartilaginous but were undergoing ossification. The condition was an extremely rare one and he had only been able to find one similar case in literature which was associated with fragilitas ossium and which ultimately degenerated into sarcoma.—Dr. F. H. BARENDT believed the tumour to have originated in the subcutaneous tissue and to have grown into the cutis vera. The fact that the corium was implicated in the growing ends supported this view, as well as the islets of sweat glands and adipose tissue embraced by the tumour. He regarded the tumour as bony in nature and thought that there were distinct appearances of attempts at a Haversian system. Other portions of the section no doubt favoured the cartilaginous view which Dr. Wilson and others held. Possible dislocation of temporary cartilage during the development of the bones was the primary source of this rare condition and subsequent ossification.

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Dr. JOHN CAMERON (Manchester) exhibited a number of dissections demonstrating the Supports of the Pelvic Viscera. After pointing out that the muscles forming the pelvic floor in man were now recognised as vestigial structures he directed attention to the fact that they must regard the fascia surrounding the visceral branches of the internal iliac vessels (the perivascular fascia) as forming the most important support of the pelvic viscera both in the male and in the female. He then went on to suggest that operative treatment for prolapsus uteri must be directed not to the pelvic outlet alone but also to this perivascular fascia.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Diphtheritic Fever.—Eye Strain.

A MEETING of this section was held on Dec. 6th, 1907, Dr. A. R. PARSONS being in the chair.

Sir JOHN W. MOORE gave details respecting a remarkable outbreak of sore-throat which had come under his observation in a large girls' school in Dublin during the autumn of 1906. Bacteriological examination proved the outbreak to be due to an infection with a form of the Klebs-Löffler bacillus diphtheriæ. The resulting illness failed to present the typical features of classical diphtheria—it might be described as "diphtheroid," and he had ventured to call it "diphtheritic fever." From Oct. 2nd to Nov. 11th, 1906, out of a total of 43 girls in the school 18 were attacked—that is, 41·9 per cent. There were five distinct outbreaks. In the first, one girl sickened on Oct. 2nd; in the second, one girl sickened on Oct. 10th; in the third, two girls sickened on Oct. 19th, two on the 21st, two on the 22nd, two on the 23rd, and one on the 24th; in the fourth, one girl was attacked on Oct. 28th, two on the 29th, one on Nov. 1st, and one on the 2nd; and in the fifth, one girl was attacked on Nov. 7th (for the second time), one on the 8th, and one on the 11th. After this last date no further cases occurred for a long time. Diphtheria was carried home to the country in two instances by the girls when, nearly two months after their illness, the school broke up for the Christmas holidays. Nearly 12 months afterwards a little epidemic of a precisely similar nature occurred in the school. On Sept. 30th, 1907, three cases of sore-throat occurred in the school; the patients were moderately feverish, with swollen tonsils and enlarged cervical glands but little or no exudation. A bacteriological examination, made by Dr. W. Boxwell on Oct. 1st, showed that the milder form of the diphtheria bacillus was present in considerable quantities in two of the three cases. In the third case—clinically the most severe—Dr. Boxwell failed to find it, probably because streptococci and staphylococci were so numerous that they crowded out, as it were, the Klebs-Löffler bacilli—a fact well known in true diphtheria. Lastly, the symptoms which by their more or less constant presence made up the clinical syndrome of diphtheritic fever were: (1) a more or less severe coryza; (2) a moderate tonsillitis, usually one-sided, and unattended by high fever or by much exudation; (3) thickly coated tongue and foul breath, the tongue desquamating as in scarlet fever; (4) a patchy or punctate rash on the roof of the mouth and buccal mucous membrane; (5) swelling of the cervical lymphatic glands; (6) a roseolar rash on the skin; and (7) distinct desquamation (in three cases), the peeling being particularly marked on the hands.—Dr. T. P. C. KIRKPATRICK said that sometimes 10 or 11 recruits came into Steevens' Hospital, Dublin, in one day from the Constabulary Depôt, complaining of symptoms resembling those described by Sir John Moore. They usually recovered in a short time. In no case had there been any suspicion of membrane, and bacteriological examination showed no trace of the diphtheria bacillus in many cases. The organism in the majority of cases was some form of coccus. The condition was looked upon as an epidemic of catarrh and in no case had the roseolar rash or enlargement of the cervical glands been observed.—Mr. JOHN BURGESS said that the recruits mentioned by Dr. Kirkpatrick were brought up from the country and were not used to the ordinary hygiene. They were given swimming lessons and kept in the water for half an hour or more. This chilled them and they complained of sore-throats.—Dr. J. M. DAY said that it was not necessary to find a membrane to diagnose diphtheria. He had pointed out in a paper some years ago that cases having soft tonsils, coated tongue, and enlarged glands had given the diphtheria bacillus on a swab. Diphtheria was much commoner in the city than people supposed and there were two main predisposing causes—namely, bad teeth and constipation.

Dr. KIRKPATRICK read a paper on Eye Strain as a Factor in the Production of Functional Neuroses. One patient to whom he referred had complained for years of recurrent attacks of migraine and though he made no complaint of his vision his condition was completely relieved by the correction of some faulty muscle balance of his eyes. Cases were also quoted to show the advantage of the correction of errors of refraction in the relief of persistent headache. A patient who had complained of severe and more or less persistent headache for nearly 15 years was completely relieved by the use of proper correcting glasses.

Dr. HERBERT C. MOONEY read a paper on Eye Strain, in which he expressed the opinion that the relation between headaches and errors of refraction was not as fully realised by physicians as it might be. He pointed out the part played by errors of refraction, accommodation, and the balance of the extrinsic muscles of the eye in the causation of headache, migraine, giddiness, and nausea, and said that of enchondromata of the skin and the fact that none of the cases hitherto recorded resembled the present one which was remarkable for the number of the new growths.—Dr. STOPFORD TAYLOR said that clinically the disease was one of cartilaginous plates imbedded in the corium at various depths, and that in one plaque on the outside of the left thigh distinct ossific spicules could be seen and felt, stretching the epidermis.—Dr. R. W. MACKENNA said that the plaques were distinctly cartilaginous but were undergoing ossification. The condition was an extremely rare one and he had only been able to find one similar case in literature which was associated with *fragilitas ossium* and which ultimately degenerated into sarcoma.—Dr. F. H. BARENDT believed the tumour to have originated in the subcutaneous tissue and to have grown into the cutis vera. The fact that the corium was implicated in the growing ends supported this view, as well as the islets of sweat glands and adipose tissue embraced by the tumour. He regarded the tumour as bony in nature and thought that there were distinct appearances of attempts at a Haversian system. Other portions of the section no doubt favoured the cartilaginous view which Dr. Wilson and others held. Possible dislocation of temporary cartilage during the development of the bones was the primary source of this rare condition and subsequent ossification.

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Dr. ARNOLD W. W. LEA (Manchester) narrated two cases of Diffuse Adenoma occurring in *Fibroid Uteri* and drew attention to the features of pathological interest in this condition. Multiple polypoid projections of the endometrium, microscopically of a benign character, were present. The uterine wall was uniformly thickened to the extent of two inches in some situations. The specimens and microscopical sections were also shown.

Dr. E. EMRYS ROBERTS (Liverpool) gave a pathological report, illustrated by lantern slides, on a case of Primary Unilateral Superficial Papilloma of the Ovary and expressed the view that the ascites present in such cases was the result of secretion by the epithelium covering the papillæ. The tumour was removed by Professor H. Briggs in the Hospital for Women at Liverpool.

Dr. JOHN CAMERON (Manchester) exhibited a number of dissections demonstrating the Supports of the Pelvic Viscera. After pointing out that the muscles forming the pelvic floor in man were now recognised as vestigial structures he directed attention to the fact that they must regard the fascia surrounding the visceral branches of the internal iliac vessels (the perivascular fascia) as forming the most important support of the pelvic viscera both in the male and in the female. He then went on to suggest that operative treatment for prolapsus uteri must be directed not to the pelvic outlet alone but also to this perivascular fascia.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Diphtheritic Fever.—Eye Strain.

A MEETING of this section was held on Dec. 6th, 1907, Dr. A. R. PARSONS being in the chair.

Sir JOHN W. MOORE gave details respecting a remarkable outbreak of sore-throat which had come under his observation in a large girls' school in Dublin during the autumn of 1906. Bacteriological examination proved the outbreak to be due to an infection with a form of the Klebs-Löffler bacillus diphtheriæ. The resulting illness failed to present the typical features of classical diphtheria—it might be described as "diphtheroid," and he had ventured to call it "diphtheritic fever." From Oct. 2nd to Nov. 11th, 1906, out of a total of 43 girls in the school 18 were attacked—that is, 41·9 per cent. There were five distinct outbreaks. In the first, one girl sickened on Oct. 2nd; in the second, one girl sickened on Oct. 10th; in the third, two girls sickened on Oct. 19th, two on the 21st, two on the 22nd, two on the 23rd, and one on the 24th; in the fourth, one girl was attacked on Oct. 28th, two on the 29th, one on Nov. 1st, and one on the 2nd; and in the fifth, one girl was attacked on Nov. 7th (for the second time), one on the 8th, and one on the 11th. After this last date no further cases occurred for a long time. Diphtheria was carried home to the country in two instances by the girls when, nearly two months after their illness, the school broke up for the Christmas holidays. Nearly 12 months afterwards a little epidemic of a precisely similar nature occurred in the school. On Sept. 30th, 1907, three cases of sore-throat occurred in the school; the patients were moderately feverish, with swollen tonsils and enlarged cervical glands but little or no exudation. A bacteriological examination, made by Dr. W. Boxwell on Oct. 1st, showed that the milder form of the diphtheria bacillus was present in considerable quantities in two of the three cases. In the third case—clinically the most severe—Dr. Boxwell failed to find it, probably because streptococci and staphylococci were so numerous that they crowded out, as it were, the Klebs-Löffler bacilli—a fact well known in true diphtheria. Lastly, the symptoms which by their more or less constant presence made up the clinical syndrome of diphtheritic fever were: (1) a more or less severe coryza; (2) a moderate tonsillitis, usually one-sided, and unattended by high fever or by much exudation; (3) thickly coated tongue and foul breath, the tongue desquamating as in scarlet fever; (4) a patchy or punctate rash on the roof of the mouth and buccal mucous membrane; (5) swelling of the cervical lymphatic glands; (6) a roseolar rash on the skin; and (7) distinct desquamation (in three cases), the peeling being particularly marked on the hands.—Dr. T. P. C. KIRKPATRICK said that sometimes 10 or 11 recruits came into Steevens' Hospital, Dublin, in one day from the Constabulary Depôt, complaining of symptoms resembling those described by Sir John Moore. They usually recovered in a short time. In no case had there been any suspicion of membrane, and bacteriological examination showed no trace of the diphtheria bacillus in many cases. The organism in the majority of cases was some form of coccus. The condition was looked upon as an epidemic of catarrh and in no case had the roseolar rash or enlargement of the cervical glands been observed.—Mr. JOHN BURGESS said that the recruits mentioned by Dr. Kirkpatrick were brought up from the country and were not used to the ordinary hygiene. They were given swimming lessons and kept in the water for half an hour or more. This chilled them and they complained of sore-throats.—Dr. J. M. DAY said that it was not necessary to find a membrane to diagnose diphtheria. He had pointed out in a paper some years ago that cases having soft tonsils, coated tongue, and enlarged glands had given the diphtheria bacillus on a swab. Diphtheria was much commoner in the city than people supposed and there were two main predisposing causes—namely, bad teeth and constipation.

Dr. KIRKPATRICK read a paper on Eye Strain as a Factor in the Production of Functional Neuroses. One patient to whom he referred had complained for years of recurrent attacks of migraine and though he made no complaint of his vision his condition was completely relieved by the correction of some faulty muscle balance of his eyes. Cases were also quoted to show the advantage of the correction of errors of refraction in the relief of persistent headache. A patient who had complained of severe and more or less persistent headache for nearly 15 years was completely relieved by the use of proper correcting glasses.

Dr. HERBERT C. MOONEY read a paper on Eye Strain, in which he expressed the opinion that the relation between headaches and errors of refraction was not as fully realised by physicians as it might be. He pointed out the part played by errors of refraction, accommodation, and the balance of the extrinsic muscles of the eye in the causation of headache, migraine, giddiness, and nausea, and said that headaches met with in young students were often wrongly put down to the quality or quantity of the illuminant instead of to some degree, often quite small, of astigmatism.

Devon and Exeter Medico-Chirurgical Society.—A meeting of this society was held on Dec. 12th, 1907, Mr. R. Coombe, the President, being in the chair.—The President showed a boy, aged about 12 years, on whom he had successfully performed the operation of Submucous Resection of the Septum Nasi.—Dr. J. D. Harmer, house surgeon at the Royal Devon and Exeter Hospital, showed for Dr. J. Delpratt Harris a case of Actinomycosis of the Jaw. The patient, who was a girl aged 18 years, gave a history of three months' illness. The whole of the left side of the face was swollen and brawny and the eyelids were œdematous. There were several sinuses, from which exuded thick, yellow, offensive pus. She could only separate her teeth a short distance and was in a serious general condition, with quickened pulse and elevated temperature. She was by occupation a domestic servant in Exeter, but her father was a farm labourer and she was at home in the summer.—Dr. R. V. Solly showed a microscopic slide of the pus from the foregoing case, which exhibited branching mycelium but no clubs.—Dr. Solly read a paper on Leukæmia. He began by reporting the following cases which occurred in the Royal Devon and Exeter Hospital. The first patient was a man, aged 34 years, who had served in the Marines and had been to the tropics but had never been ill there. There was a history of syphilis four years ago. The present symptoms were anæmia, indigestion, and palpitation. The spleen reached nearly to Poupart's ligament. The patient's temperature was generally normal. The blood contained about 3,000,000 red cells and 340,000 white cells per cubic millimetre, with 40 per cent. polymorphs, 56 per cent. neutrophile, and 2·2 per cent. eosinophile myelocytes. The patient remained in the hospital for three months and was discharged unrelieved. The second and third patients were women, aged respectively 40 and 30 years; they both died within three months after coming under observation. The fourth case was one of acute lymphatic leukæmia, which was fully reported in The Lancet of June 23rd, 1906. The patient was a girl, aged 13 years, whose whole illness only lasted 14 days, and whose blood contained the enormous proportions of 796,000 white cells per cubic millimetre with only 1·6 per cent. polymorphs and 86 per cent. large and 11 per cent. small lymphocytes. Dr. Solly commenced his paper by stating that the diagnosis of leukæmia was almost entirely dependent on the blood examination. It was necessary, however, that a differential as well as a total leucocyte count should be made, as cases of leukæmia occurred in which the total count of the white cells was little raised above normal, but the differential character of the leucocytes was profoundly altered. Acute lymphatic leukæmia might give all the appearance of an acute infection and might have to be diagnosed by the blood examination from such diseases as typhoid fever or general septicæmia, and as it was almost invariably rapidly fatal it was well to make a diagnosis as soon as possible. Conditions such as splenic anæmia and lymphadenoma, where the leucocytes were little changed, were diagnosed immediately from leukæmia by a stained blood film, and the same could be said of enlargements of the liver and spleen due to syphilis or malaria. Spleno-medullary leukæmia, lymphatic leukæmia, and pernicious anæmia should be considered together as arising from some dyscrasia of the blood-forming organs, and particularly of the bone marrow. Dr. Solly then referred to cases described by Leube under the name of leukanæmia which exhibited the characters of leukæmia and pernicious anæmia combined. Dr. Solly gave it as his opinion that the most probable cause of pernicious anæmia and the leukæmias was some toxin acting in the bone marrow and possibly produced in the intestines, and causing in pernicious anæmia megaloblastic degeneration, destruction of red cells, and some myelocytosis, and in the leukæmias myelocytosis or lymphocytosis. The view that it was an intoxication was supported by the fact that both infection by the bothriocephalus latus and saponin poisoning produced megaloblastic degeneration as in pernicious anæmia. In these cases no improvement was produced by exposure to the x rays. In one case the spleen became smaller and the number of leucocytes diminished but the patient became more anæmic and shortly died. Dr. Solly suggested that the fresh bone marrow sandwich treatment as carried out by Dr. A. G. Gullan of Liverpool in pernicious anæmia might be tried in leukæmia.—Dr. W. Gordon in discussing the paper remarked that he felt certain that the large lymphocytes of acute lymphatic leukæmia were not the normal large lymphocytes of the blood, as these leukæmic lymphocytes frequently showed quite different staining characteristics, the normal lymphocytes having a dark nucleus and a lighter rim of protoplasm, while frequently in these abnormal lymphocytes of leukæmia the rim of protoplasm took the basic stain more deeply than the nucleus.

Sheffield Medico-Chirurgical Society.—A meeting was held in the society's room in the University on Dec. 19th, 1907, Dr. R Gordon being in the chair.—Professor J. M. Beattie showed the more interesting recent additions to the museum. These were accompanied by microscopic specimens and included specimens from cases of Delayed Chloroform Poisoning, Hæmochromatosis of the Liver in "Bronzed Diabetes," a Lung Full of "Sand" which the micro-section showed to be due to Calcified Corpora Amylacea, a section of the Liver from a case of Argyria showing Silver Deposit, Malaria Parasites, Lymphatic Leukæmia of the Kidney and Liver, a Kidney from a case of Hæmoglobinuria, Endothelioma of the Lung, and Fat Necrosis of the Omentum.—Dr. Arthur J. Hall showed specimens of Hæmorrhage into the Cerebellum and Cerebrum due to Purpura Hæmorrhagica, a Liver and Spleen Two Years after Epiplorrhaphy for Cirrhosis of the Liver, and other cases.—Dr. H. G. M. Henry showed a series of Cerebral Tumours and specimens from a case of Congenital Syphilis.—Dr. H. Leader showed Macro- and Micro-specimens from a case of Lympho-sarcoma.—Dr. W. H. Nutt showed a series of Skiagrams illustrating bronchiectasis, thickened pleuræ, pulmonary tuberculosis, renal calculi, intrathoracic growths, tumours, foreign bodies, fractures, and one of a child with absence of cervical vertebræ.—Dr. A. Rupert Hallam showed a series of Skiagrams illustrating fractures, foreign bodies, pulmonary tuberculosis, renal and ureteric calculi, and a stereoscopic view of a skiagram of the hand.—Mr. Arthur M Connell showed a series of Pathological Specimens and a number of enlargements of Micro-photographs which showed very clearly several varieties of carcinoma and perithelioma.—Mr. A. W. Cuff showed a Sarcoma of the Shoulder removed by Berger's Operation, a Renal Stone from Perforated Pyo-nephrosis, Anal Fistulæ which had been dissected out, and other specimens.—Mr. H. Lockwood showed specimens of Cystic Kidneys.—Mr. R. J. Pye-Smith showed a Glioma of the Brain with microscopic specimen.—Mr. A. Garrick Wilson showed a specimen of Calculous Nephritis in an Infant.—Dr. Percival J. Hay showed an Equatorial Staphyloma of the Sclera, Glioma of the Retina, a Rare Tumour of the Optic Nerve (Primary Glioma), Hydrophthalmos due to Ophthalmia Neonatorum, and a specimen showing Perforation of the Cornea and Mode of Infection of the Posterior Chamber.—Mr. Miles H. Phillips showed a collection of Gynæcological Specimens, consisting chiefly of those added to the museum during the year. There were six preparations of ectopic pregnancy, two of early rupture of the isthmial sacs, two tubal abortions, a five-weeks unruptured gestation in a rudimentary horn, and a full term unruptured sac, apparently tubal. Other important specimens illustrated "red degeneration" of a fibroid during pregnancy, abscess of the corpus luteum, cystic degeneration of fibroids, and a good example of a fibroid polypus of the vagina.—Dr. F. H. Waddy showed three interesting Uterine Moles from cases of Missed and Concealed Abortion and a Six-months Hydrocephalic Fœtus with Deficiency in the Fingers of One Hand, possibly due to intra-uterine amputation.

Clinical Society of Manchester.—A meeting of this society was held on Dec. 17th, 1907, Dr. H. R. Hutton, the President, being in the chair.—The meeting was devoted to the exhibition of cases.—Mr. E. Stanmore Bishop showed four cases of Gastro-enterostomy. Two of these had been done for ulceration of the stomach, one for ulceration of the duodenum, and one for hyperchlorhydria. One of these cases was that of a young woman who at the time of operation was much emaciated from constant vomiting and loss of blood. After operation she rapidly improved and gained three stones in weight in four months. In another symptoms of perforation had been noted a month previously. When the abdomen was opened the omentum was found adherent to a thickened ulcer in the anterior wall of the stomach. Posterior gastro-enterostomy was done and the patient lost all previous symptoms and rapidly increased in weight. Mr. Bishop described the evolution of the operation and pointed out the drawbacks of the earlier methods.—Dr. J. A. Knowles Renshaw showed: 1. A case of Papilloma of the Larynx. The patient, a female, aged 30 years, had suffered from hoarseness for three years. There had been no cough or discomfort; during the last year the hoarseness had not been so noticeable. On examination a small pedunculated growth was seen arising from the lower surface of the right cord at the junction of the anterior and middle third. On phonation the growth rose above the cords. The improvement in the voice which had latterly taken place was due, no doubt, to the increase in length of the pedicle which allowed this free movement of the growth. 2. A case of Ethmoiditis and Ulceration of the Septum Nasi. The patient, a woman, aged 32 years, complained of obstruction of the right nostril and swelling over the right nasal bone, which she attributed to a blow on the nose eight months since. There was a large amount of infiltration in the ethmoidal region, the middle turbinal being especially thickened. Over the septal cartilage was a shallow irregular ulcer, on the anterior edge of which were several small masses of granulation tissue. Although no definite history could be obtained the general appearance was strongly suggestive of specific disease. 3. A case of Chorditis Tuberosa. The patient, a woman, aged 25 years, had overstrained her voice by talking amid loud machinery. The node on the left cord was much larger than that on the right and was semi-translucent, having the appearance of a small myxoma.—Dr. G. H. Lancashire showed (1) three cases illustrating Different Phases of Lupus Erythematosus; (2) a case of Hereditary Syphilis in a girl, aged 14 years, rapidly responding to five-grain doses of iodide of potassium; and (3) a case of Molluscum Contagiosum. The back had been covered with an enormous number of lesions. Cure had been effected within a fortnight by expressing the contents of the tumour and rubbing in a 40 per cent. resorcin ointment.—Dr. R. W. Marsden, Dr. C. H. Melland, and Dr. C. C. Heywood also exhibited cases.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 18th, 1907, Dr. L. W. Marshall, the President, being in the chair.—Dr. Thomson Henderson gave a lantern demonstration illustrating some of his recent work on the Anatomy and Pathology of the Eye. He pointed out that the unity of pathological processes throughout the body was an important fact and pathological conditions in the eye obeyed the same laws that applied elsewhere. The only clinical or pathological differences observable resulted from the anatomical conditions peculiar to the eye as a special sense organ. After describing in detail the anatomy of the angle of the anterior chamber and the formation of the aqueous by the ciliary body it was demonstrated how the fluid drained away by Schlemm's canal assisted by the iris. By means of crypts on its surface the latter allowed the aqueous fluid to penetrate its stroma and so to come into direct contact with the veins of the iris. When the pupil contracted these crypts were widely open, but when it dilated these openings were closed and outflow by way of the iris was prevented. After demonstrating the venous connexions of Schlemm's canal Dr. Henderson discussed their bearing on glaucoma. He stated that the open network or cribriform ligament on the inner side of the venous sinus of Schlemm's canal became thickened in this disease so that the interspaces were reduced and free outflow of the aqueous was hindered and intraocular tension raised. This thickening was a physiological process going on throughout life and only in its results was the effect pathological. In virtue of its crypts the iris was an absorbing surface and the operation of iridectomy produced a large crypt—namely, three sides of a square, through which the aqueous readily escaped, as the cut surface of the normal iris never healed. The reason for this apparently startling fact was clear when they considered that cicatrisation was a protective process, resulting from the reaction of the cells of a tissue to irritation or to altered conditions of life. As a successful iridectomy did not alter the relation of the severed tissue cells to their immediate surroundings but left them still bathed by the aqueous, no stimulus was imparted to them to cause them to lay down a dense and protective layer. The iris tissue thus remained unaltered and presented a large raw surface, by means of which the aqueous could readily drain away provided the operation was done before atrophy and damage to its structure had proceeded too far.—The subject was discussed by Dr. F. H. Jacob, Dr. E. C. Kingdon, Dr. J. Watson, Dr. T. D. Pryce, and the President, and Dr. Henderson replied.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Dec. 20th, 1907, Dr. W. Langdon Brown, the President, being in the chair.—Mr. Peter L. Daniel read a paper on Common Urinary Diseases and Some Points in their Etiology and Treatment. In the early stage of acute infection of a first attack of gonorrhœa the only germ present was the gonococcus. At the end of four or five weeks the infection of the gonococcus subsided and the urethra became aseptic and continued so for eight or ten days, but if not treated properly it got infected by streptococci and staphylococci which caused gleet. In the early stage of gonorrhœa the urine should be kept acid so as to inhibit the growth of the gonococci and prevent their spread from the anterior to the posterior urethra. For this the best drugs were urotropine or helmitol, and acid sodium phosphate, together with some preparation of sandal wood oil. The amount of liquids should be restricted so that drugs were given in a concentrated form. Local treatment should be started at once by injecting the anterior urethra alone, using a two-drachm Herring's syringe with solution of silver nitrate, 1 to 12 000, or potassium permanganate, 1 to 8000. Stricture was not produced by gonorrhœa itself but by added sepsis, so the secret of treatment was cleanliness. Enlarged prostate in most cases was the result of sepsis in the urethra. All other symptoms except difficulty in micturition and nocturnal frequency were due to sepsis setting up cystitis. Hence in enlarged prostate the cystitis should be treated. In kidney troubles, in order to get specimens of urine from different kidneys it was not necessary to catheterise the ureters, for a segregation answered perfectly well. Most kidney troubles were due to infection passing up along the "open door," so if the lower genito-urinary tract was kept clean there would be less kidney mischief.—Dr Herbert T. Herring said that nearly all urinary surgery was due to sepsis introduced by examination with dirty instruments. In treating a septic disease like gonorrhœa it was essential that instruments, hands, and penis were aseptic so as to prevent any fresh infection. It was almost impossible to get formation of phosphatic stones without sepsis.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on Dec. 11th, 1907, Dr. A. D Roe, the President, being in the chair.—Dr. Hector Mackenzie read a paper on the Treatment of Pneumonia and its Complications. After defining pneumonia as a local infection of the lung by the pneumococcus, accompanied or followed by the entrance of the micro-organism into the blood-stream, Dr. Mackenzie emphasised the importance of an abundant supply of fresh air in the treatment of all cases. In the past there had been three main forms of treatment, each of which had been successful in a measure: by bleeding, by brandy, and by the expectant treatment. The use of alcohol as a routine treatment was diminishing, but there were cases, especially among the old, where alcohol was of great benefit. Though bleeding was now out of fashion it was indicated in cases of marked cyanosis with cardiac dilatation; leeches, a dozen or more, might be employed in its place. Where there was prune-juice expectoration indicating œdema of the lungs and a watery condition of the blood calcium chloride should be given; in other conditions citrates were more useful. Oxygen had been much administered and greatly overrated, but it did no harm if no good. As to local applications, Dr. Mackenzie preferred hot to cold for the relief of pain. Sleeplessness was best met by veronal or trional. With regard to the serum treatment, there was no evidence of any good result. The vaccine treatment was more encouraging, but there was much work to be done before any definite conclusion could be reached.—The paper was discussed by the President, Dr. B. Baker, Mr. E J. Pritchard, Dr. E. C. Lambert, Dr. M. Mackintosh, and Mr. T. A. Howell.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Dec. 17th, 1907, Mr. Justice Walton, the President, being in the chair.—Dr. W. A. Brand showed to the meeting a "Bill of Mortality," dated 1800, which referred to the number of deaths which had occurred in the various London districts for one week.—The President referred to the fact that 23 executions were chronicled but the burials of only 11 were recorded, the probability being that the other bodies were sent to the anatomy schools.—Mr. E. J. Blackett read a note on a case of Drowning of a Newly-born Child, and Mr. D. Cotes-Preedy brought to the notice of the meeting a case of manslaughter tried at the last Stafford summer assizes, the deceased's death following a fracture of the thyroid cartilage. —Dr. T. Claye Shaw read an interesting paper on the Radical Cure: Certification of Inebriates.—In the discussion that followed Dr. F. W. Mott, Dr. Charles A. Mercier, Dr. F. J. Smith, Dr. James Scott, Dr. W. Scott Tebb, and the President took part.—The President remarked that no judge with experience of criminal work could be of any other opinion than that so far as crimes of violence were concerned drink was generally the cause. As to whether drunkenness led to crimes of dishonesty his impression was that it was not the primary cause but that drink prevented efforts of reclamation. Dr. Claye Shaw seemed to have found fault with the criminal law, but he (the President) felt sure that the criminal law would never deal with inebriates as inebriates. The criminal law of this country did not punish habits but only specific acts.

Reviews and Notices of Books.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D. Cantab., LL.D., D.Sc., F.R.C.P. Lond., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, &c.; and HUMPHRY DAVY ROLLESTON, M.A., M.D. Cantab., F.R.C.P. Lond., Physician to St. George's Hospital, &c. Vol. III. London: Macmillan and Co., Limited. 1907. Pp. 1040. Price 25*s*. net.

THE preface to this volume tells us that "as regards the more important articles [it] is a re-written rather than a revised successor of Vol. III. of the original edition" and such is indeed the case. In the opening article on Rheumatoid Arthritis Dr. A. E. Garrod now distinguishes two separate affections which he calls respectively rheumatoid arthritis and osteo-arthritis, a distinction which has recently been emphasised by the researches of a special committee at Cambridge. Spondylitis Deformans also receives separate consideration. The article on Gonorrhœal Rheumatism is now amplified into one on various infective lesions of joints, dysenteric, syphilitic, pneumococcal, and so forth. An article on Intermittent Hydrarthrosis is also new. Dr. H. Batty Shaw now writes on Pulmonary Osteo-arthropathy in place of Mr. A. A. Bowlby who is still, however, responsible for the sections dealing with Osteitis Deformans and Mollities Ossium. Dr. F. J. Poynton, who now assists Dr. W. B. Cheadle in the article on Rickets, contributes a new section on Achondroplasia which is illustrated by two good reproductions of photographs.

The article on Gout, written by the late Sir W. Roberts, is revised by Dr. J. Rose Bradford who gives some account of recent investigations on the purin bodies and their relation to the disease. We cannot help thinking that one or two graphic *formulæ* would have made this part of the subject clearer to those who have not specially studied the chemistry of these substances. Professor R. Saundby's article on Diabetes Mellitus is not much altered but the author now admits the possibility of a failure of the tissues to utilise sugar as part of the explanation of the condition, holding that "failure of the glycogen reservoir in the liver and reduction of the power of the tissues to consume sugar" together constitute "an adequate hypothesis of diabetes." The discussion of the relation of the pancreas to this malady is not very full and Cohnheim's hypothesis as to the interaction of the pancreas and the muscles is not mentioned. Dr. Rose Bradford is responsible for the section dealing with Diabetes Insipidus and apparently favours a nervous theory of the condition. Meyer's views as to the inability of the kidneys to excrete the salts of the blood except in extreme dilution (hyposthenuria) are not apparently thought worthy of notice. The senior editor's contributions on Sea-sickness and Mountain-sickness are now transferred to the division embracing General Diseases of Obscure Origin, where they are better situated than among ailments of the alimentary canal. Diseases of the Mouth are now intrusted to Mr. Walter G. Spencer, while the most noteworthy alterations in the division dealing with diseases of the alimentary canal arise from the division, among other contributors, of the large proportion of work originally allotted to Sir Frederick Treves. Thus the subject of Enteroptosis, now disfigured by the name of visceroptosis, a barbarous hybrid term, is dealt with by Dr. A. Keith, while Appendicitis—this name having prevailed over the more correct perityphlitis—is intrusted to Mr. C. B. Lockwood, whose article is full of excellent matter if the style is not quite equal to that of his predecessor. Intestinal Obstruction is fully dealt with by Mr. H. L. Barnard, and Acute Peritonitis, as well as other affections of the peritoneum, is in the hands of Sir W. H. Allchin. A new section on Shock has been contributed by Dr. T. G. Brodie; this condition is looked upon by the author as one of depression of the nervous centres. We are not quite sure of his meaning when he attributes this to "an *inchoate* and excessive series of impulses" (the italics are *ours*) which act on many parts of the cord simultaneously. The late Dr. W. S. Playfair's article on Diagnosis of Abdominal Conditions from a Gynæcological Standpoint is omitted in the present edition, presumably as being more suited to the companion volume edited by Professor Allbutt, with the assistance of Dr. T. W. Eden. Lardaceous Disease is also treated of elsewhere in the present edition. The section on Diseases of the Anus and Rectum, originally written by the late Mr. Herbert Allingham, has been revised by Mr. J. P. Lockhart Mummery who has added some coloured illustrations of appearances seen through the sigmoidoscope. The late Dr. Dreschfeld's revision of his articles on Gastric and Duodenal Ulcer was fortunately finished by the author before his death and these represent perhaps the last contributions made to medical literature by this distinguished physician. New sections which deserve notice are that on Congenital Hypertrophy of the Pylorus, written by Dr. G. F. Still, and that on Subphrenic and other forms of Peritoneal Abscess from the pen of Dr. T. D. Acland, which replaces the original contribution of Dr. Lee Dickinson.

The present volume well maintains the credit gained by those which have previously appeared and there is every indication that the new "System" will retain the place secured by the former edition as the most popular standard medical text-book in this country. Its 1040 pages are packed into a book of convenient size for reading, while the printing is excellent and singularly free from typographical errors. We are inclined to think that a rather more liberal allowance of illustrations would be an advantage but can understand the editor's reluctance to sacrifice more space in view of the expansion which ten years' increase of knowledge has necessitated in the total bulk of the work.

A Text-book of Embryology for Students of Medicine. By J. C. HEISLER, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. With 212 illustrations, 32 of them in colours. Third edition. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 432. Price 13*s*. net.

THE first edition of this work appeared in 1899 and this may partly account for the following remarkable statement: "Prior to the beginning of the present century, little or nothing was definitely known concerning reproduction and development." Obviously the author has not revised this statement since the end of last century. The work is a plain, straightforward account of embryology—not in its widest sense but rather of *human* embryology. Very few authorities are cited and references to literature are practically absent. The sources of the borrowed illustrations—which are numerous, from the works of His, Bonnet, and others—are duly acknowledged. Here and there certain facts of comparative embryology are given but the work is essentially one on human embryology adapted for students. The author follows the natural order in his treatment of the subject, beginning with the sexual elements and their physiology and passing on to segmentation of the ovum, germ layers, and the beginning differentiation of the embryo, the formation of the body wall, intestinal canal, and the fœtal membranes, placenta, and umbilical cord. Then there is the more detailed description of the development of the external form of the body, its connective tissues and lymphatic system; and subsequently there is set forth the story of the development of the face and mouth, the vascular, digestive, respiratory, genito-urinary, cutaneous, nervous, and muscular systems; and lastly, the development of the skeleton and limbs. With His he takes three stages of intra-uterine development—the stage of the "ovum," then that of the "embryo," beginning at about the fourteenth day; the events from day to day are traced but the fourth week marks the most active growth of the embryo; and finally, the stage of the "fœtus," which comprises the time between the beginning of the second month and the end of pregnancy. The events that make up this period are described in order. The descriptions of development of the various organs are clear and not too long. Though the skeleton is taken last, and although it is the framework of the body in the anatomical or mechanical sense, it is not so embryologically. Its development is not begun, at least, not to any important extent, until all the principal organs are well differentiated, and its growth is largely subsidiary to that of the structure which it supports and protects; hence the story of its development naturally comes in at the end.

There is an elaborate tabulated chronology of development running to several pages, setting forth in parallel columns the chief events in the development of the human embryo from week to week and month to month. The work is, as we have already said, a plain, straightforward account of the human embryology for students of medicine rather than for those studying embryology from the point of view of science.

The Nervous System of Vertebrates. By J. B. JOHNSTON, Ph.D., Professor of Zoology in West Virginia University. With 108 illustrations. London: John Murray. 1907. Pp. 370. Price 15*s.* net.

THIS work deals with the nervous system from a broad point of view and endeavours, we think successfully and succinctly, to trace its phylogenetic history and to show the factors which have determined the course of its evolution. More especially is attention given to its functional relations. There is little of mere descriptive anatomy. The account of the phylogeny of the forebrain differs from that usually given, while the statement is made that the taste buds are developed in the entodermal lining of the pharynx. If this be so it establishes an exception to the statement that all nervous structures are derived from the ectoderm.

The work is set forth under the following heads: general morphology, development, nerve elements and their functions, and the functional divisions, including the somatic afferent division, the visceral afferent division, general and special, and the somatic motor and visceral efferent divisions of the nervous system. Then follow a chapter on the sympathetic system and others on centres of correlation and the cerebellum, the evolution of the cerebral hemispheres, and the neopallium.

The short description of the general morphology is excellent and the account of brains in fishes is suggestive. The chapter on development forms a natural and excellent corollary to the foregoing. As to the importance of cephalisation this has brought with it, or rather the process consists in the development of, special sense organs, consequent enlargement of the brain and the formation of a rigid cranium to protect these organs, the disappearance of certain muscle segments and a change in position and functions of other muscles—e.g., eye muscles, the reduction in the number of gills, and with this the disappearance of various nerves and somites, the shifting of position of various organs and nerve roots due to these changes, and, lastly, the great development of the higher centres. The experiment of Bethe on the nerve cells of the crab Carcinus seems to show that nerve impulses can pass through the processes of a nerve cell without traversing the body of the cell itself. There is a careful but not captious analysis of the neuron theory and it is now admitted that the part of this theory which treats of the doctrine of contiguity is definitely disproved. The nervous system as a whole may be considered as a complex of neurons variously linked together into functional systems, representing at once the mechanism by which certain work is done and a record of the experience of the individual and the race.

When treating of functional divisions of the nervous system the general plan of the body shows actions in relation to the external world and those related to internal activities having to do with the processes of nutrition and reproduction—i.e., somatic and visceral. This scheme is admirably set forth and worked out in the brain of selachians and in man. In fact, these chapters are amongst the best in the book Anyone making a careful study of these systems—afferent and efferent—as set forth by Professor Johnston will find new light on the complex problems and cumbrous nomenclature of the mammalian brain. The cutaneous division, with the special sense organs in fishes and the differentiation of cutaneous and auditory centres and the cerebellum, are well worked out, and this is the case also with regard to the study of the visual apparatus and visceral system and its components. The description of the development and evolution of the sympathetic system is compactly set forth and the same may be said of the cerebellum, and here we may point out the fallacy of the statement that the cerebellar hemispheres of mammals are new formations not found in submammalian classes. The hemispheres are formed first. The evolution of the cerebral hemispheres is made plain and interesting. In connexion with the study of the neopallium the work of Golgi, Cajal, and Flechsig naturally is largely drawn on. There are references to literature at the end of each chapter and also short notes on laboratory work. The book is such as could only be written by a skilled zoologist. It contains many original observations. We strongly commend it to the study of the younger zoologists and neurologists.

Studies in Laboratory Work. By C. W. DANIELS, M.B. Cantab., and A. T. STANTON, M.D. Tor. Second edition. London: John Bale, Sons, and Danielsson, Limited. 1907. Pp. 491. Price 16*s.* net.

A NEW edition of this excellent work for research in tropical diseases has been necessitated by the rapid advances which have been made in all branches of tropical medicine since the first was published. These advances have in the volume before us been considered and especially information as to the known carriers of disease has been added, including ticks, biting flies, and fleas. Dr. Daniels also has had the advantage of the coöperation of Dr. Stanton in the preparation of the volume; the result has been to furnish the student of tropical medicine with a work thoroughly up to date.

In their opening chapter the authors show how the medical man practising in the tropics can best cope with the disadvantages entailed by the absence of the well-equipped laboratory which is usually found in European institutions. An excellent chapter then follows with reference to post-mortem examinations, the statements contained therein being only too familiar to those who have had experience in the deadhouse in the tropics. The all-important subject of the examination of the blood is next considered; the different varieties of the corpuscles are described, as well as the methods of making blood films and the various particulars as regards staining. The succeeding four chapters deal with the question of the parasites found in the blood and here the student will find a very complete account of the organisms of malaria. The Leishman-Donovan bodies receive due attention, as do also the filariæ. Certain properties of blood plasma and blood serum are then considered; here Sir A. E. Wright's theory of opsonins finds due expression. The authors give a brief but quite satisfactory account of the blood-sucking flies, mosquitoes, ticks, and fleas, illustrated by some excellent drawings. The student of the subjects connected with malaria and yellow fever is taught how to dissect mosquitoes, whilst the eggs, larvæ, and pupæ and their breeding places are demonstrated. Fleas, lice, bed bugs, and ticks are classified and described, after which the pigments and various forms of degeneration found in the tissues are dealt with. The subject of the parasites is finally concluded by an account of their presence in the tissues.

The important subject of the fæces is considered and the various points requiring observation are laid down; the method of examination of the various parasites contained therein is demonstrated. The chapter would, however, have been rendered more complete had the method of washing the dysenteric stools as laid down by the late Dr. E. Goodeve been mentioned, for by this method the observer is enabled to determine better than by any other with which we are acquainted the condition of the affected bowel and the prognosis that should be formed concerning the outcome of the disease. After that of the fæces comes the examination of the urine in which we note mention of Cammidge's researches. The volume concludes with the subject of bacteriology as practised in the tropics. Here the difficulties of the subject as experienced in these conditions are noted and an excellent table is given of the organisms of special interest as regards tropical countries. The last two chapters are occupied with the questions of measurements of the various eggs, parasites, and normal and abnormal cells, and with that of statistics in the tropics.

The authors have placed at the disposal of the student of tropical medicine a mine of information without which he cannot be considered properly equipped.

The Röntgen Rays in Medical Work. By DAVID WALSH, M.D. Edin., Senior Physician, Western Skin Hospital, London. Fourth edition. London: Baillière, Tindall, and Cox. 1907. Pp. 433. Price 15*s.* net.

THIS work was one of the first, if not the first, of its kind to be published in this country, and that its publication was justified is well shown by the issue of a fourth edition. The general arrangement of the work is essentially the same as before. The first part dealing with apparatus has been again written, or rather rewritten, by Dr. H. Lewis Jones. All the essential details are fully gone into and it is refreshing to observe that the usual "padding," consisting of one or more chapters on elementary electrical physics, so commonly found in works of this kind, has been omitted. The second and major part of the work is devoted to the application of the x rays in medicine and surgery. The localisation of foreign bodies in both civil and military practice comes in for a very full share of attention and here, as in the other parts of the book, we note the superior character of the illustrations which go so far to elucidate a subject of this kind. Those prepared from radiographs by Dr. David Morgan of Liverpool are worthy of special mention. In the purely medical section the author rightly insists on the great and valuable help which this agent is capable of giving in the diagnosis of thoracic disease. From an almost daily experience of the method we can bear testimony to its value; and the facility and speed with which an otherwise doubtful point can be satisfactorily settled are sufficient to impress the most sceptical. The closing chapters are devoted to legal medicine, anatomy, and physiology. We can confidently recommend the volume to all those who are interested in x ray work of any kind.

Post-mortem Pathology: A Manual of the Technic of Post-mortem Examinations and the Interpretations to be Drawn Therefrom. By HENRY W. CATTELL, A.M., M.D., sometime Pathologist to the Philadelphia, Presbyterian, and Pennsylvania Hospitals. Third edition, copiously illustrated with coloured plates and figures. London and Philadelphia: J. B. Lippincott Company. 1906. Pp. 547. Price 18*s.* net.

THE third edition of Dr. Cattell's book has been enlarged and very considerably improved. In our review of the first edition we commended the practical character of the work as a handbook for the post-mortem room but pointed out that the descriptions of morbid conditions were meagre and incomplete and that the literary style was marred by the abrupt and unfinished character of many of the sentences. In this edition we are glad to see these defects remedied. The description of the methods of post-mortem examination and the general account of the technique of the examinations, of the dissections necessary to expose various organs, and of the methods of section remain as before thoroughly practical, clear, and easy to follow. The copious illustrations, which are mostly reproductions from photographs, contribute in no small degree to the value of the book. Careful general descriptions of the manner of using the various instruments are included and many practical hints are given. Where various methods are in use for the examination of special regions Dr. Cattell is careful to describe them in detail and to indicate those which in his own extensive experience have given the best results or to point out the value attaching to each for any particular purpose.

Among the chapters of special merit we may mention those devoted to the examination of the skull and the brain and to the investigation of the naso-pharynx, the eyes, and the ears. The descriptions of diseased conditions and morbid organs have all been considerably extended and improved, while a great deal of recent work has been incorporated in a form convenient for reference. The directions given for the preservation of tissues and for the bacteriological investigation of post-mortem tissues are succinct and thoroughly useful. A chapter on post-mortem examinations of the newly born contains valuable information on the subject and like all those referring to matters of technique is copiously illustrated, while the sections devoted to restricted post-mortem examinations and to the restoration and preservation of the body afford highly useful accounts of those subjects, containing a great deal of practical advice. A section on weights and measurements given in English and metric figures leaves nothing to be desired, while that devoted to post-mortem examination of the lower animals gives a few general hints in regard to their performance in such mammals as the horse, ox, sheep, and dog, and also in birds. A very brief chapter on plant pathology is perhaps hardly necessary, as it includes but little of practical importance, although various suggestive lines of research are indicated. A long chapter headed "medico-legal suggestions" we have read with interest, since it incorporates a considerable amount of the author's personal experience as "coroner's physician" in Philadelphia.

Many useful references are appended to the text and it is a pleasure to recommend this book in its improved form as a valuable handbook for the student in the post-mortem room, or for the practitioner who is called upon to perform examinations of the dead body for medico-legal or other purposes.

Manuel Pratique de Massage et de la Gymnastique Médical Suédoise. (Practical Manual of Massage and of Swedish Medical Exercises.) By J. E. MARFORT. Third edition. with 111 figures in the text. Paris: Vigot Frères. 1907. Pp. 319. Price 5 francs.

A WELL-ILLUSTRATED handbook which shall be at once intelligible and of moderate size, describing in simple terms the general methods employed in massage and in the various forms of exercises adapted to medical purposes, is likely to serve a useful purpose. The small book before us fulfils most of these requirements; it is well written, abundantly and clearly illustrated, and is of convenient size. Though not a medical practitioner, the author has a general acquaintance with the anatomical and physiological facts necessary for a proper appreciation of the principles underlying the therapeutic application of massage and muscular exercises. Indeed, he strongly emphasises the necessity for adequate and sufficient training in the theory and practice of these methods, and declaims against the harmfulness likely to result from the application of them by those with but a few weeks or months of training. He points out that in Sweden a course of three years at the Royal Institute of Massage is necessary before a diploma is granted. He insists on the importance of the application of these therapeutic methods under medical supervision by skilled persons and refers to various injurious effects which may be induced by their injudicious application.

The first section of the book opens with a chapter on the history of massage and of its recent developments and applications; another follows on general considerations relating to the uses and applications of massage and muscular exercises. The second part of the book deals with the technique of massage. The various processes of *effleurage, écrasement, pétrissage, tapotement, ondulations,* and *vibrations* are outlined and very clear figures are given in illustration. Various mechanical vibrators are described, including one devised by the author. The application of massage to the body generally and to the various organs is next discussed and the position of the patient and the operator is clearly defined. In this section it seems to us that unnecessary importance has been given to massage in gynæcological conditions.

The third section of the book is devoted to medical gymnastics and in it the passive and active movements applied to the various muscular groups are described and illustrated by figures or diagrams. In connexion with the active movements the various respiratory exercises are given. In this section certain resistance movements are noted such as those recommended in the treatment of some forms of cardiac disease. The exercises used in the treatment of scoliosis are also described and figured.

The fourth and concluding section of the work deals with the physiological actions of massage and of muscular movements and with the indications for their use in practice. This would have been more suitably written by a medical author or in collaboration with one. It includes supposed indications for the application of these methods in a very great variety of conditions. None the less, as we have said at the outset, this is a practical and handy little book on the subject of which it treats.

LIBRARY TABLE.

Encyclopædia and Dictionary of Medicine and Surgery. Vol. VI., Lumbar Region to Nephrotomy. London and Edinburgh: William Green and Sons. Pp. 562. 1907. Price 15s. net.—The sixth volume of this valuable encyclopædia of medicine and surgery contains more subject headings than any previous volume with the exception of the second. The subject most extensively dealt with is that on Diseases of the Lungs, but besides this long article there are 48 others of more than 1000 words in length, as well as 82 of less than 1000 words and more than ten lines in length. The rest of the volume is made up of 1100 short paragraphs or definitions. Amongst the various subjects dealt with we find an able article on Lunacy by Dr. J. F. Sutherland, in which the practitioner will find information on all the chief points of the affections included under this term. Dr. R. W. Philip, Dr. S. H. Habershon, and Dr. R. A. Fleming contribute the excellent section on the Lungs. The historical aspect of tuberculosis is well drawn. This is followed by the section on the etiology, pathological anatomy, and symptoms. Then we come to an excellent exposition of the physical signs of the various stages. The clinical varieties and complications are detailed and are followed by the diagnosis, prognosis, and treatment. Much information is given about the sanatorium treatment. The remaining diseases of the lungs are dealt with in an equally explicit manner. Dr. Norman Walker contributes an excellent article on Lupus Erythematosus. In his opinion we note that internal medication is rarely of much value. This is not, however, by any means universally held, as the salicylates have been found by other authorities to confer much benefit on the sufferer from this affection. Dr. G. Lovell Gulland gives a valuable contribution on the Physiology and Pathology of the Lymphatic System. The tabular statement of the glands showing the source of their afferent vessels and the destination of their efferent vessels is concise and complete. This is followed by a description of the different diseases of the lymphatic glands and their treatment. The article on Malaria, perhaps the best in the volume, is contributed by Mr. D. O. Rees. This writer gives a succinct account of the various steps whereby the mosquito theory was finally established. He then describes the biology of the malarial organism and the life-history of this parasite, which is illustrated by some excellent plates; the different species of the mosquito receive attention together with the development of the malarial organism in these hosts. The student is taught how to demonstrate the parasite, after which the clinical features of malaria are described with the various sequelæ that may ensue. The sections on the morbid anatomy, the etiology, and the treatment, both curative and prophylactic, complete the article. Mr. T. D. Patmore writes exhaustively on the subject of malingering and gives many amusing instances of the manner in which malingerer were detected. Mr. H. J. Stiles discusses the Diseases of the Mammary Gland in an article which will well repay perusal; this also is illustrated by some excellent plates. Dr. F. de Havilland Hall contributes a lucid article on the Diseases of the Mediastinum, whilst Dr. A. Mackintosh, Dr. G. F. Still, and Professor W. Osler deal with the matters connected with the meninges, describing the anatomy, physiology, and vascular disorders of these membranes, and tuberculous, posterior basic, and epidemic, cerebro-spinal meningitis. Amongst the other sections in the volume may be mentioned that on the Injuries and Diseases of the Mouth and Jaws, by Mr. H. P. Dean; a very good article on Mycetoma, by Lieutenant-Colonel W. Keith Hatch; and lastly, an excellent contribution on Nephritis, by Dr. Nestor Tirard. This volume fully sustains the reputation of its predecessors.

Manual of Practical Anatomy. By D. J. CUNNINGHAM, M.D. Dub. and Edin., D.Sc., LL.D., D.C.L., F.R.S., Professor of Anatomy in the University of Edinburgh. Vols. I. and II. Fourth edition. London and Edinburgh: Young J. Pentland. 1907. Vol. I., pp. 621; *Vol. II.* pp. 600. Price 10s 6d per volume.—The appearance of a fourth edition of Professor Cunningham's well-known "Manual of Practical Anatomy," besides affording conclusive proof of its popularity also points to the characteristic thoroughness of the author in having once again brought his book up to date. The general plan of the work, which like its predecessors is still published in two volumes, remains unaltered but the text has been carefully revised and several parts, chiefly in the chapters relating to the abdomen and thorax, have been rewritten. A large number of new illustrations have likewise been added to both volumes. The figures depicting the right and left pleural chambers, as seen from the side after removal of the lungs and a portion of the chest wall, are particularly instructive and should be of great assistance to the student. In the section devoted to the heart the text is amplified by many excellent illustrations, one of which depicts the auriculo-ventricular bundle in the heart of a calf. The chapters on the head, neck, and brain are particularly good and leave nothing to be desired. No less than 30 new illustrations have been added to the second volume which deals with the limbs and abdomen, whilst the text in the latter section has been rewritten in many places. The account of the stomach, pyloric canal, and pyloric vestibule is very clearly given and is liberally illustrated. Though several pages are still devoted to the pelvic fascia we fear that the average student very seldom sees the many layers and ligaments which are so aptly described. Professor Cunningham's "Manual of Practical Anatomy" is undoubtedly the best work of its kind in the English language and thoroughly deserves all the success which it has gained.

The "Ideal" Medical Diary and Visiting List. London: Langley and Sons. Price 7*s.* 6*d.* in morocco cover; visiting list refills, 3*s.* 6*d.*; duplicate prescription refills (50), 6*d.*, or 5*s.* 6*d.* a dozen. *Wellcome's Medical Diary and Visiting List, 1908.*—We noticed the editions for 1907 of both these diaries fully in THE LANCET of Jan. 26th, 1907, p. 236. Similar diaries for 1908 have reached us in which the main features are repeated. The "Ideal" Diary is a neat and handy pocket-book and the removeable visiting list and blank prescription forms are distinctly serviceable. Messrs. Burroughs, Wellcome, and Co.'s Medical Diary and Visiting List is widely known and appreciated.

Walker's Diaries. London: John Walker and Co., Limited.—We have received a selection of pocket diaries from Messrs. Walker and Co. which are of the accustomed quality of their annual publications. Those before us are in various bindings and of different prices, from an "American Russian" one page at an opening at 3*s.* 6*d.*, to a tiny "quarterly" waist-coat-pocket diary with refills at 1*s.* Those with pigskin bindings are especially serviceable but all are well and neatly bound.

The Poetical Works of Thomas Campbell. Pp. 400. Price 2*s.* *The Poetical Works of Shelley.* Pp. 928. Price 2*s.* The Oxford Edition. Oxford: Henry Frowde. 1907.—The above-mentioned works are two more volumes of the admirable Oxford Edition of Poets, one volume of which—namely, the Keats—we reviewed recently. For one person who knows the works of Campbell probably 50 know those of Shelley, and although the former was not to be compared with the latter as a poet, yet some of his lyrics are among the finest things in the English language. The volume opens with "The Pleasures of Hope," a poem which is quite up to the standard of the average Newdigate, but which, like all eighteenth-century didactic poems, irresistibly reminds one who has read the poetry of the Anti-Jacobin of the famous "Loves of the Triangles." This, however, was a youthful flight. Campbell's real poetic genius is shown in "The Battle of the Baltic," in "Hohenlinden," in his songs, and above all in that magnificent poem, "The Last Man," with that wonderful couplet,—

> "And ships were drifting with the dead
> To shores where all was dumb."

Much may be forgiven to a man who could write like that, even

> "The sunset sheds a horizontal smile,"

as he wrote elsewhere. Mr. J. Logie Robertson supplies an introduction and notes. As regards the "Shelley," which is edited by Mr. Thomas Hutchinson, who writes an introduction, the reader finds here a complete collection of all the works of Shelley which have appeared in print hitherto, including fragments. The Oxford University Press deserves great credit for making it possible for those whose purse is not deep to possess well-printed, well-edited copies of imperishable literature.

The Explorer. By W. S. MAUGHAM. London: W. H. Heinemann. 1908. Pp. 297. Price 6*s.*—When we reviewed Mr. Maugham's first book, namely, "Liza of Lambeth," while giving him full credit for a clever book full of observation we ventured to hope that in future works he would choose a less sordid subject. This hope was fulfilled in a later book—"Mrs. Craddock"—and in the book now before us he has risen to a greater height still. "The Explorer" is a fine study of two fine characters and, as is always the case, they are refined by suffering. Alec MacKenzie is by no means perfect, he makes mistakes and profits by them, but his course is ever upward, and at the end we leave him strong in the love of the woman who is everything to him and happy in the consciousness that he will return from an expedition full of danger. The minor characters are well drawn and no one in the book bores the reader. Altogether, "The Explorer" is a book to be read and enjoyed.

JOURNALS AND MAGAZINES.

The Journal of Balneology and Climatology, October, 1907 (the official quarterly of the British Balneological and Climatological Society). This number contains Dr. Norman Moore's address on "Air, Water, and Sanitation," which has appeared *in our columns*; *some notes* on the Shropshire Highlands and the Westnor Saline Water, by Mr. Norman Hay Forbes; a paper on the Relation of Temperature, Humidity, and Winds to Chronic Nephritis, by Dr. W. R. F. Phillips; and a communication by Professor Victor Schmieden on Bier's Method of Treating Inflammations by Stasis and Hyperæmia, translated by Mr. Charles G. Levison of San Francisco. This is a very clear and able *summary* of the technique of applying Bier's treatment by bandaging or suction or heat to the various parts of the body. It is entirely practical and does not touch on the principle underlying a method which is proving increasingly useful. The translation is able but we must protest against the term "stased limb" used throughout for a limb undergoing venous stasis.

Proceedings of the Royal Society of Medicine, Vol. I., No. 1.—We have previously alluded to the *format* of the official journal of the Royal Society of Medicine,[1] which is edited by Dr. John Nachbar under the direction of an editorial committee representing the various sections of the society. The first number contains reports of the opening meetings of the various sections, including *presidential* addresses by Sir Thomas Barlow in the Clinical Section, a most interesting and stimulating review of the past work of the Clinical Society; by Dr. H. Radcliffe Crocker in the Dermatological Section; by Mr. W. Deane Butcher in the Electro-Therapeutical Section on the Future of *Electricity in* Medicine, a fascinating forecast which has already appeared in these columns; by Dr. A. Newsholme in the Epidemiological Section *on Poverty* and Disease as illustrated by the Course of Typhus Fever and Phthisis in Ireland, which is a very painstaking and exhaustive study; by Dr. Samuel J. Gee in the Medical Section; by Mr. J. Howard Mummery in the Odontological Section; by Mr. S. G. Shattock in the *Pathological* Section; and by Dr. T. E. Burton Brown in the Therapeutical and Pharmacological Section. The most noteworthy of the papers printed in the present "Proceedings" is probably that read by Professor E. Goldmann before the Surgical Section on "The Growth of Malignant Disease in Man and Lower Animals, with special reference to the Vascular System."[2] There is a large number of interesting cases recorded, with abstracts of discussions held on some of them, to which we need not further allude, as many of these cases have been recorded in our columns.

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[1] THE LANCET, *Dec. 7th, p.* 1633.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

SAUERIN.

(Allen and Hanburys, Limited, 37, Lombard-street, London, E.C.)

"Sauerin" is described as a pure culture of a vigorous strain of bacillus acidi lactici prepared in tablet form for internal use and for the production of soured or curdled milk. We owe to Metchnikoff and others the discovery that an active strain of lactic acid producing bacteria inhibits the growth of the bacillus coli communis and other intestinal bacteria in the colon by producing lactic acid. The suggestion, therefore, is that the active lactic acid producing bacillus might be given to act as a general intestinal disinfectant and might prove useful in disorders arising from a toxic process in which excessive intestinal putrefaction is involved. Already some evidence has been obtained that lactic acid is valuable in the direction indicated. We have submitted the sauerin tablets to experiment and have found that they are active in producing lactic acid readily when cultivated in milk kept at a blood temperature. The organisms, of course, attack the milk sugar, converting it into lactic acid. The milk so treated appears to present the lactic acid in a most active form for administration. The curdled milk can be flavoured with cinnamon, nutmeg, or other substance according to taste. The method suggested appears to be worthy of trial.

MARMITE (SAVOY BRAND).

(The Marmite Food Extract Co., Limited, Mincing-lane House, 59, Eastcheap, London, E.C.)

We have already submitted ordinary Marmite Food Extract to analysis, but we have recently received a sample known as the Savoy Brand which is stated to be obtained by submitting the ordinary marmite to an additional process whereby it becomes more highly refined and also retains the flavour of the fresh vegetables which are used in the process. The flavour, in our opinion, is certainly good and is barely distinguishable from good beef extract, yet marmite is entirely of vegetable origin. Our analysis, which practically agrees with an analysis a copy of which has been sent to us, gave the following results: moisture, 23·84 per cent.; mineral matters, 19·78 per cent.; and extractives, 56·38 per cent. The extractives include over 2 per cent. of peptones and albumose, but for the most part the nitrogenous matters consist of bases, while the non-nitrogenous matters include lactic acid. The total nitrogen was 5·82 per cent. The preparation serves the purpose of a stimulant in much the same way as does meat extract, while it also contains a definite proportion of real nutritives.

COGNAC BRANDIES.

(De Laage Fils and Co., Cognac. London Agency: Noakes and Co., Limited, White's Grounds, Bermondsey, S.E.)

Of the two samples of brandy submitted to us one was described as "three stars" and the other as 25 years old. Our analysis, especially in regard to secondary products, gave results identical with those given by genuine Cognac brandy. The ethers in both instances amounted to 100 parts per hectolitre, the furfural amounted to 1 part, and the higher alcohols to just short of 200 parts. The 25 year old brandy was more elegant in regard to taste and bouquet than was the "three stars." It was, however, somewhat sweet to the taste. There is no evidence on analytical premisses that these brandies are not the genuine products of the Cognac district. They contain a notable amount of extractives and resinous matters derived probably from storage in wood.

SARDINES (CROSSED FISH BRAND).

(Stavanger Preserving Company, Norway, and Coronation House, 4, Lloyd's Avenue, London, E.C.)

The sardine preserved in olive oil fills an important place in the dietary, since not only is it appetising but decidedly nutritious also. The Norwegian sardine is further submitted to a process of smoking which, in the view of many, adds considerably to its palatable qualities. The sardines at any rate of the above company are very agreeable to the palate and, so far as we can see, are prepared with care. We could find no evidence of metallic contamination either in the olive oil or in the fish. There was just a slight indication that the sardines prepared with tomato purée contained a trace of metal. This could be avoided by using varnished or lacquered metal when it is intended to pack the fish with an acid-containing substance such as is the pulp of the tomato.

JAMAICA TEA.

(The Colonial Planters, 154, Church-road, Hove, Sussex.)

In our recent articles on Jamaica as a Health Resort we have alluded to the production of tea in that colony. We have since had the opportunity of submitting a sample to analysis, with the following results: moisture, 7·60 per cent.; mineral matter, 5·50 per cent.; tannin, 8·22 per cent.; and theine, 1·60 per cent. According to this analysis it is worthy of note that the tannin is decidedly less than that contained in either China or Indian tea, the average amount being 10 per cent. The theine, however, occurs also in smaller quantity in Jamaica tea but this may not be a disadvantage. The flavour of the tea is decidedly delicate, being free from the roughness of coarse teas; it is, however, not so attractive to the palate as that of fine oriental teas.

PATENT COVERED COOKED HAM.

(Walter Mitchell and Sons, Ayr.)

We have received a cooked ham from which the bones have been removed, contained in a stout gelatin corton. The meat proved to be quite sound and it is said that this method of packing keeps it sound for months. The hams, we understand, have been supplied to the Royal Navy. We quite admit that this cover is an improvement on the tinning method provided that it protects the meat from undesirable changes. We found that the gelatin corton was impregnated with boric acid. The corton is known as the gelantiseptic cover.

SOLOID BLACK MERCURIAL LOTION.

(Burroughs, Wellcome, and Co., Snow Hill Buildings, London, E.C.)

This soloid is convenient for readily obtaining the black mercurial wash of the pharmacopœia. One soloid powdered and shaken with one fluid ounce of water gives a lotion containing the same mercurial equivalent as the lotio hydrargyri nigra. By adding 24 minims of glycerine to the fluid ounce the official preparation is more nearly represented, glycerine serving to prevent the black suboxide of mercury produced by the inter action of the lime and calomel from oxidising to yellow mercuric oxide.

New Inventions.

MELVIN'S PORTABLE "SANATORIUM."

The illustration depicts a portable hut designed and patented by Mr. Melvin of Glasgow. The floor, sides, ends, and roof are made of a strong wooden framework, the floor being covered with match boarding. All the parts are hinged in the centre, so that they can be folded and thus rendered easy to transport. The sides, ends, and roof are covered with a specially prepared waterproof canvas. The sides and ends are attached to the floor and to each other at the four corners by thumb-screws and sockets. The thumb-screws can be unscrewed sufficiently far to release them from the sockets but cannot be entirely removed, thus obviating the danger of loss. The door and the two windows are hung on loose pin hinges and may be lifted off and hung, opened, and closed at will. The means for ventilation are good. The beds used in these huts are fixed somewhat after the manner of those in a ship's cabin and can be easily placed in position and taken down. The table, the hat and coat hooks, and other furniture are also designed so that they can be removed without difficulty. The sanatorium which we saw was 8 feet 6 inches in length and 6 feet 3 inches in width. When packed it occupied a space of 50 cubic feet and weighed three hundredweights. The advantages claimed for these huts over the ordinary huts or tents are that they are comfortable, they can be placed in position and taken down in a few minutes, and they are storm proof and well lighted and ventilated. The uses to which such buildings could be put are many and medical men will hardly require to have them pointed out. The London and export agents are Messrs. Strachan, Turner, and Co, 37, Lime-street, London, E.C., from whom all particulars may be obtained.

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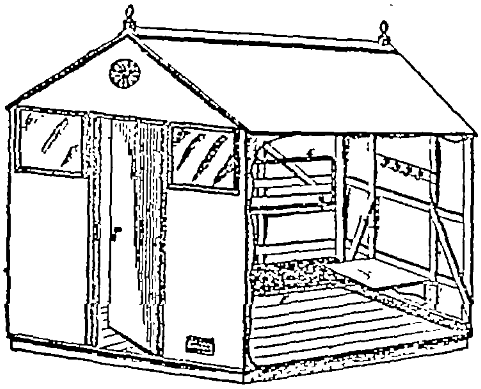
[2] The Lancet, Nov. 2nd, 1907, p. 1236.



Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 2nd, 1830.

I received some of my medical education at Guy's Hospital;[1] and at the time I was a pupil there, Dr. James Curry, knowing the important share the liver had in *disease*, and the great use of mercury, rendered me an essential service by much that he taught; though for the liver, I now know that we ought to substitute *the whole order of hepatic*, gastric, and intestinal organs; yet, to so absurd a pitch would he carry his views of the importance of the liver, that he would have had one believe that, in all diseases, the liver was importantly affected, and that the chief attention ought to be paid to it. I once saw a case of urethral stricture relieved by the warm-bath; and in which, he said, the relief was obtained through the warm-bath relaxing the biliary ducts, and that the stricture in the urethra became relaxed, merely by sympathy with their relaxation. The practice now so strongly recommended by Broussais in France, of withdrawing blood from the abdomen in fever, was always strongly inculcated by him; to me, Broussais's practice offers nothing new; it is what, owing to the instructions of Dr. Curry, I have all my life adopted; that is to say, I always looked out for abdominal tenderness, and remedied it by local bleeding. Dr. Curry's error was, in contending that the liver was so peculiarly affected in fever, that the tenderness all around the region of the liver, was to be attributed entirely to disease of that organ; whereas, it is the stomach and intestines, at least as much as the liver, that suffer. On his absurdity in mercurialising *for every disease*, as he positively did, I need not dwell. A surgeon, now retired from practice, saw, better than his surgical brethren, the utility of blue pill, and the importance of attending to the stomach and bowels; but he was not content with exhibiting it where it was improperly neglected by other surgeons; he gave it indiscriminately in any case, *medical or surgical*, and would generally not take the trouble to investigate a case, or even to look at a local affection, but at once called out, "The stomach, the bowels, are in fault, and blue pill must be taken;" so that with him, I have no hesitation in saying, as Dr. Macculloch does, at p. 55, that this was "an abuse, convenient to indolence, by superseding the necessity of thought or investigation, and by reducing the whole practice of physic to an empiricism, to which I know not that its entire history can produce a parallel example." "If the united ignorance and presumption," Dr. Macculloch goes on to say, at page 162, "of self empirics could ever find an excuse, they might, indeed, claim it in this case, when they see practitioners *of high fame*, if notoriety be fame, following similar universal systems of cure, applying salts, or the blue pill, to every disorder or symptom in the nosology, and without inquiry; and thus, while saving themselves all the trouble of thinking, rendering physic an art, which may be practised by any one without previous study, or present observation." So great has been this influence upon the public, this infatuation, that in England, *few persons are now contented, when requiring a plain* laxative, with the mild vegetable aperients, which we have in abundance, and which produce no constitutional effects, but merely open the *bowels; every one must take a portion* of blue pill, of a metal which does more than is required for habitual use; which weakens the stomach and whole frame, and gives a susceptibility of cold. Zimmerman, in his work on experience, page 140, notices this tendency in our profession to *patronise* particular organs, or diseases, or remedies. "I know," says he, "several physicians who see only certain diseases: one of these, who is a *celebrated practitioner*, and *who has an obstructed* liver, fancies he discovers a similar complaint in all his patients, and it is one particular remedy he constantly prescribes, because he finds it useful to himself; another is in love with his theriaca, probably because it confines him to his bed, sometimes for three months; without this same theriaca, if we are to believe him, he would long ago have been overcome by his complaints; but with this, says he, I can master them. I know a third, who is confined three or four months every year with the gout, and yet he constantly denies that he has anything gouty about him, and contends upon all occasions that he never had so much as the rheumatism. This physician, and all his patients about him, if we are to believe him, are subject to an affection of the nervous system, and he employs narcotics upon all occasions." The very same things are said in rhyme by our own poet Crabbe:—

> "*One to the gout contracts* all human pain,
> He views it raging in the frantic brain;
> Finds it in *fevers*, all his *efforts* mar,
> And sees it lurking in the cold catarrh.
> Bilious by some, by others nervous seen,
> Rage the fantastic demons of the spleen;
> And every symptom of the strange disease,
> With every system of the sage agrees."

Moliere, in his *Malade Imaginaire*, in the person of a sham physician, who *patronises* the lungs, ridicules this propensity, and as each symptom is mentioned by the unhappy patient, *nods his head and says*, "*Le poumon! justement le poumon!*" and when the patient has finished, exclaims "*Le poumon! le poumon!!*" Some, struck with the fact, *that inflammation attends so many* cases of so many diseases, consider every disease an inflammation, as though this explained the phenomena of tubercles, cysts, cancer, melanosis, dyspepsia, diabetes, and every thing else. The occurrence of inflammation in so many affections, is sometimes the *disease itself*; *sometimes an exciting cause*, sometimes a concomitant, sometimes a part only of the disease, sometimes absolutely an effect, and, in a large number, it is really absent. No one is more aware than myself, of the importance of looking out for inflammation in every case, and of treating it *if found*; *but this supposition* of its universal existence, and of its universality as a cause of disease, is a mere assumption. My convictions from close, I may say painful *observation* and reflection, are the same as those of Dr. Andral, in his recent work on morbid anatomy; a work which shows full information, and a solid and dispassionate judgment, and is the production of a man who one day or other, I am sure, will be the first physician in France.

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[1] Excerpt from "Clinical Lecture by Dr. Elliotson, delivered at St. Thomas's Hospital. Fever."

THE LANCET.

LONDON: SATURDAY, JANUARY 4, 1908.

The Diffusion of Medical Knowledge.

DURING 1908 THE LANCET will enter upon the eighty-sixth year of its existence,[1] and while the beginning of every new year is naturally made a season for moralising we hope that we may claim indulgence for a few words of self-congratulation. We are not blind to the need for moralising or unaware that during our career we must have made errors, but at any rate we can claim that we have never faltered in our long endeavour to maintain the dignity of medicine and the rights of the medical practitioner. This was the object with which THE LANCET was founded, and the purpose of the founder has been carried out steadily by his descendants, the eldest of whom death removed from the editorial chair during the year which has just ceased. We shall deeply miss his counsel and the lessons of his experience, but we commence the new year with confidence, for we possess the reassuring knowledge that we shall have extended to us by our professional brethren the same steady support that we have received without intermission from the inception of the journal. We have come to perceive that the work of THE LANCET is considered by the medical profession to be in its nature coöperative, and year by year we are confirmed in this flattering view. We can only give to our readers the latest medical learning and the most practical professional information if we in our turn are helped by our readers. Our editorial efforts would have no practical result if we did not find among our public many who are anxious to communicate through us with their professional brethren, thus rendering our pages a central bureau for the collection and redistribution of knowledge. The responsibilities which are thus placed upon us grow no lighter with experience in the attempt to meet them. On the contrary the progress of scientific medicine brings with it every day fresh problems; something new occurs incessantly which may or may not be significant of an important development. Fortunately it does not depend upon ourselves alone to decide in all instances what movements make for truth and what are based upon error. Our duty is to hear all sides and by submitting them to the judgment of our readers to obtain the assistance of their criticism before making any pronouncement. We trust also that we shall not be found afraid to lead when initiative is required.

It seems to us that the feature which has most prominently marked our columns during the past five years is the desire of medical men in all parts of the world to communicate with their fellows. It is a truism, which may be found in our columns as well as in those of every scientific newspaper in every language, that science has no geographical limits any more than it has political bearings. It is, or should be, as absurd to talk of a French school of medicine or a British school of gynæcology as it would be to talk of a Home Rule system of dentistry. There is scientific medicine, scientific gynæcology, and scientific dentistry, and in each case the essential doctrines must be dictated by knowledge of the truth, by adaptation of accepted principles to circumstances, and by examination and sifting of scattered facts so as to form them, through collation and comparison, into the foundations of a theory. When, however, we pass from the theory to the practice of medicine it is obvious that the environments of practice will have much to say in respect to the measures employed as well as to the conditions observed. The climate, the health and the manners of the people, the extent to which they are as a whole liberally educated or the reverse, the industries on which the population is employed, the ease or difficulty with which money is gained at those industries, and all the other circumstances which make up the sociology of a race will, of course, determine the classes of disease and of injury which are likely to be prevalent, as well as the facility or difficulty with which remedial actions may be taken. But the methods of diagnosis must be universal and those of treatment must be based upon identical and ascertained truths. When the world was small and the interchange of ideas between distant nations was restricted owing to the rigorous limitations of the means of transport, although the scientific practice of medicine was bound to have the same foundations all the world over, the conditions were such that in different places different procedures were pursued, for opportunities were wanting by which schools of thought could compare and test their theories and their results. But of recent years the association between the peoples of the earth has become vastly more intimate, and nothing so marks the progress of civilisation as this opening up of rapid channels of intercommunication. Great Britain and her colonies have gained a knowledge of each other during the short period which the twentieth century has yet run which is surprisingly large and general, considering that in the Victorian era most of those at home knew nothing of the life of our dependencies, while our colonial brethren knew but little more of us. This is a situation which has recently undergone satisfactory change. The United States of America in circumstances which have not been entirely cheerful for them have also improved their acquaintance with the rest of the world; they have learned something of the burdens which must be taken up by great civilising powers. On the continent the commercial industry of Germany has compelled all European powers to consider their fiscal position, with the result that there is a great increase on all sides of national knowledge of the trade-manners and trade-customs of foreign neighbours. Russia and Japan understand each other far better than they did before their terrific struggle and have learned lessons from each other which neither can ever forget. In a happier way the personal influence of our King has been used to secure a better comprehension of English aims by the world at large. The outcome of all this must be the placing of our profession upon a securer basis, for as the different nations rise in the scale of civilisation and obtain a more just acquaintance with their neighbours they must come to perceive how universal are the laws of scientific medicine. They find themselves confronted with the same problems, sanitary or pathological, as their friends abroad, and they learn to appreciate the labours of medical men by applying to their own use the fruit of these labours.

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[1] The first number of THE LANCET was issued on Sunday, Oct. 5th, 1823. Consequently on Oct. 4th, 1907, it completed the eighty-fourth year of its existence, and upon Saturday, Oct. 5th, 1907, entered upon its eighty-fifth. It is obvious that it is not possible to make the age of THE LANCET tally with the calendar year. For purposes of convenience it is found to be most suitable to give upon the title-page of each volume of THE LANCET the year of existence entered upon in the course of that particular calendar year.

We have endeavoured, particularly during the last three or four years, to illustrate the truth of this movement by placing before our readers regular correspondence from all parts of the world. The mere size of such a programme makes it inevitable that the communications should be brief, but we are happy to know that they prove of considerable service to our readers, while it is interesting to observe how the same scientific and professional difficulties present themselves in every quarter. We hope and believe that in the newer countries scientific medicine will be able to develop faster than it has done in Europe in bygone days, for these countries will be unhampered by traditions having their origin in restricted knowledge and sociological misconception. In particular their authorities and important persons, both medical and lay, are able to work at once from a position to which we in this country are now only beginning to attain. They follow the reasons for scientific proceedings in a way which they could not possibly have done had it not been for the past labours of the medical profession; and the medical profession will be invited to call upon the assistance of laymen for the advancement of scientific medicine, a fact which is of great importance now that medicine touches the borders or passes over into the territory of so many other sciences. Great advances in medical knowledge are inevitably coming of the growing recognition of medicine by the world as a science compounded of sciences; while the disappearance from the popular mind of the conception of the practitioner as a sort of magician is being replaced in every direction by a more reasonable estimate of his services. We know —none better—that the practitioner has many drawbacks in his hard and anxious life, and we grieve to think that many of these could easily be set right in our own country by a more complete understanding of professional aims and responsibilities than yet exists, but despite this the story of medicine is one of progress. The public sympathy with medicine increases, and it will continue to do so in proportion to the advancement of education and of that wide spread of sound medical doctrine to which we are proud to be able in some measure to contribute.

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Heroes of Thought.

"Hellenists, professors of Roman law, and enthusiasts of Romantic or Christian medievalism are *not to be easily* convinced that an intelligible stream of progress can be shown in the long, broken, stormy course of evolution from Solon and Thales to the nineteenth century of Cavour and Darwin. But a true philosophy of history can trace a real and consistent sequence." Thus writes Mr. Frederic Harrison in an introduction to a volume of "Essays and Addresses" by the late John Henry Bridges.[1] The first half of this book is devoted to essays in Positivist doctrine, of which, as is well known, Dr. Bridges was one of the most distinguished exponents in this country. One of these essays, entitled "The Philosophy of History," might well serve as a text for the whole book, for in it an attempt is made to sustain one of the central tenets of the Positivist school—that of the principle of historical growth or of continuity in progress.

In tracing the course of Western civilisation during the 25 centuries since its dawn in the times of the great Greek thinkers, it is claimed that the state of the speculative faculties of mankind is the prime agent in social advance and progress, and further that the social change of each successive period resulted not from the practical life of that period but from the previous state of belief and thought, and that therefore the order of human progression *depends mainly, or at any rate largely, upon the order of* progression in the intellectual convictions of mankind. When we remember the importance assigned by Comte to mathematics as the basis of systematic thought, it is not surprising to find that Dr. Bridges maintained that the most original achievement of Greece was neither her poetry nor her metaphysical philosophy but her separation of mathematics, the humblest and yet the most fundamental of the abstract sciences, from the confused collection or inchoate mass of empirical knowledge which mankind had previously accumulated. Dr. Bridges complained that history as commonly taught does not include the history of science and that even now the sociological importance of its great discoveries is only just beginning to be recognised. In illustration of the law of continuity he shows how the discoveries in geometry and mathematical astronomy made by the Greeks were adopted and extended by the Arab schools of Bagdad and Cordova, to be continued by the Western thinkers of the thirteenth century, men such as Grosseteste and Roger Bacon. In his opinion there was no dark age, even in the apparent retrogression of mediæval Europe before the Renaissance, for he maintained that whereas in ancient Greece there was a great development of the intellectual aspects of human faculties and in ancient Rome great practical activity in political and warlike spheres, the third or spiritual part of man's threefold nature was but little advanced till these so-called dark ages. In these times learning began to extend from the favoured few to the many through the medium of the monastic teachers, while the great social revolution from servile to free labour began. Dr. Bridges illustrated his views in some commemorative addresses which form the second part of this book. These lectures were delivered on certain days in the "*Positivist Calendar of Great Men.*" Among these, he treats of Thales, Roger Bacon, and Harvey as heroes of thought; Dante, Calderon, Corneille, and Diderot as heroes of literature.

The account given of the importance to mankind of the elementary mathematical abstractions of THALES and the other Greek geometers is exceedingly interesting. Starting from the practical problems involved in land measurement they laid the foundations of physics and astronomy and evolved certain fundamental laws—indeed, the first laws of nature to be grasped by man. It is hard for us now to conceive without careful thought of the great advance made in the two apparently simple abstractions of the line and the angle, and yet they form the basis of all measurement and without them no calculation or accurate mensuration would be possible. The further conception of the triangle, the simplest possible figure, was the one in connexion with which THALES made his greatest discoveries, among which the law that the three angles of any triangle were equal together to two right angles is one of the most familiar. Another great law discovered by this master mind was that of the similarity of two figures of unequal sides and equal angles by means of which he taught the Egyptians how to measure the height of their pyramids. This was done by measuring the length of the shadow cast when the sun was halfway between the zenith and the horizon, since at that moment the shadow of a stick placed upright in the ground was found to be equal to the length of the stick itself. Without these great fundamental conceptions and the laws deduced therefrom there could have been no astronomy, no mechanics, no navigation, and no true conception of order which is in turn the basis to which science endeavours to reduce the complex problems met with in biological and sociological studies.

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[1] Essays and Addresses, by the late John Henry Bridges, M.B., F.R.C.P., sometime Fellow of Oriel College, Oxford; late Medical Metropolitan Inspector to the *Local Government Board.* With an Introduction by Frederic Harrison. London: Chapman and Hall, Limited. 1907. *Pp. 307. Price 12s. 6d.* net.

It is a long step from THALES to ROGER BACON, from the ancient to the mediæval, but BACON stands out from the schoolmen as a great philosopher and a practical man of science, and *Dr. BRIDGES's* long study and special knowledge of the great Franciscan friar are here summarised in a most illuminating essay. The influence upon his career of his early association with GROSSETESTE at Oxford, who probably directed his attention towards science, the importance of his introduction to the Arabian adaptations of Greek discoveries through the agency of MICHAEL SCOTT, and the effect of his whole-hearted attachment to the Franciscan order are all clearly indicated. It is only in recent times that we have realised what we owe to Arabian philosophers and men of science who preserved what the Greeks had discovered in arithmetic, geometry, astronomy, natural history, and human anatomy. Moreover, the Arabian and Moorish schools in many instances made great advances, since their instruments of observation were more accurate than those of the Greeks. They laid the foundations of algebra and of optics. They adopted, if they did not discover, the decimal system, and they promoted the study of trigonometry, while their advances in chemistry and in medical sciences were truly remarkable. ROGER BACON was one of the first to render this great store of Eastern knowledge accessible to Western thinkers, his object being to show the West superior to the East and to advance learning through religious agencies with a view to the reform of education and the promotion of knowledge. His "Opus Majus" is one of the most remarkable surveys of knowledge extant and shows him to be greatly in advance of his contemporaries; indeed, he has been described as a man born some three centuries before his time. He devotes the earlier sections of his work to the four great obstacles to wisdom—namely, undue deference to authority, custom, popular prejudice, and unwillingness to confess ignorance. His instruments for advancing the studies of Western Europe were philology, mathematics, and experimental research, and to these the second, third, fourth, and fifth sections of the "Opus Majus" were devoted. To mathematics he attached the greatest possible importance, describing it as the key and entrance-gate of science. His application of mathematics to geography led him to a careful study of geography and to the compilation of a treatise thereon. He pointed out the necessity for a reform of the Julian Calendar which was delayed for three centuries after his death before it was carried out. The seventh section of the "Opus Majus," of which only part is preserved, dealt with practical reason and ethics and is the crowning of his work. This essay of Dr. BRIDGES is the most interesting short study that we have read on this great philosopher, and as Mr. HARRISON writes in his introduction, makes one wonder "if we are right in putting FRANCIS BACON on a pedestal higher than that occupied by ROGER."

The third of these commemorative addresses, entitled "Harvey and his Successors," was delivered as the Harveian Oration before the Royal College of Physicians of London, in 1892. Here again the importance of mathematics in relation to science is emphasised. HARVEY was born at the time when England gave birth to her greatest men in literature, philosophy, and science, to quote Dr. BRIDGES, "the greatest period of English history." At Padua he studied under FABRICIUS and may well have come under the influence of GALILEO, who was then attracting students from all parts to Padua, and although there is no record of personal acquaintance between the two men there can be little doubt that the influence of GALILEO's physical advances was felt by HARVEY, who, as Dr. BRIDGES wrote, "came back from Padua with the sense that Nature was not merely to be observed but measured." HARVEY's great work was the application of scientific methods to the study of living organisms, and by this means the complex alchemistic or humoral explanations of vital processes were at once disproved. Dr. BRIDGES traced in this address the influence of HARVEY's work upon his contemporaries and successors. The appreciation of his work by DESCARTES and the combined influence of his discoveries and the Cartesian philosophy in leading to the foundation of scientific medicine are discussed. The origin of the iatro-mathematical or iatro-physical and the chemiatric schools is traced and the subsequent foundation of an animist school by STAHL at the end of the seventeenth century is outlined. It was not, however, until the eighteenth century that biology became recognised as a distinct science with special methods, but the great discoveries of HARVEY were the direct outcome of the mathematical and physical discoveries made in his time. It has been said that science is measurement and Dr. BRIDGES's interesting addresses afford a striking illustration in support of the trite generalisation. The three great men whom he has studied were all heroes of thought who in face of obstacles applied accurate methods to the practical study of the problems which they investigated. It is highly instructive to follow the work of three such striking philosophers as the Greek geometer, the mediæval physicist, and the first scientific biologist. We can cordially commend this interesting collection of thoughtful essays to our readers as a stimulating and suggestive study.

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The Coördination of Medical Studies.

To consider the beginnings of medical study at the beginning of the year seems to us appropriate, and we therefore publish in this issue two interesting contributions on the study of anatomy and embryology contributed by well-known teachers in different schools, feeling sure that they will afford abundant food for thought to the man who is at all concerned about the future of medical education in this country. Dr. ARTHUR KEITH in his address to the students of the London Hospital very clearly sets forth a convincing case against the fashion of entirely divorcing the study of anatomy from that of physiology with the result that the average student starts on his professional career with his knowledge of the structure and the function of the human body stored away in two watertight compartments in his mind. It is a useful corrective to over-sanguine ideas as to the complete efficiency of the present state of medical education to be told by Dr. KEITH how recently we have fallen away from higher standards in our systematic teaching of anatomy. "Up to the end of the eighteenth century," he says, "there was a strong school of British anatomists who regarded dissecting as a means for obtaining not a description but an understanding of the human body;" and surely this was the ideal of the great anatomists of all past ages as witness HEROPHILUS and GALEN amongst the ancients, EUSTACHIUS, FALLOPIUS, STENO, and SYLVIUS in succeeding centuries after the mediæval revival of the neglected science, and, greatest of all, WILLIAM HARVEY and the two HUNTERS at whose handiwork of dissection we may still look with our own eyes. What would JOHN HUNTER have thought, what would he have said, could he have looked forward to see his methods of thinking and teaching entirely superseded by the brilliant categorical and purely descriptive anatomy which the schools of Paris even in HUNTER'S lifetime were setting up?

The British student sought Paris a hundred years ago because the difficulty of obtaining subjects for dissection hampered his teachers at home and not because he had any fault to find with their teaching. But Dr. KEITH is right in pointing out that the method of anatomical instruction thus started soon became established in England as a custom, and even the old concession made by authors to the cause of the solidarity of medicine in writing on "Anatomy, Descriptive and Surgical," is lacking in many more modern treatises, excellent indeed after their sort, but composed of descriptive anatomy pure and simple. There is no doubt that this divorce of structure from function is an error. Save for the very rare student with an inherent genius for one or other of these studies the sole aim of teaching a medical student anatomy and physiology is that he may become a scientific physician or a rational surgeon who has built his professional house on the solid rock of well-ascertained fact. What is required by medical students is instruction in theory and detail alike of the kind which will make the pathological processes which they are afterwards to study comprehensible to them. Teachers are wanted who can clothe the dry bones of their lectures on anatomy with the living tissues of physiology and morphology and render them yet more vital to the medical student by pressing into service illustrations from medicine and surgery, so that the warp of structure and the woof of function may be woven into a stout garment of knowledge to clothe the student's mind in the place of the patchwork cloak in which it must now too often go forth, shivering on a stormy journey. Instances arise of the need of teaching of this sort in the consideration of every system in the body, for the circulation, the respiration, the digestion, and the functions of the brain can be much better grasped by the simultaneous teaching of their anatomy and physiology. The physiological teacher is occasionally obliged to sketch the rough outline of the coarse anatomy of the subjects with which he deals, for often, as in dealing with the brain, he must do so to make himself understood at all, and he also either *in propriâ personâ* or through an assistant in histology devotes much care to teaching the microscopical structure of the various tissues; but it is to a much fuller extent that we would have the physiologist invoke his anatomy; might not he, for instance, occasionally direct more attention to the ordinary functions of muscles illustrated from gross anatomy instead of spending nearly all the time that he can give to them in the demonstration of their chemical and electrical niceties? Still more often does the anatomical teacher appear to us to miss the true reasons of the lessons which he is giving by avoiding the very mention of anything that savours of physiology, referring such subjects to the other department of the medical school. We would even suggest that examiners might rest content with a little less minute knowledge of ultimate divisions of small nerves and arteries and markings on bones when the time saved might be employed by students in gaining a good working idea of the human machine. How many men on first entering on clinical work can look at a patient and form a clear mental picture of his organs as they lie inside him and at the same time even faintly realise the ceaseless and multiple activities of their vital functions? The average student sitting for an examination in surgery knows the anatomy of hernia thoroughly, for he was brought up on it, but there are many more anatomical points the vital surgical importance of which might with equal advantage be impressed on the student of anatomy when he first learns it; whilst the physiological teacher could take many more illustrations than is his wont from the field of medicine. And in neither case need the student be taken into the wards; the pathological deviation from the normal could be explained by consideration of the normal.

Professor PETER THOMPSON'S lecture on the Study of Embryology bears testimony to the truth of the contention that medical studies are not well coördinated despite the ceaseless care that has been exercised in arranging the numerous systems. Embryology is a study the importance of which has been appreciated since the days of WILLIAM HARVEY at least; a great deal is now known about it which might profitably be the common knowledge of every medical student, and yet how often does it fall between the two stools of anatomy and physiology, each granting it but half-hearted support and relegating it to one or two scrambled lectures which are neither complete in themselves nor complementary to each other. The teaching of the development of the fœtus in utero is indeed often largely handed on to a lecturer in midwifery who has only just enough hours at his disposal to summarise the bare facts of obstetrics and might reasonably suppose his hearers to come equipped with the physiology of fœtal development and even of the normal processes of birth so far as they fall under the headings of anatomical and physiological functions. The present medical curriculum is allowed on all hands to require lightening. The average student has to learn a large quantity of things that will be of no use to him and has to spend an extravagant amount of time in acquiring the knowledge. One method at least of economising time and labour would be to teach anatomy and physiology for the compulsory courses far more directly in relation to the professional career.

Annotations.

"Ne quid nimis."

SUGAR.

SUGAR is often given a bad name from a physiological standpoint but in many instances it is questionable whether it is deserved. It seems inconceivable that the bountifulness with which the world is supplied with sugar should mean anything else than that it is designed for human food. Sugar is one of the most powerful foods which we possess as it is the cheapest, or, at any rate, one of the cheapest. In muscular labour no food appears to be able to give the same powers of endurance as sugar; and comparative practical experiments have shown without the least doubt that the hard physical worker, the athlete, or the soldier on the march is much more equal to the physical strain placed upon him when he has had included in his diet a liberal allowance of sugar than when sugar is denied to him. Trophies, prizes, and cups have undoubtedly been won on a diet in which sugar was intentionally a notable constituent. It has even been said that sugar may decide a battle and that jam after all is something more than a mere sweetmeat to the soldier. The fact that sugar is a powerful "muscle food" accounts probably for the disfavour into which it falls, for a comparatively small quantity amounts to an excess, and excess is always inimical to the easy working of the digestive processes. A strong solution of sugar is irritating to the tissues, will set up superficial inflammation, and may produce a form of eczema. It is well known that an excessive diet of sugar irritates the mucous membrane of the stomach and encourages the production of mucus and of a highly acid gastric juice. The ingestion of much sugar spoils the appetite. Children who have been tempted to over-indulge in "lollipops" between regular eating times do not want their ordinary meal. The schoolboy spoils his dinner by eating too many sweet things before that meal. An over-indulgence in sweet liqueurs, in sweet ices, and in "crystallised" fruits after dinner retards the digestion of the meal. Sugar satiates; it is a concentrated food. Where sugar does harm, therefore, it is invariably due to excess. Taken in small quantities and distributed over the daily food intakes sugar contributes most usefully in health to the supply of energy required by the body. In certain diseases, of course, the presence of sugar in the diet is plainly undesirable. Generally speaking, however, there is a prejudice against sugar which is not justified by physiological reasoning—at all events, when it is eaten in moderation; and it is a curious fact that the man who practically abstains from sugar, or reduces his diet to one almost free from carbohydrates in favour of protein foods such as meat, often shows feeble muscular energy and an indifferent capacity for physical endurance.

PRIVATE PRACTICE BY GOVERNMENT SERVANTS IN INDIA.

THE question of remuneration for private work performed by Indian medical officers in their spare time has again risen to the surface, the motive power that caused the resurrection being, as usual, jealousy. In a long and bitter letter to the *Pioneer*, signed "Pro Bono Publico," the writer either begs the question or else relies upon assertion. "I know of many cases," he says, but instances none, "in which Indian chiefs have appealed to their political agents against the fees which the agency surgeons were charging, and *everyone with any knowledge of the subject* must be aware how the present legislation restricting fees has been brought about chiefly through the enormous fees which certain members of the I.M.S. charged to Indian chiefs." The italics are ours. When an anonymous writer makes unsupported statements they have no importance. We need not accordingly occupy more space with this portion of the attack. Proceeding with his diatribe, "Pro Bono Publico" asserts that "the ordinary Indian doctor has no more knowledge, except of special tropical diseases, than the usual English country practitioner who charges 7*s*. 6*d*. or 10*s*. per visit, and in respect of his knowledge of women's diseases he is generally partly inferior, yet he demands the fees of a first-class London specialist (who only charges a guinea per visit after the first visit) in addition to drawing his Government salary. Safe in the knowledge that he has his Government pay and that he is entirely free from competition, the Indian civil surgeon has no incentive to keep up his professional knowledge, and the medical fossils which could be dug out of many of the smaller stations in India would fairly startle their brethren at home." The only use served by vituperation of this calibre consists in the exposure of the writer's animus. That the members of the Indian Medical Service are second to none either in professional knowledge or in general intelligence is shown by the marks and places which they obtain in competitive examinations. There is not a session of the London School of Tropical Medicine where the class fails to include several Indian medical officers, ranking from colonel to lieutenant, the time thus devoted being deducted from private leave. The animus alluded to above assumes a very unpleasant form in the remarks which "Pro Bono Publico" sees fit to make regarding the losses recently sustained by the Indian Medical Service through devotion to duty. "How many men in all other branches of the Indian services die at their posts," he exclaims, "and lose their lives in the execution of their duty! Why should such deaths constitute a special claim in the case of the I.M.S. and not in the case of the other services?" To what is "Pro Bono Publico" referring? He further asserts that the *right* to accept private practice which is enjoyed by officers of the Indian Medical Service is due to long-established custom, and graciously adds that it may be admitted as "a concession which is granted to *no* other profession." It may have surprised him to learn that the right in question was granted by Act of Parliament which has never been repealed (13 George III., c. 63). In its editorial columns the *Pioneer* fully exposes the inexactitudes with which the letter of its correspondent abounds. "In the case of the law," says the *Pioneer*, "which approximates cordially commend this interesting collection of thoughtful essays to our readers as a stimulating and suggestive study.

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The Coördination of Medical Studies.

To consider the beginnings of medical study at the beginning of the year seems to us appropriate, and we therefore publish in this issue two interesting contributions on the study of anatomy and embryology contributed by well-known teachers in different schools, feeling sure that they will afford abundant food for thought to the man who is at all concerned about the future of medical education in this country. Dr. ARTHUR KEITH in his address to the students of the London Hospital very clearly *sets forth a* convincing case against the fashion of entirely divorcing the study of anatomy from that of physiology with the result that the average student starts on his professional career with his knowledge of the structure and the function of the human body stored away in two watertight compartments in his mind. It is a useful corrective to over-sanguine ideas as to the complete efficiency of the present state of medical education to be told by Dr. KEITH how recently we have fallen away from higher standards in our systematic teaching of anatomy. "Up to the end of the eighteenth century," he says, "there was a strong school of British anatomists who regarded dissecting as a means for obtaining not a description but an understanding of the human body;" and surely this was the ideal of the great anatomists of all past ages as witness HEROPHILUS and GALEN amongst the ancients, EUSTACHIUS, FALLOPIUS, STENO, and SYLVIUS in succeeding centuries after the mediæval revival of the neglected science, and, greatest of all, WILLIAM HARVEY and the two HUNTERS at whose handiwork of dissection we may still look with our own eyes. What would JOHN HUNTER have thought, what would he have said, could he have looked forward to see his methods of thinking and teaching entirely superseded by the brilliant categorical and purely descriptive anatomy which the schools of Paris even in HUNTER'S lifetime were setting up?

The British student sought Paris a hundred years ago because the difficulty of obtaining subjects for dissection hampered his teachers at home and not because he had any fault to find with their teaching. But Dr. KEITH is right in pointing out that the method of anatomical instruction thus started soon became established in England as a custom, and even the old concession made by authors to the cause of the solidarity of medicine in writing on "Anatomy, Descriptive and Surgical," is lacking in many more modern treatises, excellent indeed after their sort, but composed of descriptive anatomy pure and simple. *There is no doubt* that this divorce of structure from function is an error. Save for the very rare student with an inherent genius for one or other of these studies the sole aim of teaching a medical student anatomy and physiology is that he may become a scientific physician or a rational surgeon who has built his professional house on the solid rock of well-ascertained fact. What is required by medical students is instruction in theory and detail alike of the kind which will make the pathological processes which they are afterwards to study comprehensible to them. *Teachers are wanted* who can clothe the dry bones of their lectures on anatomy with the living tissues of physiology and morphology and render them yet more vital to the medical student by pressing into service illustrations from medicine and surgery, so that the warp of structure and the woof of function may be woven into a stout garment of knowledge to clothe the student's mind in the place of the patchwork cloak in which it must now too often go forth, shivering on a stormy journey. *Instances* arise of the need of teaching of this sort in the consideration of every system in the body, for the circulation, the respiration, the digestion, and the functions of the brain can be much better grasped by the simultaneous teaching of their anatomy and physiology. The physiological teacher is occasionally obliged to sketch the rough outline of the coarse anatomy of the subjects with which he deals, for often, as in dealing with the brain, he must do so to make himself understood at all, and he also either *in propriâ personâ* or through an assistant in histology devotes much care to teaching the microscopical structure of the various tissues; but it is to a much fuller extent that we would have the physiologist invoke his anatomy; might not he, for instance, occasionally direct more attention to the ordinary functions of muscles illustrated from gross anatomy instead of spending nearly all the time that he can give to them in the demonstration of their chemical and electrical niceties? Still more often does the anatomical teacher appear to us to miss the true reasons of the lessons which he is giving by avoiding the very mention of anything that savours of physiology, referring such subjects to the other department of the medical school. We would even suggest that examiners might rest content with a little less minute knowledge of ultimate divisions of small nerves and arteries and markings on bones when the time saved might be employed by students in gaining a good working idea of the human machine. How many men on first entering on clinical work can look at a patient and form a clear mental picture of his *organs* as they lie inside him and at the same time even faintly realise the ceaseless and multiple activities of their vital functions? The average student sitting for an examination in surgery knows the anatomy of hernia thoroughly, for he was brought up on it, but there are many more anatomical points the vital surgical importance of which might with equal advantage be impressed on the student of anatomy when he first learns it; whilst the physiological teacher could take many more illustrations than is his wont from the field of medicine. And in neither case need the student be taken into the wards; the pathological deviation from the normal could be explained by consideration of the normal.

Professor PETER THOMPSON'S lecture on the Study of Embryology bears testimony to the truth of the contention that medical studies are not well coördinated despite the ceaseless care that has been exercised in arranging the *numerous systems.* Embryology is a study the importance of which has been appreciated since the days of WILLIAM HARVEY at least; a great deal is now known about it which might profitably be the common knowledge of every medical student, and yet how *often does it* sampling it is found that the permitted limits of moisture have been exceeded. It may be gathered from the circular that routine inspection of the registered factories will be made by officers of the Board of Agriculture. The circular points out, however, that under Section 2 of the new Act local authorities have powers to authorise any officer who is authorised to procure samples under the Sale of Food and Drugs Acts to enter any registered butter factory for the purpose of inspection of processes and taking samples. These powers may be found useful by medical officers of health in cases where there is reason to question the wholesomeness of the methods of manufacture carried on in the premises registered with their authorities; and it would probably be advantageous to all medical officers of health in the districts covered to arrange to be supplied with information as to the registered premises and with the necessary authorisation to inspect any of them.

PNEUMOCOCCIC INFECTION OF SEROUS MEMBRANES.

IN the *British Journal of Children's Diseases* for November, 1907, Mr. H. S. Clogg has reported the following case of pneumococcic infection of serous membranes which presents several points of interest. A girl, aged four and a half years, was admitted into hospital on Sept. 2nd, 1907. She became ill on July 28th with double pneumonia. The crisis occurred on the fifth day but though the temperature remained normal, or nearly so, improvement was not satisfactory. The dulness at the bases of the lungs persisted and moist sounds were heard all over the chest, except at the right apex where the breathing was markedly blowing. Towards the end of the second week the abdomen was somewhat swollen. The child lost flesh, the pulmonary signs did not clear up, the breathing became gradually more embarrassed, and the abdomen continued to swell, but the temperature remained practically normal. On admission she was thin and pale, there were considerable dyspnœa and cyanosis of the lips, the temperature was 100·2° F., and the pulse was 140. The apex beat of the heart could be neither seen nor felt. The heart sounds were best heard over the left edge of the sternum, about the level of the fourth costal cartilage. The breath sounds were distinct anteriorly as low as the third rib; below this they were faint and there was dulness to percussion. On the left side was marked dulness to percussion and the breath sounds were very faint. Posteriorly as high as the mid-scapular region there was dulness over both lungs, vocal fremitus was absent, and the breath sounds were faint. The abdomen was much distended with fluid. Both sides of the chest were explored. The result on the right side was negative; from the left chest pus was withdrawn. Two hours later under chloroform a needle was again inserted in the left seventh intercostal space and a few drops of pus were withdrawn; a rib was resected and the parietal pleura was incised. The latter was much thickened. The surface of the lung beneath showed a small area of lymph. By inserting a finger into the pleural cavity and gently sweeping it in all directions pus was found. Evidently when the chest was explored a small abscess had been entered and evacuated. The exposed lung appeared to be pneumonic. A small gauze drain was inserted and the greater part of the wound was sewn up. The child stood the operation badly; she became collapsed, the cyanosis increased, and the pulse was hardly perceptible. Under the belief that the dyspnœa was partly due to the pressure of the abdominal fluid on the lungs, paracentesis abdominis was performed about 24 hours after the operation and 13 ounces of pus were withdrawn. The respiration improved and a few hours later the abdomen was opened in the middle line below the umbilicus and three or four pints of very thick, yellowish-green pus were removed. Further incisions were made in each loin and drainage-tubes were inserted in each wound. Drainage of the abdomen was satisfactory but the cyanosis persisted and the dyspnœa was undiminished. The temperature did not range above 99·6°. Two days later death occurred suddenly. At the necropsy the brain and meninges were found to be normal. The pericardium was distended with 16 ounces of thick greenish pus. Both the parietal and visceral layers were thickened and covered with thick layers of lymph. There was generalised double pleurisy with numerous recent adhesions. In the left pleural cavity at the level of the ninth rib were about two drachms of pus inclosed by recent adhesions. On the right side, about the level of the seventh rib, in the posterior scapular line was a similar collection. The upper lobe of the right lung showed some œdema, the middle and lower lobes considerable œdema. The upper lobe of the left lung showed some œdema; the lower lobe was very congested. The intestines were covered by a layer of lymph and bound together by recent adhesions which here and there formed pockets inclosing pus. The intestines showed inflammatory changes. The pelvic peritoneum was severely affected but the pelvic organs were normal. Cultures from the pleuræ, pericardium, and peritoneum showed the pneumococcus in pure culture. The case seemed to have been an example of primary pneumonia with secondary infection of the pleuræ, pericardium, and peritoneum. There was no evidence that the abdomen had been infected by extension from the pleura or from the alimentary canal. The pericarditis was entirely overlooked. On admission the dyspnœa was thought to be due to an empyema, as pus had been found in the chest, but when exploration showed only a few drops of pus the dyspnœa was thought to be due to the pulmonary disease and possibly to be increased by the pressure of the abdominal fluid.

DELIRIUM TREMENS AND THE SUDDEN DEPRIVATION OF ALCOHOLIC DRINK.

IN the medical section of the recently published volume of Prison Statistics (1906) for England and Wales some pertinent comments are made as to the alleged onset of an attack of delirium tremens as the result of a heavy drinker being suddenly and completely deprived of alcoholic drink. 212,000 persons were incarcerated during last year in local prisons and of these 132 died; three of this number had "delirium tremens" certified as a cause of, or as a condition at, death. 63,000 persons, exactly one-third of whom were females, were sent to prison for drunkenness; very many more prisoners were of course notorious drinkers, although they had committed other definite offences. 246 cases of delirium tremens were recorded, exactly one-quarter of this number being females; of these, four men and one woman were certified as insane and sent to asylums, 159 men and 59 women had recovered at the expiration of their sentences, and 16 men and six women were discharged at the end of their term. Another interesting fact is that epileptiform convulsions are stated rarely to be seen among alcoholic prisoners. There appears therefore to be little support for the old theory and practice of giving a man verging on delirium tremens "a hair of the dog that bit him."

THE PHYSIOLOGICAL ACTION OF COLLINSONIA CANADENSIS.

IN the *Répertoire de Pharmacie* M. Abal has dealt with the physiological action of *collinsonia Canadensis*. This plant contains a glucoside of the saponin type and a resin. The alcoholic extract of the root when given to animals in small doses produces hyper-excitability. In large doses this is followed by depression, leading to paralysis of central origin, with circulatory disturbances and irritation of the glandular most nearly to medicine, the principle of private practice is fully admitted. If the State had to maintain a *corps* of whole-time Government advocates and public prosecutors all over the country it would either have to pay a prohibitive sum or put up with very indifferent agents." Precisely so: the two cases are accurately on all fours; and moreover no Government, save for income-tax purposes, would venture to order its legal servants to furnish the details of their private incomes. In the case of medical officers the Government does make this inquisitorial demand, and, strange to say, *Indian Engineering*, usually so enlightened, contends that it is justified in so doing. Engineers in India are not allowed to engage in private practice but that is no reason for denying a reasonable privilege to another body of men. Our contemporary says that when it comes to a civil surgeon getting a lakh or two for any service the Government is wise to interfere. Perhaps so, but do such cases occur in real life? We do not believe it. It is but another instance of question-begging. We can assure the writer of the article entitled "Professional Fees" in *Indian Engineering*, dated Nov. 13th, that the virtual extortion of fabulous sums from rajahs (or from anybody else for that matter) by the Indian Medical Service does not occur, and the moral odium cast on an honourable service by such loose accusations is bitterly resented.

THE FINANCIAL CRISIS IN RELATION TO SUICIDE.

There is little doubt that the present financial stress in America has been coincident with a large number of suicides and it is of more than passing interest to consider whether the one is a natural accompaniment of the other and whether self-destruction must be considered as a common corollary to severe monetary losses. It must be borne in mind that the successful man of business is commonly a highly neurotic subject—in truth, he frequently owes his very success to his keen sensibility and his deftness in foreseeing the trend of coming events. Now men are prone to forget, or maybe they are ignorant of the fact, that the type of nervous system which endows them with so many advantages is a highly unstable mechanism and renders them more liable to sudden fatigue or mental aberration than the less sensitive system of their more lethargic neighbour. Sudden stresses are more likely to lead to impulsive acts than are adverse circumstances of gradual onset. Periods of monetary stringency caused by trade depression have not uncommonly been noted as cycles during which the incidence of insanity has fallen. Times of difficulty undoubtedly weigh heavily on some individuals but given a few weeks the man soon gets used to his altered circumstances and hardships alone seldom produce mental disorder. But this is not so with sudden calamity. The millionaire of yesterday who is faced with ruin to-day has received a severe mental shock, and a profound emotional disturbance such as this paralyses judgment. Now uncontrolled emotion is a common precursor of rash acts. The once prosperous man who is suddenly confronted with bankruptcy is liable to lose the very attribute by which he attained his success; judgment is replaced by impulse and he not uncommonly plunges deeper and deeper into the morass and his affairs become increasingly involved; nights are spent in vain attempts to disentangle himself from the impending disaster and he has no proper time for meals or sleep; he soon becomes physically weakened and this accentuates his mental distraction, symptoms of fatigue appear, and the mind becomes confused and in consequence irrational acts may be performed. It must further be borne in mind that suicidal acts are more common in the earlier periods of a mental illness than during the later phases, and this fact alone accounts for an appreciable number of deaths of persons who succeed in destroying themselves before their disorder is recognised. So far we have only referred to the class of financier who is not necessarily a speculator but frequently a man whose business is sound and legitimate, notwithstanding the fact that he is dealing in large sums of money. But there is another type of person whom we may designate as a common gambler, for his vocation is speculating with money that he does not possess, and his success or ruin is more dependent upon the caprice of fortune. Now gambling appeals very forcibly to a certain degenerate class or ne'er-do-wells. The life of such a person is a lottery; he plays to win but if he loses he has already thought out the remedy and suicide to him will appear to be little more than a move in the game. We do not believe that there are many such men, but a certain number do exist and their self-destruction goes to swell the total number of tragic deaths which are inseparable from every great financial crisis. Suicide may be the termination of a life spent in gambling or it may follow the downfall of the man who, either from pride or lack of moral courage, is unable to face comparative poverty or to see his family, who were once surrounded with luxury, driven to earn their living. In this way a sudden financial collapse must be held responsible for the wave of suicide which so commonly follows in its train, but the majority of deaths by self-destruction are brought about by far more complicated stresses which undermine both the physical and the mental health of the individual, and the culminating act is only done when the mind of the distracted person becomes so confused that impulse replaces judgment and voluntary attention.

THE NEW BUTTER AND MARGARINE ACT.

By this Act, which came into force on Jan. 1st, a statutory maximum limit of 16 per cent. of water is imposed in the case of all butters, with the exception of "milk-blended butter," which is to be allowed to have as much as 24 per cent. so long as it is sold by a name which is approved by the Board of Agriculture and one which is not "suggestive of butter or anything connected with the dairy interest." The names under which margarine is sold are to be subject to the same restrictions. It is, perhaps, open to question whether the new statutory limits for moisture in butter and margarine will very much benefit the consumer; a large proportion of both articles has certainly contained considerably less than 16 per cent. in the past. The principal advantage of the Act, however, is the substitution of a system of control at the port of importation (through the Customs authorities and the Government laboratory) and in this country at the place of manufacture for the present methods which are based almost wholly on analysis of purchased samples. These methods have constantly broken down in cases where small quantities of foreign oils and fats have been "blended" or worked in with natural butter with considerable profit to the blender. Places where butter is blended "by way of trade" will now have to be registered and no foreign fats are to be kept on such premises. Wholesale "blending" of butter and margarine making are not to be carried out on the same premises, although exceptions may be made for existing factories. Another considerable advantage of the Act is that it empowers the Local Government Board to schedule and to regulate the use of preservatives in butter, milk-blended butter, and margarine, and it may be hoped that this will speedily be done. A circular has now been issued by the Board of Agriculture as to the action which local authorities are recommended to take under the new Act. Apparently the principal duty required of them is to see that butter-blending, milk-blending, and margarine-making premises are all duly registered and to report to the Board of Agriculture cases where in course of ordinary severe pain occurred in the lower abdomen which was not increased by pressure. Repeated doses of a third of a grain of morphine gave little relief. Magnesium sulphate produced large evacuations and on the next day there was some improvement and the pain was located around the navel. The urine contained neither albumin nor sugar but was of a peculiar light-green colour. Fresh urine gave no reaction for nickel. 400 cubic centimetres were evaporated and incinerated. The ash was treated with hot concentrated nitric acid. After the removal of iron the filtrate gave with oxalic acid a faint greenish-white sediment, with caustic soda a slight greenish sediment, and with ammonium sulphide a brown colour. Blood examination showed: hæmoglobin 70 per cent., normal erythrocytes, a striking number of platelets in aggregation, and normal lymphocytes. Under symptomatic treatment and purgation recovery took place in ten days. The symptoms thus consisted of cachexia and anæmia followed by severe colic. Possibly nickel dust accumulated in the intestines and irritated them, and some was converted into a salt and absorbed into the blood where it produced the anæmia and blood platelets. Possibly also some of the other metallic dusts evolved in the patient's work exercised an adverse influence. He stated that many of his fellow workers frequently complained of ailments which they attributed to inhalation of aluminium dust. In the case related above it is noteworthy that although the dust was presumably inhaled there were no pulmonary symptoms.

DRUID POETRY AND MEDICINE.

AN ancient folk-song, "The Twelve Apostles," still sung at Christmas and on festive occasions by English rustics, has been found on examination to be a variant of the rhythmic chant in which the Druids, or medicine-men of the ancient Britons, recorded their wisdom. "The Twelve Apostles" in its Hampshire form is sometimes cited by its first line—"What is your one O?"—a question that has with its answer puzzled whole generations of people curious in such matters. In foreign variants of the song, whether Armorican, Slavonic, Southern German, or even Hebrew, the answer to the opening question is generally a statement of the Unity of the Godhead, but the English song differs from all its continental parallels in that it retains traces of pre-Christian mysticism, quite meaningless at first sight but partially explainable on reference to a Celtic version quoted by Aurélien de Courson in his "Histoire des Peuples Bretons." "What is your one O?"—the English query—receives the answer, from which rhyme and reason seem alike to have departed, "When the one is left alone, No more he can be seen O." We turn to de Courson's version, which must not be confounded with the Armorican Church Latin with its "Unus est Deus," and we find a Druid instructor telling his disciple that the One is Death. "There is no division for the number One, the unique necessity, Death, father of sorrow, nothing before, nothing after." "Two" is explained as "two oxen harnessed to an egg-shell. They drag it and they die. Behold the marvel." Then come the "three beginnings and the three endings, for man as for the oak, three celestial realms of Merlin, golden fruits, bright flowers, little children that laugh." Under these poetic symbols the Druids of the pre-Christian period doubtless veiled their teachings, astrological, physical, or medical. Some light is thrown on the nature of their medical apothegms by the Hebrew version above mentioned, where Nine is the nine months of a woman's gestation (in the English song it is "the triple trine," a mystic reference possibly to the same period). What the Druid medicine actually amounted to it is hard to say, though the modern Welsh bards still profess to know something about it through a kind of Masonic tradition. The Druids' wives, the Alraunes, are said to have had the care of warriors wounded in battle and of women in child-bed. The Druids themselves were probably dealers in simples and astrologers of a rough-and-ready kind, like "the wise women" of our own primitive country-sides. Some Celtic herbalist remedies linger, as we know, in the Scottish and Irish Highlands and among the descendants of the Cymri on both sides of the Channel.

THE AUSTRALASIAN MEDICAL CONGRESS FOR 1908.

WE are asked to remind our readers that the eighth session of the Australasian Medical Congress will be held in Melbourne this year under the presidency of Professor H. B. Allen, the session commencing on Monday, Oct. 19th, and terminating on Saturday, Oct. 24th. The subscription is 1 guinea and will entitle every member to a copy of the Transactions of the Congress; this should be sent to the general secretary of the Congress. The railway departments of Australasia will issue concession tickets to members for the return journey at special rates, particulars of which will be supplied to intending members by the State secretaries. It is anticipated that reductions in fares, similar to those granted in previous years, will be made by the Interstate Steamship Companies. The council of the University of Melbourne has granted the use of the buildings and the Government of Victoria has undertaken the printing of the Transactions. Addresses will be given in plenary congress by the presidents of the sections of medicine, surgery, pathology and bacteriology, and public health, whilst special meetings of the congress will be devoted to the consideration of (a) the relations of the medical profession to hospitals; and (b) syphilis. Any medical man resident in Great Britain desirous of attending the Congress or of becoming a member should write to Dr. H. O. Maudsley, at 8, Collins-street, Melbourne, who is acting as general secretary.

"POTENTIZATION" AGAINST SMALL-POX.

A STATEMENT contained in the Bulletin of the Chicago School of Sanitary Instruction to the effect that attempts are made to introduce children into the public schools on the strength of their being furnished with certificates from medical practitioners stating that the children have been "potentized" reads almost like ancient history. It carries us back, indeed, to the days of Lady Mary Wortley Montagu who first introduced the system of small-pox inoculation into this country from Constantinople. Apparently, however, "potentization" is usually induced by administering "variolinum" internally, this substance being prepared by triturating "matter" from a ripe small-pox vesicle with sugar of milk. Sometimes, however, the "variolinum" is rubbed on the arm. It is stated that, unlike inoculation, "potentization" has no protective influence over small-pox and that children thus treated may be easily vaccinated. But although we are told that this "potentization" is not recognised by health authorities no mention is made as to whether or not this custom has led to the spread of small-pox or why, as with inoculation in this country, the operation is not forbidden by law. Perhaps later issues of the Chicago Bulletin will contain additional data relative to this "potentization" and as to its historical relationship to the practice adopted by the Chinese of inserting small-pox crusts into the nostrils of the patients in order apparently that they might contract the disease by inhalation. It is difficult to ascertain whether there were amongst the Chinese any conscientious objectors to this crusting process but in so far as inoculation or engrafting is concerned it would appear from the writings of Madame Sevigné in 1718 that in Adrianople "every year thousands undergo the operation, and the French Ambassador says pleasantly that they take the small-pox system. The glucoside in mild doses acts as a feeble cardiac tonic, and in larger doses the irritant effects preponderate, giving rise in cold-blooded animals to asystole alternating with an increase of systolic energy. In warm-blooded animals there is a rapid lowering of arterial pressure with increased force of the heart beat. Though the resin acts less energetically it augments the action of the heart. It excites the secretions of the gastro-intestinal tract and provokes marked diuresis, probably owing to its action on the circulation as well as on the renal epithelium. The diuretic action is accompanied by an increased output of all the urinary constituents. The drug is chiefly used as a diuretic.

DEATH OF SIR JAMES HECTOR.

New Zealand has through the demise of Sir James Hector, M.D. Edin., F.R.S., K.C.M.G., the director of the Geological Survey Department, lost one of the most brilliant all-round men of science she has ever had. For nearly half a century he was the most conspicuous man of science in New Zealand, while his persistent journeyings into every nook and corner of the land brought him more or less personally into contact with every inhabitant of the colony who had any stake in its welfare and any share in its public life and progress. His multifarious activities were pursued until between four and five years ago, at which date he resigned from the public service. At that time he proposed to make a tour with the view of exploring the scenes of his Canadian explorations of 50 years ago—for he was employed on the Palliser Expedition from 1857 to 1860—but the scheme was abandoned owing to the death of his son and the brief remnant of his life was spent in retirement. It is not likely that in the future any man will be able to take so commanding a place in the scientific life of his country as Sir James Hector did in New Zealand, and we cannot do better than quote an appreciation of his many-sided genius from the *Wellington Post* which has been forwarded to us by our special correspondent in the colony. The fact is well brought out in our contemporary's sympathetic words that the all-round man of science must now be dying out—Sir James Hector was one of the last. "Science was not specialised in the days of Sir James Hector's youth as at present and with a vast faculty of observation and assimilation, fine reasoning powers, and exceptional executive ability, his almost encyclopedic knowledge was always at the disposal of his adopted country. It may seem paradoxic, but in Sir James Hector's case a list of scientific subjects on which he was not a recognised authority would be difficult to compile, they were so few. At the Philosophical Society he usually left the discussion of subjects in the higher mathematics, modern chemistry, or optics to others—in practically every other sphere he was on even terms with the leading men, and in many supreme. His acquaintance with animal and vegetable comparative physiology, and biology generally, was marvellous. A bone, a wing, a shell—an exceptional structure in any natural specimen under discussion—would be the text for an extempore discourse scintillating with wit and wisdom, illuminating, fascinating as a fairy tale, and invariably supported by original observation. He was a thorough meteorologist. His geological attainments were world-famous. He knew the physical geography of New Zealand and its outlying islands, the contours of its ocean deeps, its seismic and thermal lines, 'almost as he knew his alphabet.' On the native products of the colony and their practical uses he was the leading authority, and he was the author, among many other works, of a standard treatise on the phormium industry." Sir James Hector, as might be anticipated from such a record, was also prominent in the public advancement of science in New Zealand; it was always his particular aim to bring home to the people that in scientific knowledge, properly organised, must lie social salvation. He was one of the founders of the Philosophical Institute, which has just issued its thirty-ninth annual volume, and he held a prominent position on its council up to about five years ago. The Colonial Museum was established and built under his care. He organised the New Zealand Exhibition of 1865, which was a great success even when compared with much later exhibitions having the same object. Naturally he was ready to work in any useful directions for the development of education, and he became prominent in the executive work of the New Zealand University from its start. Such is the brief record of a man of most varied attainments who served his adopted country so well in many ways. His position was always thoroughly recognised by his brethren in science. He was associated by friendship and correspondence with the leading scientific men of the age and honoured by learned societies all the world over. In private life his high character, his kindly nature, and his genial disposition endeared him to a large circle of friends and the gap that he has left will never be exactly filled. There is a movement on foot to establish a medal in co nexion with the university in commemoration of the gre work which Sir James Hector did as Chancellor.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: PRESENTATION TO MR. C. R. HEWITT.

ON Dec. 23rd, 1907, an interesting presentation took place at the Royal College of Surgeons of England. Mr. C. R. Hewitt, who was recently appointed a librarian at the Royal Society of Medicine, being the recipient of a piece of plate suitably inscribed and a cheque for 55 guineas in recognition of his 22 years' service in the library of the College. The gifts were subscribed for by some 75 friends as a token of esteem and good wishes for success in his new appointment. Professor William Osler made the presentation on behalf of the subscribers and in the course of a few well-chosen words recalled the valuable help which he had received from Mr. Hewitt many years ago in the College library. Professor Osler further said how pleased he was to see Mrs. Hewitt present on the occasion, as the piece of plate—a tea-caddy—would certainly be more appreciated by her than by her husband, and he therefore felt that he ought to present that to her. Mr. Henry T. Butlin, besides thanking Mr. Hewitt personally for the help which he had received on many occasions in the library, also thanked him on behalf of the Council of the College for his valuable assistance and genial manner to the readers generally. Mr. Butlin said that the Council felt that they had lost an official whose place would be difficult to fill. Mr. Hewitt's new appointment would, however, give him wider scope in which to show his ability as a library bibliographer. Mr. Hewitt returned thanks for the kind words spoken by Professor Osler and Mr. Butlin and recorded his appreciation of the sound advice and kind assistance that he had received whilst in the service of the College from the librarian, Mr. Victor G. Plarr.

NICKEL POISONING.

IN the *Journal of the American Medical Association* of Nov. 9th, 1907, Dr. George Richter has recorded a case of a very rare condition—nickel poisoning. The patient was a man, aged 24 years, a polisher of aluminium, copper, and brass, but mostly of nickel. In the process considerable dust was evolved which was only partly removed by "sucking blowers." He consulted Dr. Richter on account of great prostration, a sense of pressure on the stomach, and slight headache, which he attributed to influenza. His skin was pale and his complexion was sallow. The tongue was slightly coated and on its left margin and the corresponding buccal surface was extensive leucoplakia. In the evening health. Hence nearly every woman's paper contains a column generally headed "Health and Beauty" or some similar title, in which correspondents ask idiotic questions and in many instances get equally idiotic answers. If Miss Rossie would add to her labours in the instruction of prisoners by instructing those outside prisons as well, avoiding, of course, medical questions, she would be deserving of the gratitude of many.

THE EXHUMATION OF THE BODY OF MR. T. C. DRUCE.

THE opening of the grave of the late Mr. T. C. Druce at Highgate has set at rest the doubt which apparently existed in some minds as to whether the coffin bearing his name and placed in his family vault in 1864 might contain nothing more than rolls of lead used for purposes of deception at a mock funeral. It is difficult to understand such doubts affecting anyone who heard or read the evidence given at the hearing in the Probate Division in December, 1901,[1] unless he believed that the grave might have been tampered with since the incidents then deposed to by the medical witnesses took place. It is not too much to say that if no human remains had been found in the coffin opened on Dec. 30th last the only alternative to a theory of interference subsequent to the funeral would have been the supposition that not only Mr. Herbert Druce but Dr. Edmund Shaw and his partner, Mr. W. Blasson, as well as the housekeeper, Catherine Ann Bayley, committed deliberate perjury in the suit tried before Mr. Justice Gorell Barnes. Their evidence was perfectly clear that a gentleman well known to them as Thomas Charles Druce, who had been ill for some time and who had been operated upon by Sir William Fergusson, died and was by them placed in his coffin, which they, or some of them, followed to the grave. At the same trial a statement, since frequently repeated, to the effect that there was an irregularity in the certificate of the cause of death in that it did not bear the signature of any medical man, was fully explained, the simple explanation being that in 1864 the law did not require death certificates to be signed. The effect of the recent exhumation has been to corroborate the evidence of two medical practitioners of unimpeachable integrity, independent witnesses whose testimony was in no way shaken when it was originally given, and which consequently required nothing to confirm it, but at the same time the popular interest in the matter and the unwillingness of the public to be undeceived rendered the opening of the coffin, with the resulting ocular demonstration that it contained a dead body, desirable. What this result may be upon the litigation which in various forms is still pending, and upon public opinion with regard to it, we do not, of course, discuss.

THE second annual dinner of the past and present students of the Royal London Ophthalmic Hospital will take place at the Trocadéro Restaurant, Shaftesbury-avenue, W., on Wednesday, Jan. 29th, at 7.45 for 8 p.m., with Sir John Tweedy, consulting surgeon to the hospital, in the chair. Each student is entitled to introduce two guests and tickets (price 10s. 6d. each, exclusive of wine) may be had on application to either of the honorary secretaries, Mr. Arnold Lawson, 12, Harley-street, London, W., and Mr. J. Herbert Parsons, 27, Wimpole-street, London, W.

THE opening lecture of the Mount Vernon Hospital post-graduate course will be given by Sir Thomas Clifford Allbutt, F.R.S., consulting physician to the hospital, in the lecture room at the central out-patient department, 7, Fitzroy-square, London, W., on Thursday, Jan. 9th, at 5 P.M. The subject of the lecture, to which medical practitioners are invited, will be Angina Pectoris.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Dec. 27th, 1907, states that for the week ending Dec. 26th there were one case of plague and one death from the disease.

Mr. C. A. Ballance has been elected an honorary fellow of the American Laryngological, Rhinological, and Otological Society.

Mr. Malcolm A. Morris, F.R.C.S. Edin., has been appointed a Knight Commander of the Royal Victorian Order.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Urban District of Whitby, by Dr. R. A. FARRAR.[1]—Whitby, already described in 1538 as "a great fischar towne," had become a prosperous seaport in the reign of Queen Elizabeth, when it did a good trade in the manufacture of alum. In 1753 the town entered on a new era, as ships began to sail from Whitby to the Greenland seas for whale fishing. Following on the whale fishing came a period of wooden ship-building which gave place to an iron ship-building industry which has only ceased within the last few years owing to the insufficiency of the harbour. The decay in ship-building was for a time more than compensated by the development of the jet trade. In the early days of Queen Victoria's reign, particularly after the death of the Prince Consort, jet ornaments had an extraordinary vogue and at one time as many as 1400 hands were employed in their manufacture. "Line" and herring fishing brought some prosperity to the town until a few years ago, but the silting of the harbour has rendered the passage of the harbour bar so unsafe that the port has practically been abandoned by all but a few local fishing cobles. At the present day Whitby's only source of prosperity is its annual influx of summer visitors and excursionists. All these vicissitudes have left their mark, as Dr. Farrar shows, on the housing conditions of the town. As the whale fishing and ship-building industries increased the good and substantial houses on the East Cliff were surrounded or superseded by an abundance of jerry-built houses and narrow courts. When the jet industry flourished jet factories and warehouses were crowded into every corner which could be made available. The "slums" of Whitby, about which there has lately been much local agitation, are in consequence of these conditions slums in a very real sense. Not only is the crowding on area excessive, and greatly aggravated by the presence of derelict jet factories, but the courts and dwellings themselves are in many cases beyond repair and though occupied are quite unfit for human habitation. The entries into the courts are seldom more than three feet wide and the passages dividing the blocks of houses have generally a like width. The lower rooms are in consequence almost invariably dark. Many of the houses are damp owing to the walls being built against the hillside. The bedrooms are often mere cupboards contrived in the living room, containing less than 200 cubic feet air space and kept closed in the daytime. Dr. Farrar has no doubt that the health of the inhabitants of these slum areas in Whitby suffers from the conditions of living which result from the character of these dwellings. In examining the school children he found that the physical condition of those on the east side of the town was markedly inferior to that of children on the west, and, in particular, children from one of the collections of "slum" courts could by their physical deterioration be as a rule picked out at a glance from the other scholars. The report points out that there by way of diversion as they take the waters in other countries. There is no example of anyone who has died in it, and you may believe I am well satisfied of the safety of this experiment since I intend to try it on my dear little son." As to the practice of inoculation in this country, there are probably persons still alive who underwent the operation, although none are likely to remember that the charge for the operation amongst medical practitioners was about half a guinea. But in those days there were no public vaccinators and hence no opportunities for boards of guardians to accord them the minimum fees.

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[1] THE LANCET, Dec. 14th, 1901.

[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 257. Price 4d.

THE MEDICAL DIRECTORY FOR 1908.

THE issue of this work for 1908 appeared with commendable promptitude in the third week of December, 1907. Comparing the edition for the current year with that for the year just past we see that the total number of names for 1908 is 39,703, as against 39,365 for last year, being an increase of 338. As regards the several regions into which the Directory is divided the number of names in the London list for 1908 is 6550, as against 6512 in 1907. The provincial list for England for 1908 contains 17,211 names, as against 17,080 in 1907; Wales for 1908 has 1256 names, as against 1232 for 1907; Scotland for 1908 has 3829 names, as against 3815 for 1907. The Irish list for 1908 contains 2660 names, as against 2672 for the past year. The list of practitioners resident abroad contains 4927 names, as against 4822 in 1907. The Naval, Military, and Indian Medical Services for 1908 number 3259 names, as against 3223 in 1907. It will thus be seen that there is a recorded increase in the numbers of the profession in every part of the kingdom except Ireland. The "Too Late" list for this year contains 11 names, two more than in 1907. The introductory chapter on the legal relations of medicine has become an acknowledged authority for reference, and as is universally known in the medical profession Messrs. J. and A. Churchill are the publishers of this indispensable work of reference.

THE DETECTION OF COCOANUT OIL IN BUTTER.

ONE of the most subtle forms of adulteration in the present day is the admixture of cocoanut oil with butter fat, the product being sold as genuine butter. Indeed, it has been asserted that almost pure cocoanut oil has been palmed off as pure butter. Hitherto the analyst has been baffled in his attempts at devising a method for the certain detection of cocoanut oil in butter, the sophistication being so cleverly accomplished that the mixture on examination is found to yield certain analytical factors which are consistent with those yielded by genuine butter itself. It is singularly opportune in view of the new measure for the control of the sale of butter which comes into force this year that a method has been projected which promises to place in the hands of the analyst a means of detecting this sophistication. In a note contributed to the *Chemical News* of Dec. 20th, 1907, Mr. T. R. Hodgson, B.A., A.I.C., of the analytical department of the University of Birmingham, shows that the oxygen equivalent of cocoanut oil is considerably less than that of pure butter fat. The oxygen equivalent is found by submitting the pure fats to the action of a standard solution of potassium permanganate for a time and afterwards determining the amount of permanganate left unreduced. One gramme of the filtered fat is weighed out into a flask and 25 cubic centimetres of a half normal alcoholic solution of caustic potash are added. The whole is heated under a reflux condenser for 30 minutes. After the saponification is complete the flask is detached from the condenser and the solution is evaporated to dryness. Distilled water is added to the residue and the whole is evaporated once more to dryness. The process is repeated until the whole of the alcohol has been dissipated. The residue is next dissolved in water and made up to 1000 cubic centimetres. 20 cubic centimetres are measured out and placed in a beaker and 50 cubic centimetres of a tenth normal solution of potassium permanganate are added and finally 50 cubic centimetres of a 50 per cent. solution of sulphuric acid. The beaker is then placed on the water bath (100° C.) for half an hour and the excess of permanganate is then determined by means of a standard solution of ferrous ammonium sulphate. The number of cubic centimetres of permanganate solution used multiplied by 4 gives the "oxygen equivalent," or the number of grammes of oxygen required to oxidise 100 grammes of the oil or fat. Pure butter fat gives an oxygen equivalent of 167·2. With 10 per cent. of cocoanut oil present the equivalent is 160·8, with 20 per cent. 152, with 30 per cent. 142·4, with 40 per cent. 136·0, with 50 per cent. 127·2, with 60 per cent. 118·4, with 70 per cent. 110·4, with 80 per cent. 103·2, with 90 per cent. 95·2, until pure cocoanut oil itself gives 87·2 as the "oxygen equivalent." It is to be hoped that this method will prove on continued trials to give trustworthy results and so to supply at last to the analyst a means of bringing to light a very subtle form of adulteration.

PROPOSED LOCAL GOVERNMENT BOARD INQUIRY INTO THE CAUSE OF SCARLET FEVER.

AT a meeting of the Metropolitan Asylums Board on Saturday, Dec. 7th, it was unanimously decided, on the motion of Dr. W. R. Smith,

> That in view of the continued prevalence of scarlet fever, notwithstanding the extensive isolation accommodation which has been provided, the Local Government Board be asked to cause an inquiry to be instituted into the cause of this disease; and whether any, and if so what, further means can be adopted for its prevention.

Dr. Smith submitted a table of figures which showed that in 1890 there were 15.330 cases of scarlet fever notified, or a ratio per 1000 of population of 3·7; in 1906 the cases notified numbered 20.329 or a ratio per 1000 of population of 4·3. In the acquisition of sites the Board had expended £234,104 and the cost of buildings and equipment amounted to £2,905,659. For that expenditure they had provided 8166 beds and they were in no way better off from the point of view of the spread of infectious disease by reason of that vast expenditure.

"CRUELTY TO CHILDREN" PRISONERS.

IN THE LANCET of August 20th, 1904, we commented favourably upon some lectures given by Miss Charlotte Smith Rossie to women prisoners in Portsmouth jail. The lectures were upon the subjects of hygiene and the care of children. An article by Miss Rossie appears in the current number of *The Sunday at Home*, in which she gives an account of some lectures which she delivered to sundry women prisoners who were undergoing punishment for cruelty to children. This offence, disgraceful as it is to have to say so, is by no means confined to the *injusta noverca*, who has throughout the ages gained an evil reputation, but in many cases mothers are as hideously cruel as it is possible to conceive. Miss Rossie claims to have influenced these prisoners for good and she makes one suggestion which seems to us worthy of notice by experts in prison sociology. It is that "cruelty" prisoners should not be put in a "star" class, for that means a privileged class, but that they should be placed in a separate class from the ordinary criminal, "as for the most part they are respectable married women" and an attempt should be made to teach them home duties. This, we think, is a good suggestion, for the average modern woman is singularly ignorant of home duties and of the commonest laws of mortality being recorded in Handley and in Bootle, where the rate was 1·6 per 1000. The 50 fatal cases of scarlet fever exceeded the numbers registered in any of the seven preceding weeks; the highest death-rate from this disease was 1·0 per 1000 in Burnley. The deaths from diarrhœa, which had been 89, 50, and 47 in the three preceding weeks, were 48 in the week under notice, and caused death-rates ranging upwards to 1·1 in Walsall and 1·4 in Merthyr Tydfil. "Fever" was not excessively fatal in any of the 76 towns. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 5676, 5591, and 5352 at the end of the three preceding weeks, had further decreased to 5035 on Saturday, Dec. 21st; 447 new cases were admitted during the week, against 623, 554, and 500 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 388, 355, and 348 in the three preceding weeks, were 347 in the week under notice, and were 94 below the corrected average number in the corresponding periods of the five years 1902–06. The causes of 36, or 0·7 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 66 other towns; six uncertified deaths were registered in London, six in Sheffield, five in Birmingham, five in Liverpool, and two each in Preston, Gateshead, and Rhondda.

During the week ending Dec. 28th, 5860 births and 4527 deaths were registered in 76 of the largest English towns. The annual rate of mortality in these towns, which had been 16·0, 16·1, and 16·8 per 1000 in the three preceding weeks, declined again last week to 14·7 per 1000. During the 13 weeks of the quarter the death-rate averaged 15·5 per 1000, the rate in London during the same period being 14·9. The death-rates in the 76 towns last week ranged from 6·9 in King's Norton, 7·0 in Hastings, 7·4 in Southampton, and 7·6 in East Ham to 22·8 in Rhondda, 23·5 in Wigan, 23·6 in Ipswich, and 24·4 in South Shields. The 4527 deaths registered in the 76 towns last week were 633 fewer than the number in the previous week, and included 373 which were referred to the principal epidemic diseases, against 374 and 398 in the two previous weeks; of these 373 deaths 105 resulted from measles, 89 from whooping-cough, 71 from diphtheria, 44 from diarrhœa, 41 from scarlet fever, and 23 from "fever" (principally enteric), but not any from small-pox. No deaths from any of these epidemic diseases were registered last week in Hastings, Bournemouth, Reading, Handsworth (Staffs), Smethwick, Coventry, Wallasey, or West Hartlepool; among the other towns the death rates from these diseases ranged upwards to 3·6 in Rhondda, 3·9 in Burton-on-Trent, 4·8 in Tynemouth, and 9·3 in Ipswich. The fatal cases of measles, which had been 107 and 124 in the two preceding weeks, declined again to 105 last week, and caused death-rates ranging upwards to 1·3 in Salford, 1·6 in Bootle, 1·7 in Barrow-in-Furness and in Leeds, 2·7 in Swansea, 2·9 in Burton-on-Trent, 3·8 in Tynemouth, and 7·2 in Ipswich. The deaths from whooping-cough, which had been 107, 95, and 94 in the three preceding weeks, further fell to 89 in the week under notice, the highest death-rates from this disease being 1·1 in Northampton, 1·3 in Devonport, in Aston Manor, in Sunderland, and in Newcastle-on-Tyne, 1·4 in Ipswich, and 1·6 in Hanley and in Bootle. The fatal cases of diphtheria, which had been 57 and 62 in the two previous weeks, further rose last week to 71; this disease was proportionally most fatal in Norwich, where it caused a death-rate of 1·3 per 1000. The deaths from diarrhœa, which had been 47 and 48 in the two preceding weeks, declined again to 44 in the week under notice; the mortality from this disease was not excessive in any of the large towns. The fatal cases of scarlet fever, which had been 38, 40, and 50 in the three preceding weeks, fell to 41 last week, and caused death-rates ranging upwards to 1·1 in Walsall, 2·1 in Newport (Mon.), and 2·3 in West Bromwich. The 23 deaths referred to "fever" were three in excess of the number in the previous week, the highest death-rate from this cause being 1·1 in Northampton. There were 4999 scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital at the end of last week, against 5591, 5352, and 5035 at the end of the three preceding weeks; 353 new cases were admitted during the week, against 554, 500, and 447 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 355, 348, and 347 in the three preceding weeks, further declined to 317 in the week under notice and were 145 below the corrected average number in the corresponding periods of the five preceding years, 1902–06. The causes of 56, or 1·2 per cent., of the deaths registered in the 76 towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 42 other towns; seven uncertified deaths were registered in Liverpool, six in Birmingham, five in Warrington, three in Manchester, and two in each of nine other towns.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·3, 20·6, and 20·0 per 1000 in the three preceding weeks, increased to 20·8 per 1000 during the week ending Dec. 21st, 1907, and was 4·0 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·7 in Aberdeen and 18·0 in Edinburgh to 27·4 in Leith and 30·5 in Dundee. The 724 deaths in these towns were 28 more than the number in the previous week, and included 126 which were referred to the principal epidemic diseases, against 111, 132, and 127 in the three preceding weeks; of these, 53 resulted from measles, 26 from whooing-cough, 14 from diarrhœa, 11 from diphtheria, seven from cerebro-spinal meningitis, three from scarlet fever, and two from enteric fever. These 126 deaths were equal to an annual rate of 3·3 per 1000, which was 2·0 per 1000 above the mean rate during the same period in the 76 large English towns. The fatal cases of measles, which had been 79 and 71 in the two previous weeks, further declined to 53 in the week under notice, and included 35 in Glasgow, 10 in Dundee, and five in Greenock. The deaths from whooping-cough, which had been 13 and 24 in the two preceding weeks, further rose to 26 of which 11 occurred in Glasgow, four in Edinburgh, four in Aberdeen, three in Perth, and two in Greenock. The fatal cases of diarrhœa, which had been 36, 21, and 18 in the three preceding weeks, further declined to 14 in the week under notice, and included eight in Glasgow and four in Edinburgh. The deaths from diphtheria, which had been nine and eight in the two previous weeks, increased again to 11, of which three occurred in Glasgow, three in Paisley, and two in Leith. Of the seven deaths from cerebro-spinal meningitis three were registered in Glasgow, two in Paisley, and one each in Edinburgh and Leith. The deaths referred to diseases of the respiratory organs, including pneumonia, which had been 167 and 161 in the two preceding weeks, further declined to 157 in the week under notice, but were 38 above the number in the corresponding week of last year. The causes of 25, or 3·5 per cent., of the deaths in the eight Scotch towns were not certified or not stated; in the 76 English towns the proportion of uncertified deaths registered during the same week did not exceed 0·7 per cent.

During the week ending Saturday last, Dec. 28th, the annual rate of mortality in the eight Scotch towns was 18·2 per 1000, against 20·6, 20·0, and 20·8 per 1000 in the three preceding weeks, and was 3·5 per 1000 above the mean rate last week in the 76 large English towns. Among the Scotch towns the death-rates ranged from 12·5 in Leith and 13·2 in Aberdeen to 24·2 in Greenock and 25·4 in Perth. The 632 deaths registered in these towns last week were 92 fewer than the number in the preceding week, and included 109 which were referred to the principal epidemic diseases, against 132, 127, and 126 in the three preceding weeks; of these 53 resulted from measles, 24 from whooping-cough, 14 from diarrhœa, seven from diphtheria, five from scarlet fever, three from enteric fever, and three from cerebro-spinal meningitis, but not any from small-pox. These 109 deaths were equal to an annual rate of 3·1 per 1000, which was 1·9 per 1000 above the mean rate last week from the principal epidemic diseases in the 76 large English towns. The fatal cases of measles, which had been 79, 71, and 53 in the three preceding weeks, were again 53 last week, and included 38 in Glasgow, eight in Dundee, four in Greenock, and two in Aberdeen. The deaths from whooping-cough, which had been 13, 24, and 26 in the three preceding weeks, declined again last week to 24, of which six occurred in Glasgow, six in Perth, three in Edinburgh, three in Dundee, three in Leith, and two in Greenock. The fatal cases of diarrhœa, which had been 21, 18, and 14 in the

the first proceeding necessary is to treat derelict tenement blocks, jet factories, and warehouses as obstructive buildings under the Housing of the Working Classes Act, with a view to letting in light and air to the remaining blocks. This could be done, Dr. Farrar notes, "without seriously impairing the effect of the huddle of red roofs which is one of the æsthetic charms of Old Whitby." The space thus gained could be utilised as open space in a variety of useful ways, and the authorities concerned should then use their powers to secure that the remaining blocks are put into habitable repair. Along with these measures it is desirable that a certain number of modern working-class dwellings should be erected. Action by the district council on these lines has been successfully taken at Alnwick and other old towns presenting similar problems. The district council, in the hope of rehabilitating the ship building and fishing industry of Whitby, is proposing to spend *no less than £95,000 on harbour* extensions and improvements and on the rebuilding of Whitby bridge. If the anticipation of increased prosperity is justified it will be essential to provide for increase in, and improvement of, the house accommodation which is available for the working-class population. If the anticipation is unlikely to be justified (and in view of recent extensions of competing ports the proposal seems open to some doubt) the Whitby council would probably be serving its town better by abandoning grandiose schemes and by spending a much more moderate sum on housing improvements which at least may be relied upon to yield a return in the form of the better health and physical conditions of the population.

On the Sanitary Circumstances and Administration of the Thingoe Rural District, by Dr. F. ST GEORGE MIVART.[2]—Many interesting matters are dealt with in this report which relates to a large rural district with some 14 000 inhabitants surrounding the borough of Bury St. Edmunds. Among these are the insanitary conditions of dairy farms, many of which supply London dairy companies, and the unsatisfactory conditions of housing which prevail. The want of more cottages is "bitterly felt" in this district, and this is little to be wondered at in view of the character of many of those which now exist. Dr. Mivart reports that often houses were in a ruinous condition, the holes in the plaster walls being plugged with old sacks and rags within or blocked with a piece of plank and odds and ends of timber without. Such houses were also leaky in other places—*e.g.*, round the door and window frames, and occupiers resort to all sorts of expedients to prevent the entrance of cold air in winter. Rain-water pipes when present are commonly broken and while allowing the water to stream down the house walls deliver it also upon the ground in proximity to foundations, the surface about the house being only in a few instances furnished with paving. As to cottage bedrooms the report points out that sometimes the first-floor space comprises two or three rooms, of which the back one has no direct supply of light and air at all. The following account of a cottage in Sicklesmere is given as an instance of the use to which first-floor space may be put without bringing about prosecution for overcrowding:—"Total first-floor space, about 13 × 15 × 7 feet = about 1365 cubic feet of space. A corner of this, sufficient to hold a bed, is screened off by a dwarf partition about 4 feet 6 inches high. The entire first-floor space is shared by six persons, viz., a widow, aged 40; two sons, aged 16 and 14; two daughters, aged 13 and 6; and, as a lodger, a brother-in law, aged about 50. No fireplace or back window. Ventilation only by front window 2 feet square and by the opening in the floor for the ladder staircase." In the living rooms the fireplaces are often so poor that "cooking of any useful kind would be almost impossible even if inmates had sufficient knowledge for this." Many cottage dwellings are going steadily to ruin There is special difficulty in getting repairs in "tied" cottages—i.e., those rented by the farmers for their labourers. It is sometimes said that stringency of building by-laws prevents building in rural areas, but in this district no by-laws as to new buildings are in force. It should be said, however, that the district council made an attempt some years ago to utilise the Housing of the Working Classes Act. Eight good semi-detached cottages in four blocks, with sufficient land, were erected at Ixworth in 1893 at a cost of £1700, obtained by loan repayable in 30 years. The innovation was subjected to much local criticism and ridicule under the name of the "Thingoe Folly." But Dr. Mivart found the houses all occupied; he gives the profit and loss account in connexion with them, and shows that when the loan is extinguished the council is likely to find itself well on the right side of the account. The experiment suggests that subject to some alterations, such as lengthening the borrowing period, it would be practicable to do much good by similar "follies" in other villages and hamlets. Too much stress must not be laid on the argument that properly built cottages of this kind must be let at a higher rent than the labourer can afford. Those who can afford the rent and go into these cottages in most cases vacate a better kind of cottage for the labourer to move into, and advantage can be taken of the process of "moving up" to compel demolition or satisfactory repair of the worst kinds of dwellings.

On the Prevalence of Diphtheria at Ringmer, by Dr. R. J. REECE.[3]—This report relates to a persistent prevalence of diphtheria in a little village in Sussex which appears to have been spread through the agency of the village school and to have continued notwithstanding frequent but short periods of school closure. The account given by Dr. Reece affords one more illustration of the danger of concluding that children are no longer capable of carrying infection because a single examination of a "swab" from the throat has given a negative result as regards the presence of the bacillus diphtheriæ. It also affords a good instance of the way in which apparently healthy children may harbour the diphtheria bacillus in the throat or nose. At the end of September, when the disease had been prevalent in the school for some nine months. Mr. A. G. R. Foulerton made a bacterial examination of swabs from 46 children in Standard I., with the result that the diphtheria bacillus was found to be present in the throat or nasal cavity of 14 of these children. Dr. Reece gives the text of a series of recommendations made to the local authority with a view to check the further spread of the disease: these include the isolation of "infected" and "suspected" cases until they are proved bacteriologically to be free from infection, and the provision of temporary accommodation for the isolation of suspected cases.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8435 births and 5160 deaths were registered during the week ending Dec 21st, 1907, The annual rate of mortality in these towns, which had been 16·0 and 16·1 per 1000 in the two preceding weeks, further rose to 16·8 per 1000 in the week under notice. During the first 12 weeks of the quarter the death-rate averaged 15·7 per 1000, the rate during the same period being 14·9 in London. The lowest death-rates in the 76 towns were 6·0 in Bournemouth, 8·0 in East Ham, 8·7 in Handsworth (Staffs), 9·3 in Hornsey, and 9·9 in Great Yarmouth; the highest rates were 24·1 in Sunderland, 24·2 in Rotherham, 25·6 in Bootle, 25·7 in Tynemouth, 26·0 in Merthyr Tydfil, and 28·9 in Preston. The 5160 deaths in these towns exceeded by 206 the number in the preceding week, and included 398 which were referred to the principal epidemic diseases, against 388 and 374 in the two preceding weeks; of these, 124 resulted from measles, 94 from whooping-cough, 62 from diphtheria, 50 from scarlet fever, 48 from diarrhœa and 20 from "fever" (principally enteric), but not any from small-pox. No deaths from any of these epidemic diseases were registered in Leicester, Blackburn, Brighton, Plymouth, Leyton, Stockport, or in nine other of the 76 towns; the annual rates from these diseases, however, ranged upwards to 3·1 in Aston Manor, 3·3 in Salford, 3·8 in Tynemouth, 4·8 in Rhondda, 5·1 in Barrow-in-Furness, and 8·2 in Bootle. The deaths from measles, which had been 111 and 107 in the two preceding weeks, rose again to 124 in the week under notice. the highest rates being 1·7 in Gateshead, 1·8 in Salford, 1·9 in Leeds, 2·1 in Willesden 3·6 in Rhondda, 3·8 in Tynemouth, and 5·1 in Barrow-in-Furness. The fatal cases of whooping-cough, which had been 107 and 95 in the two preceding weeks, declined to 94. and caused death-rates ranging upwards to 1·1 in Northampton, 1·2 in Rochdale, 1·3 in Sunderland, 1·4 in Ipswich and in King's Norton, 2·5 in Aston Manor, and 4·7 in Bootle. The deaths from diphtheria, which had been 60 and 57 in the two previous weeks, rose again to 62, the greatest proportional mortality being recorded in Handley and in Bootle, where the rate was 1·6 per 1000. The 50 fatal cases of scarlet fever exceeded the numbers registered in any of the seven preceding weeks; the highest death-rate from this disease was 1·0 per 1000 in Burnley. The deaths from diarrhœa, which had been 89, 50, and 47 in the three preceding weeks, were 48 in the week under notice, and caused death-rates ranging upwards to 1·1 in Walsall and 1·4 in Merthyr Tydfil. "Fever" was not excessively fatal in any of the 76 towns. The number of scarlet fever cases under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 5676, 5581, and 5352 at the end of the three preceding weeks, had further decreased to 5035 on Saturday, Dec. 21st; 447 new cases were admitted during the week, against 623, 554, and 500 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 388, 355, and 348 in the three preceding weeks, were 347 in the week under notice, and were 94 below the corrected average number in the corresponding periods of the five years 1902–06 The causes of 36, or 0·7 per cent., of the deaths in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 56 other towns; six uncertified deaths were registered in London, six in Sheffield, five in Birmingham, five in Liverpool, and two each in Preston, Gateshead, and Rhondda.

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[2] Ibid., No. 286. Price 4*d*.

[3] Ibid., No. 290. Price 3*d*.

During the week ending Dec. 28th, 5860 births and 4527 deaths were registered in 76 of the largest English towns. The annual rate of mortality in these towns, which had been 16·0, 16·1, and 16·8 per 1000 in the three preceding weeks, declined again last week to 14·7 per 1000. During the 13 weeks of the quarter the death-rate averaged 15·5 per 1000, the rate in London during the same period being 14·9 The death-rates in the 76 towns last week ranged from 6 9 in King's Norton, 7 0 in Hastings, 7·4 in Southampton, and 7·6 in East Ham to 22 8 in Rhondda, 23·5 in Wigan, 23 6 in Ipswich, and 24·4 in South Shields. The 4527 deaths registered in the 76 towns last week were 633 fewer than the number in the previous week, and included 373 which were referred to the principal epidemic diseases, against 374 and 398 in the two previous weeks; of these 373 deaths 105 resulted from measles, 89 from whooping-cough, 71 from diphtheria, 44 from diarrhœa, 41 from scarlet fever, and 23 from "fever" (principally enteric), but not any from small-pox. No deaths from any of these epidemic diseases were registered last week in Hastings, Bournemouth, Reading, Handsworth (Staffs), Smethwick, Coventry, Wallasey, or West Hartlepool; among the other towns the death rates from these diseases ranged upwards to 3·6 in Rhondda, 3·9 in Burton-on-Trent, 4·8 in Tynemouth, and 9·3 in Ipswich. The fatal cases of measles, which had been 107 and 124 in the two preceding weeks, declined again to 105 last week, and caused death-rates ranging upwards to 1·3 in Salford, 1·6 in Bootle, 1·7 in Barrow-in-Furness and in Leeds, 2·7 in Swansea, 2·9 in Burton-on-Trent, 3 8 in Tynemouth, and 7·2 in Ipswich The deaths from whooping-cough, which had been 107, 95, and 94 in the three preceding weeks, further fell to 89 in the week under notice, the highest death-rates from this disease being 1·1 in Northampton, 1 3 in Devonport, in Aston Manor, in Sunderland, and in Newcastle-on-Tyne, 1·4 in Ipswich, and 1·6 in Hanley and in Bootle. The fatal cases of diphtheria, which had been 57 and 62 in the two previous weeks, further rose last week to 71; this disease was proportionally most fatal in Norwich, where it caused a death-rate of 1·3 per 1000. The deaths from diarrhœa, which had been 47 and 48 in the two preceding weeks, declined again to 44 in the week under notice; the mortality from this disease was not excessive in any of the large towns. The fatal cases of scarlet fever, which had been 38, 40, and 50 in the three preceding weeks, fell to 41 last week, and caused death-rates ranging upwards to 1·1 in Walsall, 2·1 in Newport (Mon.), and 2·3 in West Bromwich. The 23 deaths referred to "fever" were three in excess of the number in the previous week, the highest death-rate from this cause being 1·1 in Northampton. There were 4999 scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital at the end of last week, against 5591, 5352, and 5035 at the end of the three preceding weeks; 353 new cases were admitted during the week, against 554, 500, and 447 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 355, 348, and 347 in the three preceding weeks, further declined to 317 in the week under notice and were 145 below the corrected average number in the corresponding periods of the five preceding years, 1902–06. The causes of 56, or 1·2 per cent., of the deaths registered in the 76 towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 42 other towns; seven uncertified deaths were registered in Liverpool, six in Birmingham, five in Warrington, three in Manchester, and two in each of nine other towns.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·3, 20·6, and 20·0 per 1000 in the three preceding weeks, increased to 20·8 per 1000 during the week ending Dec. 21st, 1907, and was 4·0 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·7 in Aberdeen and 18 0 in Edinburgh to 27·4 in Leith and 30·5 in Dundee. The 724 deaths in these towns were 28 more than the number in the previous week, and included 126 which were referred to the principal epidemic diseases, against 111, 132, and 127 in the three preceding weeks; of these, 53 resulted from measles, 26 from whooping-cough, 14 from diarrhœa, 11 from diphtheria, seven from cerebro-spinal meningitis, three from scarlet fever, and two from enteric fever. These 126 deaths were equal to an annual rate of 3·3 per 1000, which was 2·0 per 1000 above the mean rate during the same period in the 76 large English towns. The fatal cases of measles, which had been 79 and 71 in the two previous weeks, further declined to 53 in the week under notice, and included 35 in Glasgow, 10 in Dundee, and five in Greenock. The deaths from whooping-cough, which had been 13 and 24 in the two preceding weeks, further rose to 26 of which 11 occurred in Glasgow, four in Edinburgh, four in Aberdeen, three in Perth, and two in Greenock. The fatal cases of diarrhœa, which had been 36, 21, and 18 in the three preceding weeks, further declined to 14 in the week under notice, and included eight in Glasgow and four in Edinburgh. The deaths from diphtheria, which had been nine and eight in the two previous weeks, increased again to 11, of which three occurred in Glasgow, three in Paisley, and two in Leith. Of the seven deaths from cerebro-spinal meningitis three were registered in Glasgow, two in Paisley, and one each in Edinburgh and Leith. The deaths referred to diseases of the respiratory organs, including pneumonia, which had been 167 and 161 in the two preceding weeks, further declined to 157 in the week under notice, but were 38 above the number in the corresponding week of last year. The causes of 25, or 3·5 per cent., of the deaths in the eight Scotch towns were not certified or not stated; in the 76 English towns the proportion of uncertified deaths registered during the same week did not exceed 0·7 per cent.

During the week ending Saturday last, Dec. 28th, the annual rate of mortality in the eight Scotch towns was 18·2 per 1000, against 20·6, 20 0, and 20 8 per 1000 in the three preceding weeks, and was 3·5 per 1000 above the mean rate last week in the 76 large English towns. Among the Scotch towns the death-rates ranged from 12·5 in Leith and 13·2 in Aberdeen to 24·2 in Greenock and 25·4 in Perth. The 632 deaths registered in these towns last week were 92 fewer than the number in the preceding week, and included 109 which were referred to the principal epidemic diseases, against 132, 127, and 126 in the three preceding weeks; of these 53 resulted from measles, 24 from whooping-cough, 14 from diarrhœa, seven from diphtheria, five from scarlet fever, three from enteric fever, and three from cerebro-spinal meningitis, but not any from small-pox. These 109 deaths were equal to an annual rate of 3 1 per 1000, which was 1·9 per 1000 above the mean rate last week from the principal epidemic diseases in the 76 large English towns. The fatal cases of measles, which had been 79, 71, and 53 in the three preceding weeks, were again 53 last week, and included 22 in Glasgow, eight in Dundee, four in Greenock, and two in Aberdeen. The deaths from whooping-cough, which had been 13, 24, and 26 in the three preceding weeks, declined again last week to 24, of which six occurred in Glasgow, six in Perth, three in Edinburgh, three in Dundee, three in Leith, and two in Greenock. The fatal cases of diarrhœa, which had been 21, 18, and 14 in the

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[2] Ibid., No. 286. Price 4*d*.

[3] Ibid., No. 290. *Price 3d.*

NEW YEAR INDIAN HONOURS.

Major John Norman Macleod, I.M.S., Civil Surgeon at Quetta, has been made a Companion of the Most Eminent Order of the Indian Empire, and Major Robert Charles Macwatt, I.M.S., Residency Surgeon at Jodhpur, Rajputana, has been awarded for public service the Kaisar-i-Hind Medal of the First Class.

Correspondence.

"Audi alteram partem."

LORD KELVIN AND PUBLIC HEALTH.

To the Editor of THE LANCET.

SIR,—A service which Lord Kelvin rendered to public health a few years ago perhaps deserves reference at a time when much is being written about his many activities. When it was decided to appoint a Royal Commission after the occurrence of poisoning on a large scale by arsenic in beer in Manchester in 1900 Lord Kelvin was asked by Mr. Walter Long, then President of the Local Government Board, to be its chairman. The inquiry was certain to be—as it proved—lengthy and in several respects tedious. The subject, save that it called for ability to master a variety of complicated scientific and technical considerations, was far out of Lord Kelvin's ordinary lines, and at the age of nearly 60 he might well have hesitated to burden himself with it. But the request of the Government was sufficient; he acceded to the proposal, if I remember right, by return of post, and during 1901 and 1902 he presided over nearly all of some 35 sittings (many of which occupied the greater part of a day) in London and Manchester. It is generally recognised that the work done by the Commission under his guidance has had valuable results. Its final report has become the recognised authority for the various manufacturing and brewing industries and also for the administrative bodies which are concerned with the question of arsenical poisoning through food, while its more general recommendations have had an important share in determining recent Government action to secure improved methods of control in regard to impurities and deleterious substances in foodstuffs, as exemplified by Mr. Burns's Regulations as to Food Act of last session.

Many of those who were concerned with the work of the Commission will retain pleasant recollections of Lord Kelvin's interest and active assistance and a vivid memory of the mental alertness and power of concentration which in him was so strong a characteristic.

I am, Sir, yours faithfully,

London, Dec. 21st, 1907. G. S. BUCHANAN.

ON A SYMPTOM WHICH OCCASIONALLY MAY THROW LIGHT ON THE DIAGNOSIS OF MOVEABLE KIDNEY.

To the Editor of THE LANCET.

SIR,—The interesting communication of Dr. Hector Mackenzie on Mobility of the Kidneys which appeared in THE LANCET of Oct. 26th, 1907, takes in all that is known on the subject, in my opinion. As regards the symptomatology, the statement of the author, when he says, referring to the greater part (411 in 515) of the cases which have come under his observation, that they "had no symptoms which with any reasonableness could be attributed to the condition of the kidneys," expresses exactly the truth contained in the words of Professor Osler therein quoted, namely, "that in the majority of the cases ('in a vast majority,' says Dr. Mackenzie) there are no symptoms whatever."

As a matter of fact, the epigastric pain mentioned by Edebohls as characteristic, the different manifestations of dyspepsia, the vomiting crises described by Dietl, and the different neurotic affections, such as migraine, vertigo, neuralgia, hypochondriasis, epilepsy, neurasthenia, &c., have not been established in cases of mobility of the kidneys with the frequency necessary to prove clearly a connexion between such phenomena and the anatomical derangement in question. Even a certain amount of irritability of the bladder with an irresistible desire to pass urine, which I have observed sometimes, and which is pointed out in Dr. Mackenzie's communication, I have been led to recognise by the further development of the case as a manifestation of cirrhotic interstitial derangements of the gland concomitant with the relaxation of the organs which sustain it rather than being symptomatic of moveable kidney. The sensation of a lump in the lower part of the abdomen near the hip, so long as the nature of the tumour be not defined, is without any pathognomonic significance. I have seen patients who have complained that something is trying to escape from the belly through the groin when they run, cough, or lift heavy objects, and one was already wearing a truss when he came to consult me.

It has been in such cases that I have been able to observe a symptom which I consider to be of real use in the diagnosis. It is the following. In persons habitually constipated, or who have to make great exertion at the time of defæcation, it happens that when they are emptying or beginning to empty the bladder they experience a sharp cruel pain which stops the flow of the urine and runs through the urinary passages with all the characteristics of nephritic colic. Instinctively the patient changes his position, rises from his seat, and puts his hand on the lower part of the belly, pressing or rubbing the side affected; by doing which the pain disappears with the same suddenness as that with which it came on, urination goes on, and everything proceeds in due course. The mechanism of the phenomenon seems to be explained either by a compression of the kidney caused by the effort to evacuate or by a sudden obstruction of the ureter by excessive twisting or distension and its disappearance by the cessation of the circumstances mentioned, due to the movements of the patient. Having regard to an affection which may easily pass unperceived from want of subjective phenomena, I think that it is of use to point out any which, even occasionally, may serve to make it recognisable.

On this understanding I have ventured to take up a small space in your columns, adding, in conclusion, that the pain to which I refer must have, in order to be regarded as a symptom of moveable kidney, the following feature: (1) a sudden appearance at the time of great exertion, chiefly during defæcation and while the patient is passing urine; (2) that the pain should be felt along the urinary passages as in nephritic colic and with sufficient intensity to interrupt urination; and (3) instantaneous disappearance on change of position of the patient or light massage on the side of the abdomen affected. It is, of course, clearly understood that renal lithiasis may make itself felt in the act of defæcation, but the differentiation between such lithiasis and moveable kidney would be so easy that I do not think it necessary to point it out.

I am, Sir, yours faithfully,

Zacatecas, Mexico. JUAN BRENA, M.D.

THE MICROSCOPE IN WAR.

To the Editor of THE LANCET.

SIR,—I have read with much interest the chairman's address to the Swansea division of the British Medical Association[1] but, while sympathising with Dr. J. Arnallt Jones's desire to popularise the study of bacteriology amongst general practitioners, I venture to join issue with his opinion as to the rôle of the microscope in war. Dr Jones says that "Major Seaman of the U.S. Army in his report pointed out that the Japanese medical officer was invariably found in the first screen of scouts with his microscope and chemical reagents testing and labelling wells so that the army following should drink no contaminated water." This might be accepted by an audience unacquainted with the conditions of military service but I do not think that the members of the medical department of any army will agree with the medical officer of health of Aberavon that it is "a brilliant practical illustration" of "what science can do in the way of preventing disease in war."

If Dr. Jones will refer to the Parkes Memorial Prize Essay for 1904 he will find that Lieutenant-Colonel Robert Caldwell, R.A.M.C., who has had great experience, writes as follows: "It does not appear likely that the introduction of a chemical laboratory into the field is likely to be followed by any particular benefit. An incomplete analysis is valueless; it tells of danger but cannot tell of safety, and it is impossible to carry out any analysis but an incomplete three preceding weeks, were again 14 in the week under notice, and included five in Glasgow, three in Aberdeen, two in Edinburgh, two in Dundee, and two in Paisley. The deaths from diphtheria, which had been eight and 11 in the two preceding weeks, declined last week to seven, of which four were registered in Glasgow. The fatal cases of scarlet fever, which had been three in each of the two previous weeks, rose last week to five, and included three in Glasgow, where the three deaths from cerebro-spinal meningitis also were registered. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 167, 161, and 157 in the three preceding weeks, further fell to 127 in the week under notice and were 40 below the number in the corresponding period of last year. The causes of 26, or 4·1 per cent., of the deaths in these towns were not certified or not stated; in the 76 English towns the proportion of uncertified deaths was 1 2 per cent.

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[1] Brit. Med. Jour., Dec. 21st, 1907, p. 1764.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 26·7 and 22·3 per 1000 in the two preceding weeks, rose again to 25·0 per 1000 in the week ending Dec. 21st, 1907. During the first 12 weeks of the current quarter the death-rate averaged 21·7 per 1000, the rate during the same period being 14·9 in London and 14·4 in Edinburgh. The 187 deaths of Dublin residents registered during the week under notice were 20 in excess of the number in the previous week, and included ten which were referred to the principal epidemic diseases, against four, nine, and six in the three preceding weeks; of these, four resulted from diarrhœa, three from diphtheria, two from whooping-cough, and one from scarlet fever, but not any from small pox, from measles, or from "fever." These ten deaths were equal to an annual rate of 1·3 per 1000, the death-rates during the same week from the principal epidemic diseases being 1 0 in London and 1·4 in Edinburgh. The four fatal cases of diarrhœa exceeded the numbers in the three preceding weeks; the three deaths from diphtheria corresponded with the number in the previous week. The 187 deaths from all causes in Dublin during the week under notice included 40 of children under one year of age and 53 of persons aged upwards of 60 years; these numbers were respectively 13 and five in excess of the corresponding numbers in the previous week. Eight inquest cases and six deaths from violence were registered; and 78, or 41·7 per cent., of the deaths occurred in public institutions. The causes of four, or 2·1 per cent., of the deaths registered in Dublin during the week were not certified; in London the proportion of uncertified deaths was 0·4 per cent., while in Edinburgh the proportion was not less than 9·2 per cent. of the total deaths.

In the week ending Dec. 28th the annual rate of mortality in Dublin was 19·8 per 1000, against 22·3 and 25·0 per 1000 in the two preceding weeks. During the past 13 weeks the death rate has averaged 21·5 per 1000, the rates during the same period being 14·9 in London and 14·6 in Edinburgh. The 148 deaths of Dublin residents registered last week were 39 fewer than the number in the three preceding week, and included five which were referred to the principal epidemic diseases, against nine, six, and ten in the three preceding weeks; of these, two resulted from whooping-cough, one from scarlet fever, one from diphtheria, and one from "fever," but not any from small-pox, measles, or diarrhœa. These five deaths were equal to an annual rate of 0·7 per 1000, the death-rates last week from the principal epidemic diseases being 0 9 in London and 1·1 in Edinburgh. The 148 deaths from all causes in Dublin included 25 of children under one year of age and 38 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline of 15 from the respective numbers recorded in the previous week. One inquest case and two deaths from violence were registered, and 54, or 36·5 per cent., of the deaths occurred in public institutions. The causes of three, or 2·0 per cent., of the deaths in Dublin last week were not certified; in London only two of the 1326 deaths were uncertified, while in Edinburgh the proportion was 4 5 per cent. of the total deaths.

WEST LONDON POST-GRADUATE COLLEGE.—The next session of this College will commence on Monday, Jan. 13th, and will last for 12 weeks.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon William Gordon Stott has been placed on the Retired List at his own request (dated Dec. 29th, 1907). Inspector General of Hospitals and Fleets John Cassilis Birkmyre Maclean has been placed on the Retired List at his own request (dated Dec. 31st, 1907).

The following promotions have been made: Deputy Inspector-General of Hospitals and Fleets William Edward Breton to be Inspector-General of Hospitals and Fleets in His Majesty's Fleet, and Fleet-Surgeon Frederick John Lilly to be Deputy Inspector-General of Hospitals and Fleets in His Majesty's Fleet (dated Dec. 31st, 1907).

The following appointments are notified: Fleet Surgeon: H. F. Illewicz to the *President*, additional, for three months' course at the London and West London Hospitals. Staff Surgeon: M. Cameron to the *Indefatigable*, additional, and on recommissioning. Surgeon: J. N. Robertson, to the *President*, additional, for three months at West London Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain H. A. Bransbury has been appointed to the London District. Captain A. O. Osburn, from Agra, has been transferred to the Burmah Division for duty.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Robert B. Graham to be Surgeon-Lieutenant-Colonel (dated Dec. 17th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Lieutenant-Colonel and Honorary Colonel Francis Lawrence Stephenson, C B., retired (lately Commanding), is appointed to the Honorary Colonelcy of the Companies, vice Surgeon-Lieutenant-Colonel W. Collingridge, retired (late Militia Medical Staff Corps), who vacates that appointment (dated Oct. 16th, 1907).

THE HEALTH OF THE UNITED STATES NAVY.

The statistical report of the health of the Navy and Marine Corps for the year 1906 shows that the average strength of the active list during the year was 42 529, an increase of 1316 over the previous year, the average strength of 1905 being 41,313. The total number of admissions to hospital for all causes was 32,517, the ratio per 1000 of strength being 787·23, as compared with a ratio of 714·81 for the previous year and 788·18 for the ten preceding years. There were 27,452 admissions for disease and 5065 for injuries, giving ratios of 658 47 and 121·49 respectively. The corresponding ratios for 1905 were 594·82 and 106 67, from which it will be seen that the admissions for diseases and injuries were greater than in 1905. The number of persons invalided from the service during the year for disease and injury was 1117, giving a ratio of 26·26 per 1000 of strength. The corresponding figures for the previous year were 1201 and 29·07 respectively. The ratio for 1906 is lower than that for last year and of the ten preceding years. The discharges for disability include 908 for disease and 209 for injury, with ratios per 1000 of strength of 21 35 and 4 91 respectively. The corresponding figures for 1905 were 1023 and 4·38, with ratios per 1000 of strength of 24 76 and 4·38 respectively. There were 241 deaths during the year, giving a ratio of 5 66, which is considerably less than that of the previous year (6·48) and less than the average of the ten preceding years (6·63). The diseases causing the largest number of admissions to the sick list stand in the following order: gonorrhœa, 2640; malarial diseases, 1854; tonsillitis, 1375; bronchial affections, 1211; wounds, 1211; syphilis, 1147; epidemic catarrh, 1076; and rheumatic affections, 980. Venereal diseases caused a decided loss of efficiency, with 7273 admissions, which is an increase of 1119 over the admissions for 1905 The admissions for these diseases show only approximately the prevalence of venereal infection in the navy, owing to the fact that a large number of cases of chancroid, and especially of gonorrhœa, are not admitted to the sick list, and hence are not included in the statistical reports. Venereal diseases give a total of 140,352 sick days,

THE GENERAL HOSPITALS AND THE TRAINING OF MIDWIVES.

To the Editor of THE LANCET.

SIR,—In commenting on the report of a meeting recently convened by the Association for Promoting the Training and Supply of Midwives, the *Times* in a leading article expressed regret that none of the speakers, beyond urging the necessity for increased support of the Association, gave any indication as to the means by which the serious difficulty is to be met which may arise in 1910 when the clauses in the Act forbidding the practice of midwifery by unqualified persons come into operation. The opinion was also expressed that "a very definite organisation with definite and clearly stated aims is a necessary condition of any extended support from the public." A subsequent letter from the Council of the Association makes the issue clear—viz., which is to come first, the plan or the money?

I am writing in the hope that the suggestions contained in this letter may help the Association to a decision upon this point. I cannot claim to speak with any authority on the general question, but I have been led during the past two years to take an interest in it owing to my appointment as a visitor of some of the lying-in hospitals of London by the Council of King Edward's Hospital Fund. No one can enter the wards of one of these hospitals without being struck with the enormous advantage which any poor woman whose labour is conducted there enjoys over her less fortunate sister who is confined in her own home, often amidst surroundings which can only be realised by those who have actually witnessed them. It is gratifying to learn that by the adoption of a rigidly aseptic and antiseptic method maternal mortality has in these institutions been practically abolished. It is equally saddening to reflect that whilst the lying-in ward has been transformed from a death-trap to a place of the greatest attainable safety, there has been little or no diminution in the mortality from child-birth throughout the country generally.

The Faculty of Medicine of the University of London was recently asked by the Senate to advise as to the action to be taken by the University upon the proposed regulation of the General Medical Council that every student shall be required to have received instruction and gained his practical knowledge of midwifery by attending the requisite number of labours, either in a lying-in hospital or in the lying-in ward of a general hospital. I am glad to say that a resolution was passed that in the opinion of those present "teaching in practical midwifery in the wards of a lying-in hospital or in the lying-in ward of a general hospital should be made compulsory as soon as practicable."

I lately suggested to the Weekly Board of the Middlesex Hospital that a lying-in ward should be established, so that our students may learn this most important branch of their profession under the best possible conditions and not, as hitherto, by attendance upon the poor living in the area supplied by the hospital. The suggestion received the approval of the board and of the medical staff and a committee is about to report upon the changes necessary to carry it into effect. The existence of such a ward is no new thing, as in 1747 it was enacted that "a third part of the beds used in the hospital from time to time be appropriated to the use of lying-in women." The total number of beds in the hospital at that date was either 18 or 22. In 1749 a rule was established that "whenever there shall be an increase of beds for sick and lame the same number be also added for lying-in women." In 1763, owing to lack of funds, retrenchments became necessary and these were continued at intervals until 1807, when the lying-in ward was abolished.

Such a ward in a general hospital to which a medical school is attached would serve a fourfold purpose: 1. It would insure that a certain number of poor women were delivered under conditions involving in a normal pregnancy the minimum risk to life. 2. The offspring would be free from the danger of contracting purulent ophthalmia, which two of the speakers at the meeting referred to stated to be the cause of fully one-fourth of the cases of blindness in the community to-day. 3. It would afford the students an opportunity of learning thoroughly the aseptic and antiseptic technique of modern midwifery, knowledge which must in their future practice be of the greatest service to them and therefore to the public. 4. It would allow the hospital to become a centre for the training of nurses skilled and certificated in midwifery and thus increase its claims to public support. Some of these nurses might be available for attendance upon the poor living in the neighbourhood of the hospital, thus replacing the services of the students.

I would therefore suggest to the Association that it should forthwith institute a campaign throughout the country to urge: 1. That every general hospital should as soon as possible provide a lying-in ward. 2. That the general hospitals in each county should become centres for the instruction of midwives, who would obtain there the certificates necessary to secure admission to the Roll. 3. That one or more branches of the association should be established in each county in connexion with the general hospitals in order to ascertain and provide for the wants of the county as regards midwives and to organise and to supervise their work. 4. That the county councils and local authorities should exercise the powers given to them by the Act of making grants towards the cost of the education given to midwives in the hospitals; thus the whole community would bear a part of the expense to which the hospitals would be put in carrying this proposal into effect and not only those members of it who recognise their duties to the poor.

I venture to submit these suggestions as the basis of a scheme which may provide "the definite organisation with clearly stated aims" necessary to secure increased public support of the Association. I have not referred to the good work which I know Queen Charlotte's Lying-in Hospital is doing in increasing the provision for the instruction of students, as the need is for a scheme applicable to the country as a whole.

I am, Sir, yours faithfully,
J. K. FOWLER,
Dean of the Faculty of Medicine, University of London.
Clarges-street, W., Dec. 28th, 1907.

THE COEFFICIENT OF DISINFECTANTS AS REGARDS THE PLAGUE BACILLUS.

To the Editor of THE LANCET.

SIR,—The statements made with reference to the coefficient of various disinfectants against the bacillus pestis indicate that this organism is particularly susceptible to the influence of the various preparations used for disinfecting purposes, but I gravely doubt whether all these statements are absolutely reliable. My reason for saying this is based upon the results of a series of experiments made when examining a well-known disinfectant. I found that using broth for cultivating purposes, with and without the addition of a little butter, the results were sometimes doubtful. I therefore made from all the tubes giving no definite indications of growth agar slope cultures and was not surprised to find after several days that a distinct growth of the bacillus pestis made its appearance. The result was that the disinfectant under trial gave a coefficient about the same as that obtained when the bacillus typhosus was used, whereas judging from the broth cultures alone it was nearly twice as high. An attempt was made to use agar slopes in the first instance instead of the broth, but the results then differed widely from those obtained either with broth alone or with broth followed by agar. Probably other bacteriologists interested in this subject may care to repeat my experiments and confirm or disprove my results. This is my excuse for troubling you with this letter.

I am, Sir, yours faithfully,
JOHN C. THRESH, M.D. Vict., &c.
London Hospital Medical College, Dec. 23rd, 1907.

TWINS: A CURIOUS INCIDENT.

To the Editor of THE LANCET.

SIR,—At Stoke Newington recently inquests were held upon the bodies of twin boys, aged 18 months, who were found dead at the same time in the same bed on a Friday afternoon about 6 P.M. One child had been brought up by the bottle on cow's milk and barley water and the other had been suckled. Both had seemed well until the Sunday before, when both became poorly with colds in the head and coughs. The mother treated the children with castor-oil and embrocations of camphorated oil. She did not think either was seriously ill until the Friday, when one was taken to a doctor who prescribed for it at noon; the other had no medical attendance. The parents declared that both had one under the conditions of active service, and for this reason any such attempt should be abandoned. Water (water being naturally the main subject for analysis) might, for instance, give excellent results when examined chemically and might at the same time be swarming with an extensive variety of disease-producing germs. These latter could not possibly be detected without recourse to appropriate bacteriological methods and such methods could only find practical application within the walls of a properly equipped laboratory."[2]

During the recent autumn manœuvres in Wiltshire the writer of the foregoing, in his capacity as sanitary officer of the Northern Army, took samples of water from the River Wyley both before and after it had passed through the new army water-cart. The samples reached the District Laboratory, Devonport, the day following their despatch. I was in temporary charge of the laboratory during Colonel Caldwell's absence and examined them for the presence of bacillus coli communis according to the method recorded by Dr. Thresh in his admirable work on "Water and Water-supplies" (p 351). The river water gave unmistakeable evidence of bacillus coli in so low a dilution as one cubic centimetre, whereas 20 cubic centimetres of the water which had passed through the service cart showed no evidence of coliform organisms. The chemical constituents of both samples were within the limit prescribed for "a good potable water." This bears out Colonel Caldwell's opinion, as expressed above, that incomplete or chemical examinations of water are valueless and shows, I think, that if the Japanese medical officer was actually "with the first screen of scouts analysing water and labelling wells" his labours were sad waste of energy and his "labels" not worth the paper they were written on.

In conclusion, I venture to predict that the microscope will perform an important rôle in the wars that are to come but it will be neither "with the first line of scouts" nor in the stress of the fighting line, but in the properly equipped laboratories which the sanitary section of the expeditionary forces of the future will establish at their base and on their lines of communication.

I am, Sir, yours faithfully,

R. J. Blackham,

Devonport, Dec. 23rd, 1907. Major, Royal Army Medical Corps.

A PLEA FOR THE SIMPLE METHOD OF DRAINING THE BLADDER AFTER SUPRAPUBIC CYSTOTOMY.

To the Editor of The Lancet.

Sir,—In the large mass of recent literature on the subject of the most satisfactory method of draining the bladder after suprapubic cystotomy the simplest and best method of all, by what may be called natural syphon action, appears to have been temporarily forgotten. The method I have been in the habit of using in such cases for some time past has the merit of simplicity and efficiency and is briefly as follows. The incision in the bladder wall is reduced in size by a series of strong catgut sutures, introduced on the Lembert principle, until only a sufficient opening is left to take a large drainage-tube. Two holes are cut on opposite sides of the lower end of this tube which is placed well down on to the trigone or into the cavity from which a prostate has been removed. The long end projects from the wound and the tube is fixed in the opening in the anterior wall of the bladder by a purse-string catgut suture, one portion of which transfixes the tube to still further secure it in position. The skin incision is left widely open and the connective tissue space around the bladder, which has been opened up in the course of the operation, is carefully but lightly packed with sterilised gauze. When the patient has been put back to bed a long narrower rubber tube is attached to the tube in the bladder, and then runs over the side of the bed into a bottle or other vessel containing dilute lysol solution, the end of the tube naturally being below the level of the fluid. The syphon thus formed starts to work of itself and in my experience answers admirably. It is important to take care that the purse-string suture produces a good funnel-shaped projection of bladder wall round the tube and to test the efficacy of the closure of the bladder by distending the cavity with fluid, passed into the bladder by means of a soft catheter by the urethra, before the operation is completed. The bladder may be washed out in the same way after the operation if necessary, but usually the drainage is so perfect that it is only in advanced cases of bilharziosis, or cystitis from any other cause, that this will be required. The tube is left in from four to eight days and on its removal the bladder is washed out from time to time by the urethra. A few days later the bladder has dropped back well into its place and the wound in it is firmly healed. It is a great mistake, in my opinion, to attempt to suture the bladder wall to the skin or deeper tissues, as this procedure is so often followed by a very intractable sinus. Once the tube has been removed the patient should be allowed to sit up and two days later to walk, as both these actions tend to drive the urine, so to speak, out of the bladder by its natural channel. The rather special opportunities one has in the practice of bladder surgery in Egypt must be my apology for venturing to trespass on your space to this extent and the feeling that, perfect as some of the more complicated methods appear to be, they are rather unnecessary in view of the simpler measures which are at our disposal.

I am, Sir, yours faithfully,

Cairo, Dec. 3rd, 1907. Frank C. Madden.

ACUTE PULMONARY ŒDEMA.

To the Editor of The Lancet.

Sir,—The interesting communications under this title have drawn attention to a condition which, though familiar, is not often described. It should, however, be kept distinct from acute suffocative catarrh, a condition well described by Laennec, but not, it would seem, generally recognised now any more than it was at the time he wrote. To the description Laennec gave, little, if anything, can be added. Dyspnœa comes on suddenly, rapidly becomes intense, and in a few hours the patient may die from suffocation. If life be prolonged the condition becomes one of ordinary bronchial catarrh. Laennec's suffocative catarrh has to be distinguished from capillary bronchitis and disseminated post-bronchitic broncho-pneumonia, for in these cases the suffocative symptoms are secondary. More closely resembling it are primary broncho-pneumonia—i.e., disseminated pneumococcal broncho-pneumonia and possibly an acute pneumococcal or other bacterial bronchitis. In association with it may be placed: 1. Cases of acute pulmonary œdema which develop in the course of chronic heart obstruction or of acute heart failure, such as most of those are which have been recently described. 2. Cases of collateral fluxion or pulmonary failure such as are familiar in the course of acute pneumonia in the non-consolidative parts of the lung. 3. An interesting but not common group of cases in which acute pneumonia commences with widespread pulmonary congestion, the general congestion disappearing as the local lesion develops.

I write this as a preliminary note, for I propose to bring the whole subject shortly before one of the medical societies. It has been stated that no account of these conditions appears in the ordinary text books. The various conditions I have referred to are, however, all discussed in my book on "Diseases of the Respiratory Organs," and I daresay elsewhere too.

I am, Sir, yours faithfully,

Dec. 30th, 1907. Samuel West.

To the Editor of The Lancet.

Sir,—The clear clinical picture of "Acute Pulmonary Œdema," drawn by Dr. Leonard Williams in The Lancet of Dec. 7th, 1907 has left an impression on my mind which will never be effaced. Although the condition is one of great rarity, doubtless its occurrence is much more frequent than is generally supposed, being overlooked by the fact that no description of it is to be found in any of our English text-books, and hence students have not been made familiar with the symptoms. I can certainly recall a case in which, although a fatal issue was not unlooked for, I was yet unable to account for the long stream of foam issuing from the mouth and nose, and have now no doubt that the actual cause of death was acute œdema of the lungs. The omission of such an important mode of death from our English text-books, and also I notice from the ' Nomenclature of Diseases" issued by the Royal College of Physicians of London, is much to be regretted, and one can only hope that it will be repaired at an early date.

I am, Sir, yours faithfully,

Alexander Bryce, M D. Glasg., D.P.H. Cantab.

Moseley, Birmingham, Dec. 26th, 1907.

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[2] Prevention of Disease in Armies in the Field, p. 149.

the baker, the dressmaker, the draper, the landlord, the tailor, and other tradesmen. The objects of the Act would have been more fully accomplished had it empowered local authorities to grant a moderate fee to any licensed practitioner who attended a case of confinement in circumstances precluding any hope of any other recompense. The present Government seems inclined to pass enactments to ameliorate the condition of the masses, and if any of its measures would make it impossible for anyone to spend in drinking, betting, and smoking the money that should be spent in supplying himself or herself and dependents with the necessaries of life the above Act and many others would never have been required. Until restrictions are put on these three bad habits, so that no one could spend more than a certain amount on either of them—the amount allowed to be limited to income and obligations—all other ameliorative measures will be comparatively useless. Slavery has been abolished in the British dominions, but there are still a great many people who would be better to be still in slavery under a kind master. They are quite unworthy of their freedom and cannot enjoy it properly, and if the present Government passes restrictive measures to prevent these unworthy people from injuring themselves, their dependents, or the community generally, then others who need no such restrictions should cheerfully acquiesce in the new arrangements for the sake of their weaker brethren. It is hoped and expected that Parliament, soon to assemble, will put restrictions on these three great evils.

I am, Sir, yours faithfully,

JOHN B. HUNTER, M.D., C.M. Glasg.

Paisley, Dec. 25th, 1907.

PS.—It is certainly an outrage on humanity and a disgrace to civilisation that a poor woman in labour cannot command skilful attention in her dire distress.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I should be much obliged if your readers in other parts of the country would favour the medical profession with information as to how their county councils are going to carry out the medical inspection of school children. Are they going to appoint whole-time medical inspectors specially for this purpose or are they going to intrust the work to be done to general practitioners? It appears to me that the claims of the latter are being overlooked in the matter and that the county councils, in appointing a special staff wholly for this work, are embarking on an expensive method. The inspection is one which, in my opinion, will require great tact, and in this the knowledge of the local practitioner would be invaluable.

I am, Sir, yours faithfully,

GENERAL PRACTITIONER.

Dec. 28th, 1907.

A PERSONAL EXPLANATION.

To the Editor of THE LANCET.

SIR,—Will you permit an old correspondent whose first contribution appeared in your pages more than 50 years ago to make a personal explanation? A few weeks ago, in sorting some papers that had accumulated, I came across a circular or report from the Antivaccination Society. Glancing over it I saw a list of correspondents of the society in foreign parts. To my extreme disgust I found my own name published as the New Zealand (or Auckland) correspondent. My only correspondence with the society during the 34 years I have been in this colony was to answer an application from the secretary, who asked me whether I would allow extracts from a paper on Compulsory Vaccination which I had read here before our branch of the N. Z. Institute to be published by the society. My reply was that they might reprint the whole paper (which was not a long one) if they liked, but that I would not allow extracts to be made. I have never had a reply to this. My object in refusing to allow extracts was that I knew they would pick out certain cases of vaccino-syphilis which I had seen in the days of arm-to-arm vaccination, and not reprint the statement I made that no one who had seen a bad case of confluent small-pox would hesitate about preferring the risks attendant on vaccination to the risks of incurring such a disease as small-pox. But as small-pox has never been epidemic here I see no necessity for enforcing vaccination.

I may mention that as physician of the small-pox hospital in Port of Spain, Trinidad, during the epidemic of 1871–72, I saw two cases of confluent small-pox both of whom had had confluent small-pox before in the severe epidemic. One I had had under my own care, the other one was seen in the hospital by the medical man who had attended him in the first attack. These cases are given in my little work on "The Pathology and Treatment of Small-pox," published in 1872. I have had to bear a good deal of odium on account of my opposition to compulsory vaccination, and some people have treated me as a heretic about vaccination. I am perfectly orthodox on the subject and always have been.

I am, Sir, yours faithfully,

R. H. BAKEWELL, M.D. St. And.,
Surgeon-Captain (retired) Army Medical Staff.

Auckland, N.Z., Nov. 10th, 1907.

THE POWER OF LOCAL AUTHORITIES TO PROVIDE HOSPITALS.

To the Editor of THE LANCET.

SIR,—The answers to the questions put by "J. S." in THE LANCET, of Dec. 21st, 1907, p. 1793, seem to me to be as follows:—

1. The education authorities have power compulsorily to acquire sites for their hospitals, because the provision of these hospital and vacation school sites, &c., is by Section 13 of the Education (Administration Provisions) Act, 1907, included in the powers and duties of a local education authority under Part III. of the Education Act, 1902. For the purposes of Part III. of the Act of 1902 land may be taken in one of three ways: (*a*) by agreement under the agreement sections of the Lands Clauses Consolidation Acts, which Acts are expressly incorporated in the Elementary Education Act, 1870, c. 75, s. 20 (1) (unrepealed); (*b*) under the School Sites Acts (Elementary Education Act, *1870*, c. 75, s. *20*, last clauses unrepealed); (*c*) "Otherwise than by agreement," that is, compulsorily under the Land Clauses Consolidation Acts.

2. With regard to the question of employing qualified medical practitioners I think that the education authority can employ any suitable person, whether a qualified medical practitioner or not. There is no provision in the Act. Section 133 of the Public Health Act, 1875, gives the local authority power in cases *of any formidable* epidemic disease to "appoint and pay such medical or other officers or *persons* and do and provide all such matters and things as may be *necessary for mitigating* such disease, or for superintending or aiding in the execution of *such regulations.*" Although that section only applies in case of a formidable epidemic, yet we may draw the inference that as the local education authority *has authority* to establish hospitals it has the power to appoint any qualified nurses, or, *in fact*, any suitable person to look after them. In the case of a small-pox hospital the *Local* Government Board has not objected to the medical officer of health acting as *medical* superintendent, but it considers, in view of the duties which he has to perform as medical officer of health, that it would be undesirable that he should *reside* in the hospital.

3. I think that the treatment need not be *free, for* the education authority has power under the Elementary Education Act, 1870, c. 75, s. 3 (still *unrepealed*), to charge pupils for education in their elementary *schools* any sum not exceeding ninepence per week per scholar, consequently the authority would *seem to* have the power of charging for medical attendances when the parents are capable of paying.

4. The authority does not appear to have the power to admit to such hospitals the children of ratepayers who do not send their children *to the elementary* schools, for Section 13 specially mentions children attending elementary schools.

5. I think that the local education authority may, with the approval of the Board of Education, supply free of charge spectacles and surgical appliances under s. 13, subs. 1 (*b*) of the Act of 1907. I think that the words, "the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition," confer such power.

6. I am of opinion that the authority can decide that the child requires spectacles and that the parent can afford to pay for *them*, and if the child comes to *school* without spectacles the authority can refuse it admission and prosecute the parent for not sending it to school, as such a rule would

been seen alive by them about 5.30 P.M.; half an hour after both were dead, lying on their sides, faces not covered up, some distance apart. Post-mortem examinations showed a similar state of broncho-pneumonia; there were no injuries and no suspicion of foul play.

I am, Sir, yours faithfully,
W. W. WESTCOTT,
Coroner.
Dec. 28th, 1907.

LONDON'S MILK-SUPPLY.

To the Editor of THE LANCET.

SIR,—I notice in THE LANCET of Dec. 21st, 1907, p. 1778, that a reference is made to the adoption of new regulations by the Hailsham rural district council under the Dairies, Cowsheds, and Milkshops Orders 1885, 1886, and 1899. In the same article you imply that the Hailsham council has had no Dairy, Cowshed, and Milkshop Regulations for the past 20 years. You have evidently been misinformed. As a fact the Hailsham rural district council was one of the first councils to make regulations under the Dairies, Cowsheds, and Milkshops Orders 1885, 1886, and the old regulations were more strict than the new regulations. The Hailsham council, acting on the advice of its medical officer of health, has recently brought the above regulations up to date and these remodelled regulations will come into force on Jan. 1st, 1908 It is no doubt these revised regulations that your correspondent has mistaken for the Order. I would point out that the *Dairies, Cowsheds, and Milkshops Order* is not adoptive as described in your article under London's Milk-supply.

I would also draw your attention to the fact that the Order does not compel local authorities to make regulations, but, unfortunately, merely empowers them to do so, and the Legislature should doubtless have made the making regulations under the Order compulsory instead of permissive. It is a matter for deep regret that your usually accurate journal should be blemished by a contribution the author of which shows want of knowledge, both as to his legal principles and facts.

I am, Sir, your obedient servant,
HUGH STOTT,
Medical Officer of Health, East Sussex Combined Sanitary District.
Dec. 26th, 1907.

*** We are sorry to find that our correspondent has made a mistake.—ED. L.

MEDICAL PRACTICE IN TURKEY.

To the Editor of THE LANCET.

SIR,—Perhaps it may interest a few of your readers to know how the licence to practise medicine in the Turkish Empire is to be obtained. Perhaps this licence is not absolutely necessary for an English practitioner whose work lies solely in an English institution, yet it is strongly recommended to be obtained as without it one has no *legal* right to practise.

First from the Consulate (fee 10*s.*), or from some friend who can write a formal Turkish letter, a "petition" is obtained stating that X, a British subject, graduate of such a University, desires the licence of the Ottoman Government. This letter addressed to the Director-General of Medical Affairs (Nāzir Mekteb Tibbiyé Shāhāné) you take to the Haidar Pasha new military medical school near Skutari, to a room called *evraq odasy*. There a clerk gives you a form bearing a *number* (fee 20 paras = 1*d.*), and you are probably told to call in a week's time. Meanwhile, the petition goes before some authority and on your next visit you pay in an adjoining office (*Bureau de Comptabilité*) £T.20 + 20 paras; *no receipt is given yet.* Five days later, probably, on visiting the original office and displaying the number, the clerk, turning up his register, writes "council" on your form, and after waiting an hour or so you enter to see the council which examines your university diploma and *medical registration certificate.* The former it retains, *all things being satisfactory*, and you enter an adjoining room for a *vivâ-voce* examination by the professor of anatomy, of surgery, and of medicine. This examination is a perfectly fair gentlemanly one. If you display a reasonable knowledge of your profession you are immediately afterwards invited to the council-room where the chairman declares your acceptance.

The examination must be taken in French or Turkish. An interpreter is allowable. Then comes a wait of some ten days during which your diploma and the result of the test, &c., pass to the Director-General and are finally returned to the school. It is necessary in the meantime to pay a visit to the Sublime Porte to have your passport legalised (fee half Turkish pound + 2 piastres). The return of your papers is announced in Turkish on a notice board in the hall in which you do so much waiting. Your university diploma is now returned to you and also a receipt for the fee, and after a period varying according to whether there are others ready with you or not, you are led before the Director-General to swear the oath not to procure abortion, not to treat hardly the poor, to call your professional brethren in consultation when necessary, &c., and after paying 21 piastres (3*s.* 6*d.*) for a stamp, your licence is handed to you. The examination and council, &c., are held three times weekly—Mondays, Thursdays, and Saturdays, and it is advisable to call regularly on each of these days when waiting, as the clerk's instruction to come in a week's time is but a way of speaking. In the first office and the fee-paying office there is no one who speaks French. The whole affair takes three weeks if very fortunate, five weeks usually, and seven weeks if unfortunate. In Egypt the same affair takes from four to five days and there is no examination and a nominal fee of 3*s.* 6*d.* or so to pay.

I am, Sir, yours faithfully,
P. A. H. RADCLIFFE, M.B. Vict., D.T.M.
Baghdad.

THE TREATMENT OF PUERPERAL SEPSIS.

To the Editor of THE LANCET.

SIR,—In a letter in THE LANCET of Dec. 21st, 1907, p. 1785, Dr. Amand Routh says, "I cannot recall any acute septic condition of the endometrium where curettage with a sharp curette has done good." I should like to bring forward some statistical evidence on this point. In the *Journal of Obstetrics* for January, 1907, in a paper dealing with the treatment of puerperal sepsis, I wrote: "Out of 79 cases (of my own) treated by general means, with or without intra-uterine douches, 37 died—a mortality of 46 per cent. In 86 cases where the method I have described was employed the mortality was 23 per cent. only." I can now add to the latter series 43 more cases with 11 deaths. The method referred to consists in the removal of the endometrium as completely as possible with a large sharp curette followed by swabbing of the resulting raw surface with undiluted izal.* I should add that all the patients were intensely ill when I first saw them and that the large majority had been treated previously by intra-uterine and vaginal douches for several days, the average day of admission to hospital being, in fact, the fifth of the pyrexial period or, in other words, the stage which is certainly not the most favourable for the use of the sharp curette. I do not see mild or early cases at all.

I am well aware of the fallacies which attend the use of the statistical method in such a complex disease as puerperal sepsis, but I think it is evident that these figures do not justify the inference that the use of the sharp curette is *per se* either dangerous or inadvisable and that the number of cases, 208 in all, is sufficiently great to be worth quoting in this connexion.

I am, Sir, yours faithfully,
A. KNYVETT GORDON.
Monsall Hospital, Newton Heath, Manchester, Dec. 22nd, 1907.

NOTIFICATION OF BIRTHS ACT.

To the Editor of THE LANCET.

SIR,—The town council here has adopted the above Act and I shall be compelled under a penalty to notify all my confinement cases without receiving any compensation therefor, which is not quite just. However, the spirit of the Act is a step in the right direction and one must not complain. It seems a pity that the scope of the Act did not enable the local authorities to take an interest in both the mother and the child at parturition. Obstetricians who have the true spirit of their office must have felt unhappy and uncomfortable after refusing to get out of bed to attend a woman in labour who had been so improvident as not to have engaged anyone to attend her, knowing well from past experience that the only recompense that these improvident people afford is the approving conscience of having done your duty, which is very satisfying at the time, but of no avail in paying the bills of the butcher,

—	From Sept. 26th to Oct. 2nd.		From Oct. 3rd to Oct. 9th.		From Oct. 10th to Oct. 16th.		From Oct. 17th to Oct. 23rd.		From Oct. 24th to Oct. 30th.		From Oct. 31st to Nov. 6th.		Totals from beginning of epidemic (July 3rd) to Nov. 6th.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
EUROPEAN RUSSIA.														
Samara (town)	5	3	2	3	1	2	2	—	1	2	1	—	383	204
,, (government)	73	27	34	20	41	14	28	27	40	21	10	6	759	381
Astrakhan (town)	4	2	2	—	—	—	—	—	—	—	—	—	1583	873
Arkhierei and Ataman	1	2	1	—	—	—	—	—	—	—	—	—	461	290
Astrakhan (government)	—	—	1	—	—	—	—	—	—	—	—	—	796	376
Saratof (town)	4	1	—	—	1	—	—	—	—	—	—	—	210	62
Tsaritsyn (town)	8	3	2	3	1	—	—	—	—	—	—	—	586	291
Saratof (government)	15	3	5	3	3	2	4	—	2	—	8	2	413	197
Kazan (town)	10	11	32	11	20	24	13	9	2	2	1	—	203	113
,, (government)	—	—	1	1	—	—	2	1	—	—	—	—	—	—
Nijni-Novgorod (town)...	7	4	9	2	1	2	2	1	—	—	—	—	245	97
,, ,, (government)	42	24	14	9	6	3	8	4	5	2	1	1	497	242
Simbirsk (town)	—	—	—	—	—	—	—	—	—	—	—	—	5	4
,, (government)...	5	4	3	1	6	2	—	—	—	—	—	—	353	170
Yaroslavl (town)	—	—	—	—	—	—	3	2	5	6	15	8	60	30
,, (government)...	—	—	6	1	4	1	—	1	1	2	—	2	52	22
Penza ,, ...	12	6	—	—	—	—	7	2	26	15	23	9	160	78
,, (town)	—	—	—	—	—	—	—	—	—	—	—	—	9	2
Vladimir (government)	—	—	—	—	—	—	—	—	—	—	—	—	6	2
Moscow (town)...	—	—	—	—	—	—	—	—	—	—	—	—	2	1
,, (government)	—	—	—	—	—	—	—	—	—	—	—	—	15	8
Kostroma (town)	2	—	—	—	—	—	—	1	1	—	2	1	53	22
,, (government)	8	4	6	1	14	6	—	2	—	—	—	—	205	100
Ufa (government)	—	—	2	2	5	6	—	—	—	—	—	—	11	10
Viatka (town)	—	—	—	—	—	—	—	—	—	—	—	—	9	1
,, (government)	1	1	—	—	—	—	—	—	—	—	—	—	15	6
Perm (town)	—	—	—	—	—	—	—	—	—	—	—	—	15	10
,, (government)	—	—	—	—	1	1	—	—	—	—	—	—	6	5
Ekaterinoslav (town)	37	19	29	13	26	19	16	10	10	6	8	3	146	76
,, (government)	1	1	8	1	6	2	4	—	4	1	—	—	37	11
Don Territory	21	12	53	21	39	22	14	16	14	7	8	8	201	102
Rostof on Don	32	23	28	16	8	5	11	8	4	1	3	2	204	106
Kishinef (town)	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Kief (town)	255	30	543	126	202	68	147	57	53	16	20	3	1237	305
,, (government)...	6	2	26	21	74	31	49	15	16	1	17	3	165	75
Volhynia (government)	—	—	—	—	4	3	—	—	—	—	—	—	14	9
Tchernigof ,, ...	2	2	25	11	28	16	13	13	22	10	3	8	98	63
Kherson ,, ...	—	—	—	—	—	—	5	—	—	—	—	—	11	4
Poltava ,, ...	1	1	11	3	10	4	5	2	3	4	1	—	35	16
Kharkof (town)	—	—	5	1	—	—	—	—	—	—	—	—	5	1
,, (government)	—	—	—	—	—	—	4	3	—	—	12	9	16	12
Riazan (town)	3		—	—	—	—	—	—	—	—	—	—	3	—
,, (government)	2	2	—	—	1	—	—	—	—	—	—	—	7	5
Kursk ,, ...	—	—	7	2	16	8	13		31	12	10	1	95	49
Minsk ,, ...	—	—	—	—	—	—	1	—	1	—	1	—	5	2
Mogilef ,, ...	—	—	—	—	—	—	—	—	7	1	5	1	39	13
Tambof ,, ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—
oronezh ,, ...	—	—	—	—	—	—	—	—	1	—	—	—	4	1
Tcheliabinsk (town)	1	—	7	3	—	—	—	—	—	—	—	—	23	11
Orenburg (government)	—	—	—	—	—	—	6	4	—	—	—	—	52	36
ASIATIC RUSSIA.														
Tiflis (town)	—	—	—	—	1	1	—	—	—	—	—	—	1	1
Baku (town)	21	8	24	16	13	7	23	8	17	12	1	2	147	77
,, (government)	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Black Sea Government	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Krasnovodsk (town)	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Krasnoyarsk ,, ...	6	5	—	—	—	—	—	—	—	—	—	—	13	7
Tashkent ,, ...	—	—	—	—	—	—	—	—	—	—	—	—	7	1
Syr Daria Territory	—	—	—	—	—	—	—	—	—	—	—	—	2	2
Turgai Territory	—	—	—	—	2	1	—	—	10	9	—	—	12	10
Semipalatinsk (town)	—	—	8	8	—	—	—	—	—	—	—	—	22	16
,, (territory)	—	—	18	5	—	—	—	—	—	—	—	—	35	15
Akmolinsk ,, ...	61	43	23	16	20	11	18	9	9	4	23	13	548	239
Tobolsk (government)	11	4	34	14	—	—	—	—	30	30	—	—	154	73
Tomsk (town)	9	3	11	1	19	7	3	2	—	—	—	—	42	13
,, (government)	159	61	101	60	39	46	42	18	82	49	10	23	822	470
Yeniseisk (government)	4	4	—	—	—	—	—	—	—	—	—	—	15	12
Irkutsk (town)	11	8	3	—	—	—	—	—	—	—	—	—	29	13
[illegible]rritory)	—	—	—	—	1	—	—	—	—	—	—	—	2	1
	893	—	1702	—	614	318	—	—	410	225	182	105	11,472	5493

be reasonable. (See the case of a verminous child in THE LANCET, Nov. 9th, 1907, p. 1342.)

I am, Sir, yours faithfully,

Dec. 28th, 1907. A LAWYER.

THE NEEDS OF LONDON MEDICAL STUDENTS.

To the Editor of THE LANCET.

SIR,—In the controversy now proceeding with regard to the allied, but by no means identical, subjects of the title of "Dr." and degrees for London students of medicine it is as well to endeavour not to confuse the real issues. There is, on the one hand, a demand that the degree of "M.D." should be in some way brought within the reach of all those who are of average mental capacity and have studied medicine sufficiently to pass a qualifying examination. There is, on the other hand, the demand that all those who have passed any qualifying examination should be entitled to assume the prefix of "Dr." With regard to the former, what we desire to know is, What are the impediments which prevent all London medical students from matriculating at the University of London? When these are clearly set out it will be easy to consider what modifications can beneficially be made in the existing regulations. The second demand is quite on a different footing. It seems that the public has made up its mind that a university education is of advantage in a doctor and prefers to go to those who have obtained the stamp of "M.D." Those who have not obtained this stamp therefore declare that they are at a disadvantage and that they must be allowed to pretend that they have obtained the coveted stamp by placing the title "Dr." before their names. This appears to be a distinctly dishonest expedient, and the dishonesty is not lessened by the fact that the word "doctor" is the recognised popular term for a medical man. A solicitor does not put on his brass plate "Solicitor J. Jones," but "Mr. J. Jones, Solicitor." There would presumably be no objection to a doctor who was not a member of a university similarly putting "Mr. E. Smith, Doctor." I venture, however, to prophesy that this would not satisfy the claimants for the title "Dr." Yet if it does not, it seems clear that what they desire is not to be known as doctors but to be falsely reputed to have obtained a university degree. While, therefore, there is every reason to endeavour to facilitate the entrance of students of medicine at the London and other universities, there is none for altering the present arrangements by which the M.D. degree is obtainable only by members of a recognised university. Nor does there seem any reason to complain that London has but one university, so long as that university embraces many constituent schools scattered over the metropolitan area, at which there is plenty of room for medical students.

I am, Sir, yours faithfully,

Dec. 29th, 1907. VERAX.

To the Editor of THE LANCET.

SIR,—Year after year one reads in the columns of THE LANCET letters from discontented individuals who wish to get an M.D. degree without working for it. The case is always the same: Mr. Smith, M.R C.S. or L.S.A., is ashamed of his qualifications and jealous of his neighbour Dr. Jones who has gone through a much more advanced course of study and obtained the degree of Doctor of Medicine. The arguments adduced by the advocates of the "M.D. England" and repeated with such monotonous regularity are decidedly amusing and would make interesting reading did not their
£ ..quent distortion of facts and wilful misrepresentations
probab., one rather too forcibly of the antivivisectionist
number, the
on your form. ..here are two real gems in your issue of
see the council w.. first is a letter signed by "Have Not," in
medical registration ..lliant suggestion that the University of
things being satisfactory, ..e a degree for Conjoint men of
a *vivâ-voce* examination by lines of that of St. Andrews."
surgery, and of medicine. y of the whole thing, there is
fair gentlemanly one. If y..int in the very idea of venerable
ledge of your profession you ..ars' standing flocking on a
invited to the *council-room where* ..on and returning home
your acceptance. ..s. "Sympathiser"
The examination must be taken in French . a revival of the
interpreter is allowable. Then comes a wa.. Lambeth by the Archbishop of Canterbury. One can almost imagine the learned Primate of all England, suitably robed for the occasion, personally conducting a *vivâ voce* examination in medicine with the aid of the most recent edition of the "Family Physician." But seriously, such retrogressive steps as suggested in these two letters would simply be an absurdity to the intelligent, and demoralising by their conscious support of falsehood and fraud.

I am, Sir, yours faithfully,

Kensington, Dec. 24th, 1907. M.D., M.R.C.S., L.R.C.P.

CHOLERA IN RUSSIA, PERSIA, AND TURKEY.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

THE outbreak of cholera in Russia is now subsiding. It has not been a severe one in comparison with many that have occurred there in the past. It has, nevertheless, carried off a not inconsiderable number of victims. The total number of cases officially reported since the beginning of the epidemic on July 3rd down to Nov. 6th[1] is placed at 11,472 and that of deaths at 5493. The official returns for the six weeks preceding the date just named are set forth in the accompanying table. The figures therein contained are in continuation of those published in my preceding letters.[2]

The weekly totals, as given in the last line of the table, are those officially returned by the Russian Government; it will be observed that they are incomplete and do not quite coincide with the sums of the individual figures in their respective columns. It is probable that all the figures must be regarded as approximative only. In European Russia the towns and governments along the valley of the Volga have been among the worst sufferers from the epidemic, but the town of Kief has also been the scene of a serious outbreak. In Asiatic Russia the government of Tomsk and the Akmolinsk territory have been the most severely affected, and it cannot escape remark that nearly all the governments and provinces of Siberia, including the Transbaikal territory, have been invaded by the disease.

The outbreak of cholera on Turkish territory, on the road between Kars and Erzeroum, reported in my last letter, seems to have subsided rapidly. Later information states that there were two groups of Russian emigrants, both from the Caucasian province of Daghestan. The first, of 94 persons, reached the Russo-Turkish frontier post of Kentek on Oct. 22nd and left on the next day; the second arrived there on the 24th and left on the 26th. Most of the cases appear to have occurred in the second group. Only villages on the line of march of these emigrants were affected by the disease.

A death from cholera recently occurred in Constantinople. The deceased man was one of a group of Mongolian pilgrims on their way to the Hedjaz. This group had come from some portion of the Chinese Empire, by way of Tashkent and Odessa. It had taken them 45 days to reach Tashkent; thence they travelled by rail, arriving in Odessa in five days; they stayed a day or two there, took ship to Sinope, where they underwent five days' quarantine and the disinfection of their clothes and effects. It may be added that they sailed from Odessa on Nov. 5th (New Style), reached Sinope on the 7th, left there on the 12th, and arrived in Constantinople on the 13th. It was only in the night of the 14–15th that the symptoms of cholera appeared in one of them; he died 24 hours later. A bacteriological examination was made and a bacillus was isolated possessing almost all the characters of Koch's comma vibrio; the points in which it differed from the latter were that it coagulated milk and did not give the cholera red reaction. The case was treated in all respects as one of cholera; the large *khan* in a densely crowded quarter of Stamboul where it occurred was evacuated, all the other pilgrims of the same group were removed to the lazaret at Kavak, at the northern entrance of the Bosphorus, where they did 15 days' quarantine, the *khan* was disinfected, and other precautions were taken. A second case of illness occurred in the group, but clinically, pathologically, and

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[1] Where not otherwise stated the dates mentioned in connexion with the epidemic in Russia are all according to the Old Style, both in the text and in the table.

[2] THE LANCET, Oct. 19th (p. 1119) and Nov. 30th 1907 (p. 1671).

bacteriologically it appears not to have been one of cholera. No other cases occurred in Stamboul.

A far more serious outbreak of the disease is now running its course at the lazaret of Sinope, on the southern shores of the Black Sea. The pilgrim steamer, *Gregory Merck*, which had left Odessa on Nov. 22nd (New Style), arrived at Sinope on the 24th with 2100 Moslem pilgrims on board. They were subjected to the five days' quarantine now in force for such ships. Some suspicious deaths seem to have occurred among them at or before their arrival there. On the 28th it was reported that a severe outbreak of cholera existed among the pilgrims from this ship and the daily telegrams received since have confirmed both the intensity of the outbreak and the difficulty in bringing it to an end. Between Nov. 27th and Dec. 1st 54 cases with 36 deaths were reported; on the 2nd there were 2 new cases and 1 death, on the 3rd 5 cases and 6 deaths, on the 4th 4 cases and 5 deaths, and on the 5th 3 cases with 3 deaths. The totals on the 5th had reached the high figures of 68 for the cases and 51 for the deaths. This outbreak proves once more, if proof were needed, the exceptional danger that masses of Moslem pilgrims present for the spread of cholera. It is noteworthy that Odessa, the port they had sailed from, is, so far as is known, a "clean" port—that is to say, no case of cholera is known to have occurred there. The pilgrims in question had, however, evidently come from, or traversed, some of the infected regions enumerated in the accompanying table, and the infecting material there acquired must have remained dormant, either in their persons or in their clothes or effects, until about the time of their arrival at Sinope.

In consequence of this outbreak it has been decided that all ships from Russian ports of the Black Sea will undergo a thorough inspection on arriving at Kavak at the entrance of the Bosphorus; if a case of cholera is found on board the ship will be sent to the Sinope lazaret (if it is in a condition to receive any more ships) or to the Russian lazaret of Theodosia, where the Russian Government has consented to receive them. If no case is found at the inspection the ship, if there are no pilgrims on board, will be quarantined at the Kavak lazaret; but if there are pilgrims on board she will be sent to the Clazomene lazaret, near Smyrna. A number of other measures, which it would take too much space to mention in detail, have also been put in force to diminish the risk of further spread of cholera by pilgrims travelling from Russia by sea or land. The measures on land have been shown to be necessary by the discovery that a number of pilgrims were leaving Russian territory by way of Roumania or Hungary and, striking the main Oriental railway at some point, were arriving in Constantinople by train. In addition to the above measures the Board of Health has formulated a "*vœu*," desiring the Russian Government to do all in its power to prevent the spread of the disease by its pilgrims and adding that the end could best be attained by subjecting those pilgrims to disinfection and isolation for a fixed period before their departure from Russian territory. Under Article 87 of the Paris Sanitary Convention of 1903 this measure is compulsory, if local circumstances permit, if the port where the pilgrims embark is infected. It is not, perhaps, clear whether this article is of general application, or applicable, like Article 86, only to ports of the Indian Ocean and Oceania. It is in any case desirable that the preliminary observation before departure, which has proved to be of such value in India in preventing the spread of plague and cholera from that country, should also be applied to pilgrims leaving Russian Black Sea ports. The outbreak at Sinope has shown what a real danger those pilgrims can be; indeed, owing to the proximity of the ports in question, such pilgrims offer a greater danger for the rest of Europe than those embarking in ports of the Indian Ocean or Oceania.

Some cases of cholera recently occurred in the lazaret of Camaran, in the Red Sea, among pilgrims from two British ships. There were three cases from the first ship and three from the second. In reviewing the records of this great lazaret it is a striking fact that between 1890 (when complete records begin) and 1895 inclusive cholera was imported there on 11 occasions; between 1898 and 1906 inclusive it was not imported on a single occasion; now, in the first two months of the 1907 pilgrim season, it has been twice imported. In 1896, it will be recalled, plague first appeared in Bombay; in 1897 the pilgrimage from India was prohibited; since that date it has been permitted, but under certain precautions, the most important of which have been the individual inspection of the pilgrims before embarking, the disinfection of their clothes and effects, and the isolation of the pilgrims in an observation camp for a fixed period before their departure. Some or all of these measures remained in force until the autumn of 1906, when the isolation before departure was abandoned owing to the fact that the pilgrim season, now and for some years to come, tends to fall more and more in the rainy season when such camps become almost uninhabitable. The fact that the Camaran lazaret (to which all Indian pilgrims are sent before admission to the Hedjaz) remained free from cholera from 1898 to 1906—that is to say, for just that period during which the departure of pilgrims from India was prohibited or only permitted under strict precautions—whereas in the six preceding years importations of cholera there were frequent, and in the early months of the subsequent season two such importations have occurred, shows in a very striking manner the great value of the precautions in question, and justifies the conclusion that among those precautions the isolation of the pilgrims before departure must be regarded as one of the most efficacious. The measures in question, it should be added, were imposed with a view to prevent the spread of plague from India, but they have been equally effective in controlling at the same time the diffusion of cholera.

The reports received here of the behaviour of cholera in Persia are very incomplete and conflicting. Some cases appear to have occurred in the fisheries on the southern shores of the Caspian; on one or more ships plying between Astrakhan and Persian ports; and at Astara, close to the Caucaso-Persian frontier. A deadly epidemic is stated to be decimating the garrison and population of Kuh-Malik-i-Siah, on the frontiers of Persia and Beluchistan, but the nature of the disease is not known. Persia is reported to have closed her Russian land frontiers, except at the four points of Djulfa, Khoudaferin, Astara, and Shahtadé, where passengers are submitted to a medical inspection and other measures.

Constantinople, Dec. 9th, 1907.

THE *LUSITANIA*.

A VAST EXPERIMENT IN VENTILATION.—AN EXAMPLE THAT MAY SERVE ON SHORE AS AT SEA.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE *Lusitania* and the *Mauretania* are two floating towns. Big liners have often been compared to floating hotels; but in any case, for these, the two largest ships in the world, the word "town" is more appropriate. Besides, the word "hotel" does not cover all the intricacies of the problems that have to be solved and the difficulties that must be overcome. A hotel may be a first-class or a second-class hotel; there are not different classes of hotels under one and the same roof and management. These big ships, on the contrary, are not only first-class hotels but they are also second-class and third-class hotels and hold besides quite a large professional, artisan, working-class, and labouring population. In a word, all the gradations of people and occupations which constitute the population of a town are to be found on board. There is the fashionable promenade deck, where of late, on the Booth Line as well as on the Cunarders, has been introduced the French café, with its terrace, round tables, and light refreshments served in the open air. Adjoining there are not the small cabins where two or four passengers sleep in such restricted space that only one of them can dress at a time but regal suites of rooms, drawing-room, dining-room, bedrooms, with real beds instead of bunks, and a private bathroom. Yet, while there are public and private saloons and other apartments that equal in luxury and art decorations the most beautiful palatial residences, these floating towns have also their poor industrial districts and even what might almost approximate to their slums. It is the firemen's quarters that generally constitute the slum of a ship. On shore there are two main causes that bring about the existence of slums. There are, on the one hand, the defective construction of the dwellings and the unscrupulousness of the speculators in slum property; and, on the other hand, the disorderly, thriftless, and dirty habits of the dwellers in the seslums. Legislation, at sea as on shore, has stepped in to mitigate these evils. At sea the law used to stipulate for 72 cubic feet of space and this has now been increased to 120 cubic feet. The law not only attempts by such enactments to prevent overcrowding in the quarters occupied by a ship's crew but

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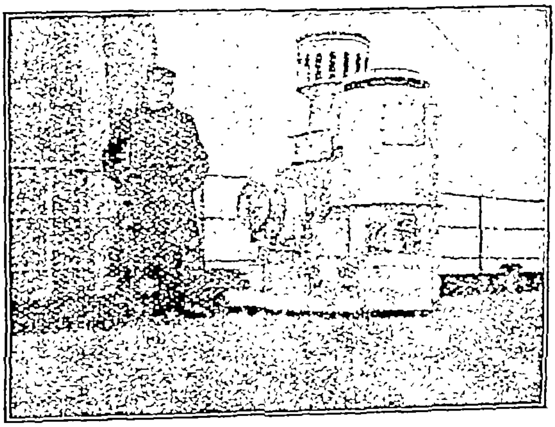
coffee had to be brought down to the landing stage so that the emigrants might be fed and kept warm. Finally the hope of starting that day was abandoned and all the emigrants marched back to their lodgings, and rooms were secured in the hotels for the first- and second-class passengers. By this time I had learnt something as to the difficulties of navigation in such a climate as ours but was not any further enlightened in regard to the problem of ventilation. Fogs of such density as completely to paralyse all traffic on the Mersey do not often occur but they are to be expected occasionally. As, however, they may at any moment and quite suddenly disappear the passengers dare not leave the pier. In such circumstances it seems to me that better shelter and better and more numerous fires might be provided in better furnished and more comfortable waiting rooms. The Prince's landing-stage at Liverpool is a very pleasant and interesting place on a fine summer's day but it is just the reverse during rigorous winter weather.

On the next morning a little after 6 o'clock telephone messages were ringing up the passengers at all the hotels and by 8 o'clock a large crowd had already gathered on the pier. Soon the great ship loomed through the morning haze and was lashed alongside; then with incredible speed all the passengers and all their luggage were taken on board. This haste, however, was of no service; the big ship moved away from the landing stage but could only descend the river a mile or two and then the fog once more thickened and it was necessary to cast anchor. But, in any case, I was at last on board the ship and profited by this delay to have a thorough look round. It was, however, soon obvious that the ventilating system was not yet in working order. The experience acquired on this occasion was very valuable. It conclusively demonstrated that it does not suffice to have a system of ventilation installed, however perfect it may be. Indeed, it seems only natural to conclude that the better the system the greater will be the intelligence required in its handling. It is only technicians who should be intrusted with instruments of precision. It would not be wise to hand over expensive chemical scales to the tender mercies of a greengrocer. Obviously the study of navigation does not include the management of ventilating fans and steam coils used for warming purposes. On the *Lusitania* the officers' quarters really consist of a small separate house built on the upper—that is, the navigation—deck, with its own special thermo-tank on its roof or deck. These thermo-tanks, the manufacturers state, "are capable of changing the air either by exhaust or supply in the various compartments to which they are connected at least ten times per hour and they are also capable of maintaining a temperature of at least 65° F. in the coldest weather." Doubtless this is so when they are properly managed. Fig. 1 is the reproduction of a photograph which I took of the thermo-tank above the officers' quarters. There is, it will be seen, no lack of means to regulate the supply of air and heat. Nearest to the part containing the rotary fan to the left is a valve for regulating this fan when used for exhausting purposes. In that case the mushroom covering of the cylindrical part which contains the steam coils is raised to enable the air drawn from below to escape. If the fan is made to revolve in the contrary direction then it pumps air down after passing it over the steam coils when it is desirable that it should be warmed. The second valve regulates the supply of air; the third regulates the supply of steam to the heating coil; and the fourth regulates the flow of steam from the heating coil back to the condenser. But that is only a part of the mechanism. There are means of regulating the velocity at which the fan revolves when it pumps the air into the ship and so directing the fresh air that only a portion of it goes over the heating coils and the rest descends fresh into the cabins. There is also means of discharging a small atomised steam-jet into the air so as to add moisture in excessively dry weather. With all this at their disposal I had hoped to find the officers living in an ideal atmosphere and temperature. As a matter of fact, the apparatus had been so worked that after suffering from such excessive heat that the woodwork in the cabins showed signs of warping the officers were glad to cut off all connexion with their thermo-tank. Consequently, as there were no other means of warming, the cabins were very cold, and as for ventilation that depended on the accident of open doors or portholes. Of course, this state of affairs will not last. The thermo-tank will have been set to work again and this time it is to be hoped properly regulated. But the incident is instructive, because it shows that even with the best machinery ventilation cannot work automatically: it must be watched and controlled carefully and by a technician.

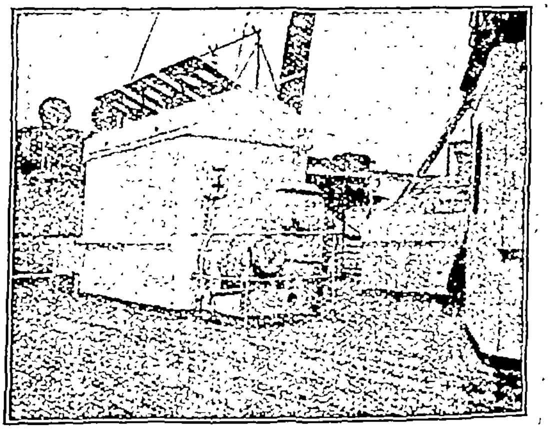
FIG. 1.



The thermo-tank ventilating and warming apparatus for the officers' quarters.

In the firemen's quarters the experience was just the reverse; their thermo-tank was working vigorously, in fact too vigorously, and the air which it sent down was too cold. Consequently most of the air inlets were closed. A fireman was attempting to sleep in an upper bunk within three or four feet of the trunk shaft in which the air descends and which is affixed to the roof of the cabin. There was a valve just facing this fireman and I opened it. Obviously had I not closed it again the man could not have remained in his bunk. The cold air rushed in with great force creating a dangerous draught. Evidently the thermo-tank supplying this compartment was working too fast and had not warmed the air sufficiently, if at all. Then there was no sort of baffle, nothing to break up and to disperse the current of air as it rushed through the valve aperture. But it is not necessary to pump the air down at such a rate that it creates a nuisance. Fig. 2 shows a thermo-tank placed outside a structure which serves as a light and air trunk to the condenser room and stands on one of the decks reserved for the second-class passengers. Above and to the left a small box-like arrangement with two pipes coming out underneath is called the "starting rheostat." This is used for starting and regulating the speed of the fans. Therefore the velocity at which the air travels can be controlled; only someone must watch in order to see what is needed and to act accordingly. Then I photographed a row of thermo-tanks near the great funnels which supply the first-class state-rooms. (See Fig. 3.) Just as the air leaves the thermo-tank and commences its journey to the cabins below a small hole has been cut in the trunk air shaft and a thermometer

FIG. 2.



A thermo-tank for the second-class cabins, showing the "starting rheostat."

an improvement of about £300 on the collections of the previous year. So far as it goes this is satisfactory, but it is not what was hoped for, and it appears from the statement of the Lord Mayor, who presided at the recent meeting of the friends and supporters of the Hospital Sunday Fund, that the active sympathy and help of all religious denominations which it was hoped would be secured on behalf of the collections were not obtained. This is greatly to be regretted, for the one virtue which should be common to all religions is that of charity. Whilst it must be admitted that the Hospital Sunday collections in Birmingham were not what was desired, the case in Dudley is still worse. In the area from which the Guest Hospital, the Dudley Dispensary, and the Dudley Eye Infirmary receive patients are 146 churches and chapels and the average amount which they collect for hospital purposes is £67 per annum. This is scarcely surprising when it is found that at a meeting called to discuss the question, to which the heads of all the religious bodies had been invited, only three ministers and three laymen attended. Clearly there is something wrong in the Dudley religious organisations, and unless some adequate explanation can be put forward the surrounding districts will be inclined to point to Dudley as an example of considerable laxity so far as the Hospital Sunday Fund is concerned.

The Health of Brass Casters.

An inquiry has recently been held in Birmingham at which evidence was produced by the employers who object to some of the draft regulations which the Home Department has proposed with the object of regulating the arrangements in brass-casting works in order that the standard of health of the workers may be improved. So far as the Birmingham trade is concerned it is obvious that in fairness to the workers something must be done, and judging from the statements made by some of the witnesses useful and efficient means of diminishing the dangers of the work by removal or dispersion of the dangerous fumes can be adopted without the incurring of any prohibitive cost and without impairment of the efficiency of the work. Apparently, however, the brass casting in other places is not the same as in Birmingham and an application was made to the Home Office Commissioner that further evidence should be taken in Glasgow, Newcastle, and London before final regulations were decided upon, and to this obviously reasonable proposition the Commissioner agreed. There can be little doubt that a fair solution of the difficulty of dealing with what is an acknowledged evil will eventually be arrived at and that the workers at the trade of brass casting will materially benefit.

Dec. 31st, 1907.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Christmas in Manchester.

FROM Christmas Day, and even from a few days earlier, to the close of the old and the advent of the New Year Manchester is much given up to holiday, and the same is true of Lancashire as a whole. It is sometimes said that this festival season is more generally, or at all events more heartily, kept than in the south; but however that may be, Manchester can claim that "Dr." Byrom, the author of the best and widest-known of all Christmas hymns, "Christians, awake," was one of her townsmen, and that Wainwright, the composer of the tune almost universally sung to it, was from Stockport. Byrom studied medicine at Montpellier and was termed "Dr." by his friends, but he never took his degree. He was an adherent of, or at least favourable to, the cause of the Stuarts, as is pretty evident from the toast to the King which he is said to have proposed. The version known to the writer, for there are said to be some slightly varying, is as follows:—

> God bless the King, God bless the Faith's Defender,
> God bless—no harm in blessing—the Pretender;
> But which Pretender is, and which is King,
> God bless us all, is quite another thing.

The season is marked at the various hospitals by entertainments to please both young and old, and the inmates of the workhouses are not forgotten. Perhaps the Christmas festivity at the Children's Hospital at Pendlebury may be taken as an illustration of what is done to brighten, for the time at least, the pain and weariness from which the patients too often suffer. There are about 160 children there and on Christmas morning each one finds at the corner of the bed a stocking full of odds and ends. Then large Christmas trees are brought into the wards and round them the nurses are very busy. In due time the trees burst out in a display of coloured lights, while more or less bulky parcels are seen hanging from the branches, each one having the name of one of the little patients, all of whom are keenly interested in the proceedings. The routine of the hospital cannot be suspended too long, but for two hours the children were allowed not only to enjoy their new toys but to be made much of by the visitors whose sympathy and kind words must often cheer the sufferers. The patients are all under 14 years of age and receive presents suitable to their years, some of the older girls, for instance, having work-boxes. Carols were also sung by the members of the choir of Holyrood Church, Swinton, who walked in procession through the wards and corridors. There are, of course, differences in the procedures at the various hospitals, but the main object is to add to the enjoyment or to lessen the sufferings of the patients.

A Large Family.

A female claimant at the St. Helens county cou surprised the judge one day lately by saying that she ha plenty to do with the money, as she had 21 children. This i unusual enough, but even this family was smaller than that of a late rector of Eccleston, near Chester, who was sometimes said to have had 21 children twice over, the fact being that after the death of the twenty-first child another was born, so that his wife was the mother of 22 children.

Death of Mr. E. M. Wilkins, M.B. Vict., M.R.C.S. Eng.

Dr. Eric Maurice Wilkins, son of the late Professor Wilkins of the Victoria University, was found dead yesterday at his house in Victoria Park. No details are as yet known. He was 27 years of age and was a remarkably skilful athlete.

Coroner's Busy Day.

The festive season is too often shadowed by tragedy. Nearly 20 sudden deaths were reported the other day and inquests were held in 12 cases and the jury were occupied in viewing bodies (that old custom against which so much can be said and something also in its favour) for almost three hours. Four children sleeping with their parents were found dead in bed. The coroner took a very charitable view of the matter, attributing it in part, at all events, to the very cold weather. In all likelihood the children habitually slept with the parents without fatal accident, but if the indulgence of a little extra drink at Christmas time had been yielded to the probability of overlying would be enormously increased. It is, however, the idea among parents that there is no danger in the practice if we may judge by the answers to the questions put by the coroner. Two women, one aged 60 and the other 58 years, were killed by falling down cellar steps on Christmas Day.

Crowded Asylums.

The overcrowding of the County Asylum is becoming more acutely felt. The Lancashire Asylums Board has intimated to various boards of guardians that it wishes them, if possible, to accommodate some of the harmless chronic patients. The Prestwich guardians have just discussed the subject. It was suggested that when the new union infirmary was opened in the year on which we are just entering some room would be available at Crumpsall. The house committee is to consider the question. It seems as if all estimates tend to grow so vigorous as to be irrepressible. Then, too, the problem of the unemployed, some of whom if they seek for *employment* do not want *work*, and the unemployable is always present, and *apropos* of this the board approved a resolution passed by the parish of Paddington urging on the Local Government Board the necessity of speedy legislation for the establishment of "labour colonies" on the lines of the Swiss system.

The Manchester Crematorium.

The annual meeting in connexion with the Manchester Crematorium was held yesterday. The report states that in the year 104 cremations took place and that there was a profit of £100. The chairman said that the late Bishop Fraser, Bishop Moorhouse, and Dr. Knox, the present Bishop of Manchester, all approved of cremation. The secretary said he thought that the movement was retarded by the conditions of the it also insists on some sort of ventilation. How such ventilation is to be given in a thoroughly efficient manner is a problem that neither the law nor any other authority has satisfactorily solved. Fortunately there is now before us in these two big ships an earnest attempt made to deal practically with the whole question. This endeavour commends itself all the more to public notice inasmuch as whatever is being done is not done merely for the saloon passengers but more especially for the crew and the third-class passengers.

As with some of the dwellers in the slums of our great cities, so with the firemen on board, legislation can hardly force them to be clean; but by insisting on 120 cubic feet per man this means that there shall be room for lavatories and space to wash. The English firemen, and especially those recruited at Liverpool, have the reputation of being the dirtiest men afloat and they are also the hardest drinkers. So we have here the required characteristics for the creation of a slum. On the other hand, this dirty and intemperate rough is just about the hardiest, the most plucky, and the most persistent worker that can be found in any part of the world. It is only with such men in the stokehole that the blue riband of the Atlantic can be won. But from the sanitary point of view they constitute perhaps the most difficult problem that has to be solved. Fortunately, the firemen's dirt is more offensive in appearance than in reality. His dirt mainly consists of coal dust and this has a purifying rather than a corrupting action. Another great difficulty is that after exposure to the scorching furnaces and the heat of the stokehole, the firemen, when lying down to rest in their bunks, are especially sensitive to draughts. Any ventilator admitting cold air at too great a velocity will very promptly be closed. In the firemen's quarters more than in any other part of the ship is it necessary to divise means for introducing a plentiful supply of fresh air without creating a draught. Thus it will be seen that on a great ship as in a town it is with the poor, the careless, and the dirtier sections of the community that the most puzzling administrative difficulties arise.

Certainly magnificent ships like the *Lusitania* and *Mauretania* represent exceptionally prosperous towns, such as fashionable watering-places frequented by very wealthy people and where real poverty and squalor are almost unknown. Thus out of a total possible population of 3250, which both ships can carry, 550 would be first-class and 500 second-class passengers, and they may be taken as representing the upper and middle classes. Then there is room for 1300 third-class passengers and the crew is set down at 800 to 900. How navigation has changed of late years is shown by the fact that while the engineering department employs no less than 390 persons the sailing department only employs 70 officers and seamen. Then there are 350 stewards, a number of stewardesses, 50 cooks, a band, telegraph and telephone and lift attendants, printers, and others, making up a total crew numbering from 800 to 900 persons. The crew represents a population of workers of all ranks from the captain, the surgeon, and the superior officers who belong to the liberal professions down to the coal trimmer or the washers in the scullery who may be taken as belonging to the unskilled labouring class. To house, to feed, and to keep in health such a mixed population, such a variety of classes, to say nothing of the variety of nationalities, constitutes a series of problems which resemble the difficulties that beset the administration of a town rather than the management of a hotel. All these people, differing so greatly one from the other, have all equal need of lodging, food, and cleanliness of person, clothes, and bedding.

In regard to the *food-supply*, the population of these large ships are better off on board than on shore. Cooking done on a large scale is likely to be more clean and much cheaper than done in detail. Also the food is more strictly examined, not merely according to the usual methods, but also by the special Board of Trade inspectors. Therefore it is probable that more unwholesome food would be found in the retail shops of a town than on board ships leaving an English port. In thus comparing these very large ships to a small town the fact will become evident that we have here an attempt at collective administration for an entire community that may set an example capable, at least in some phases, of application to towns that do not float across the Atlantic but are content with remaining affixed to *terra firma*. Speaking now exclusively of the *Lusitania* and the *Mauretania*, two small floating towns with populations comprising all classes and varying from, say, 2300 to 3250, we have provided for all these people one and the same system of ventilation and likewise the same unique system of cleanliness and washing. It is just conceivable that we may find in this a working example of what might be done, if not for an entire town at least for a district, a cluster of dwellings, especially large tenements and blocks, and more particularly for clusters of small workshops where industrial dust and inefficient ventilation play havoc with the working population.

Over and over again when dealing with ventilation, whether of a great building, a theatre, or, for instance, the Paris Sorbonne, or only Dr. T. Glover Lyon's modest and private dining-room where not more than 14 persons can sit at table, the same inevitable conclusion forces itself forward. Obviously no method of ventilation can be satisfactory unless mechanical force is employed, and intelligently employed—that is to say, modified from time to time as the conditions dealt with themselves alter. It is also obvious—and this is admirably demonstrated by Dr. Glover Lyon's experiment [1]—that mechanical force and scientific ventilation could only be obtained by very wealthy persons if provided especially and solely for one individual. In the case in question the installation for ventilating one single small room would cost at least £150. On board the big ships in question, however, ample mechanical ventilation is supplied not merely to the wealthy saloon passengers but also to the steerage or third-class emigrants and to the poorest among the unskilled workers forming part of the crew. All, rich and poor alike, workers and idlers, passengers and crew, have fresh air pumped down to them all day and all night by mechanical power. Doing this on a wholesale scale certainly does not cost anything like £150 per room capable of seating 20 to dinner. It would be of considerable practical use to know what is the cost per head of the mechanical ventilation applied to these ships.

The system as installed on the *Mauretania* has already been described.[2] This was, however, a theoretical description, and since then I have had a brief opportunity of seeing the same system in actual work on board the *Lusitania*. With the courteous permission of the Cunard Company, and accompanied by the ship's surgeon and also by members of the staff of engineers, I visited all parts of the ship while she was on her way from Liverpool to Queenstown. The weather, however, was not propitious. Everything went wrong and the only consolation is that there is no reason why the experiment should not be repeated in more favourable circumstances. At 7.30 P.M. on Saturday, Nov. 30th, the *Lusitania* was to start from the Liverpool landing stage for Queenstown and New York. At midday I was to take the large tender, the *Skirmisher*, meet the chief engineer, Mr. Leonard Peskett, and spend the afternoon with him examining the whole system of ventilation before the ship came alongside the pier to embark the first- and second-class passengers. Mr. Peskett managed to get on a small tender with some workmen. After crawling through the fog for an hour they came upon the *Lusitania* and it was only after bumping up against her sides that they discovered it was the ship for which they were looking. The other tender which I was awaiting was lashed alongside the *Lusitania* and did not venture to leave the ship till some 12 hours later, at about 1 o'clock in the morning when the fog lifted. In vain I waited on the landing stage in the thick of the fog from noon till nearly 4 o'clock in the afternoon. Some 800 emigrants were there also, as they should have gone on board in the morning by tenders. They suffered from cold and damp, then later from hunger. The little buffet on the landing stage was soon stripped of all its provisions. There were other ships, a Booth line steamer for Portugal and the Brazils and an Elder Dempster line steamer, to say nothing of the cross Channel services to Ireland and the Isle of Man with their quota of passengers, all on the look-out for tenders or ships that could not find their way through the fog, and as these people, numbering more than a thousand passengers, waited and waited for hours they got more cold, more damp, and more hungry. The smaller steamers were at anchor near the landing stage and tenders managed to get off to them later in the afternoon. But the huge *Lusitania* was anchored far away near Rock Ferry and in so thick a fog could not be reached by the tenders. Food in carts and great caldrons of hot tea and

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[1] See THE LANCET, March 1st, 1902, p. 620.

[2] See THE LANCET, Nov. 23rd, 1907, p. 1482.

It is the unanimous opinion of the Faculty that the only solution of the present difficulty lies in maintaining a complete medical school in connexion with the College with classes covering every subject in the curriculum. It points out that it was the absolute necessity of a proper supply of students for the wards of the Royal Infirmary that caused the Royal Infirmary Medical School to be brought into existence by the managers and this also constitutes the reason why the school should continue to exist in its entirety in the future. It is said that as a hospital without students the Royal Infirmary would fail to secure the services of the most eminent physicians and surgeons upon its staff, except in so far as appointments at the Royal Infirmary might be regarded as stepping stones to similar positions at the Western Infirmary. It has been generally admitted that in the interests of the Royal Infirmary it is eminently desirable that its own medical school should be adequately endowed and affiliated to the University of Glasgow, and it was for the accomplishment of this purpose that the affiliation section was introduced into the Universities Act of 1889 at the instance of the managers of the Glasgow Royal Infirmary. In our opinion (says the memorial) affiliation is the only solution of the difficulty. As to the sum necessary to enable the governors to seek affiliation it is for the Universities Committee of the Privy Council to fix this; the University itself has no say in the matter. In this connexion, however, it is pointed out to the governors that prior to the absorption of the Queen Margaret College for Women by the University the University Court passed a resolution in favour of the actual affiliation of that College, the endowments of which amounted to between £40,000 and £50,000 in addition to the buildings. The memorial then goes on to deal with the probability of University students voluntarily attending their later classes at the Royal Infirmary if their earlier classes were taken at the University. The University has no power to compel any of its students to study in the Royal Infirmary wards, and the St. Mungo's Faculty is of opinion that no means short of compulsion would secure such attendance by men who have for three or four years been attached to another teaching centre. Attention is drawn to the fact that the experiment of sending students to other institutions for their earlier studies was actually made by two of the London schools and this experiment resulted in failure.

The Medical Profession and Notification of Births in Glasgow.

A deputation representing the medical profession in Glasgow waited on the health committee of the town council last week to explain the attitude of the profession towards the Notification of Births Act which the corporation has decided to put into operation in the beginning of the year. The medical men of the city already, through a deputation when the omnibus Bill was under consideration last spring, assured the corporation of their entire sympathy with the object of the Bill, namely, the reduction of the infantile mortality amongst the poorer and less informed classes of the community. They are now of opinion, however, that the means by which this object is sought to be attained in the Notification Act, in the form in which it has emerged from Parliament, are clumsy and in certain respects of a highly objectionable character. The deputation urged that to make notification compulsory for the medical man would be contrary to the obligations of the medical oath. It was further pointed out that the cases with which the Act was intended to deal were not for the most part attended by medical men. This fact was illustrated in recent reports by the medical officer to the corporation, in which he showed that in the Cowcaddens district of the city, for instance, in which the infantile mortality is deplorably high, there was no medical man present in 76 per cent. of the births investigated. The medical profession in Glasgow propose in the case of each birth in connexion with which they are called in to place in the hands of the father or other responsible person a simple form of notification with directions for its transmission to the medical officer of health. The deputation concluded by asking the corporation without adopting any resolution on the subject to accept such notification as falling within the scope of the exemption clause of the Act, which provides that no person shall be liable to a penalty if he has reasonable grounds to believe that notice has been duly given by some other person.

Crathie and Braemar Parish Council: Medical Officership.

At the first meeting of the newly elected parish council of Crathie and Braemar held on Dec. 13th, 1907, it was moved, in regard to the appointment of a medical officer—

> That in the opinion of the majority of the council the appointment of the present medical officer was irregular; that three months' notice of dismissal be given and the usual steps taken for the filling of the vacancy.

Objection was made to the motion that it was incompetent, out of order at the meeting, and at the best only based on a matter of opinion. It was also pointed out that at the date of the appointment referred to a copy of the minutes and all particulars connected were forwarded by the clerk to the Local Government Board and that the clerk received confirmation of the appointment. The motion was carried by 6 votes to 2.

Perth Royal Infirmary: Reconstruction Scheme.

The subscriptions towards the reconstruction scheme for Perth Royal Infirmary now total £14,601.

Dec. 31st, 1907.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Lord Kelvin.

VERY great sorrow in Belfast was felt at the announcement of the death of Lord Kelvin who was born in Belfast in a house still existing in College-square East (No. 18), at present occupied by a member of the medical profession. Lord Kelvin's father, Dr. James Thomson, came originally from Ballynahinch, in county Down, and was professor of mathematics in the old Belfast Academical Institution. He wrote a famous book, "Thomson's Arithmetic," long popular in Ulster, and he was afterwards professor of mathematics in the University of Glasgow where Lord Kelvin studied before going to Cambridge.

The Tuberculosis Exhibition.

On Dec. 17th, 1907, in the presence of a large audience, Her Excellency the Countess of Aberdeen opened the Tuberculosis Exhibition in Lurgan and formed the Lurgan and District Branch of the Women's National Health Association of Ireland. On the 18th Sir John Byers gave a lecture on Why Tuberculosis is so Common in Ireland; on the 19th Dr. John McCaw lectured on Tuberculosis in Children; on the 20th Professor W. St. Clair Symmers gave an address on the Germ of Tuberculosis and some of its Effects; and on the 21st Professor Mettam, F.R.C.V.S., lectured on Tuberculosis in Animals. There were immense audiences and the great success of the tuberculosis exhibition in Lurgan is due to the unceasing exertions of Dr. Samuel Agnew, medical officer of health of Lurgan.

Hospital Medical Reports.

It is always pleasant to record the publication of medical reports by hospitals, for they save much valuable material from oblivion. The latest hospital to publish its records is the Ulster Hospital for Children and Women and Dr. H. H. B. Cunningham is acting as editor. The first issue contains an article by the same gentleman on Adenoids; one on Hæmaturia due to Cystic Kidney, by Mr. A. B. Mitchell; one on Cancer of the Uterine Cervix by Dr. Marion B. Andrews; one on Congenital Lymphangeioma by Mr. Howard Stevenson; and the report of a fatal case of Cerebro-spinal Meningitis complicated by Parturition. We wish these records a successful and long-continued future.

Dec. 31st, 1907.

BUDAPEST.

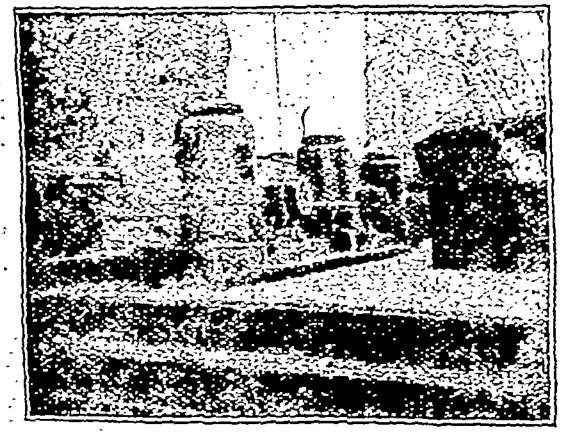
(FROM OUR OWN CORRESPONDENT.)

The Differential Tuberculin Reactions.

AT a recent meeting of the Budapest Royal Society of Medicine Dr. László Detre, *privat-docent* at the University of Budapest, delivered an address on the Differential Tuberculin Reactions. He said that these reactions were of assistance in various ways in the investigation of the biology of tuberculous infection. The researches which he had carried on aimed at the elucidation of the etiology of tuberculosis and the discrimination of a fresh case from an old one. Of late years two questions have received much attention from pathologists—namely, (1) Has the bacillus of bovine introduced. There is a thermometer thus attached to every thermo-tank and it is therefore easy to ascertain promptly what is the heat of the air pumped down into the ship. But again someone must see to this and find out what the heat ought to be according to the distance to which the air has to travel, the needs of the part of the ship which it has to supply, and the general condition of the weather at the time in question.

To meet these ever-varying conditions numerous and very careful experiments will have to be made. Every thermo-tank bears an inscription stating what part of the ship it supplies, and considering the variety of the distance and the disposition of the different compartments no one rule would apply. On the *Mauretania* there are 65 thermo-tanks and they pump air through 17,000 feet of trunking. Thus there are in all three and a quarter miles of air channels, made for the most part of galvanised sheet iron and including some 5000 bends, T-pieces, &c. Is it conceivable that air can be automatically propelled along this enormous distance at exactly the rate and temperature desired? All honour to the constructors of these splendid ships for having introduced such a vast and comprehensive system of warming and ventilating. But it would be a fatal illusion to imagine that all this will work when once wound up like an eight-day clock and that it need not be touched again till the end of the week.

FIG. 3.



A row of thermo-tanks supplying air to the first-class state-rooms.

The *Lusitania* has not quite as many thermo-tanks as the *Mauretania* but there is no practical difference between the two ships. When I looked at the thermometers attached to the thermo-tanks I found that their temperature varied from 55° to 120° F.; this showed that some of these apparatus had not yet been regulated. Doubtless all this was rectified when the ship got further under way. But the fact that this was not done at starting shows how difficult is the problem and how much still remains to be achieved before experience has taught the lessons that have yet to be learnt. It will be necessary to secure the services of a few thoroughly competent engineers to regulate these apparatus, to visit and to watch over all parts of the ship, and to be constantly verifying whether the system is working properly. It will also be necessary in many instances to make considerable alterations in the valves, notably in the firemen's quarters, where the air is admitted, so that it may be split up, diffused, and not create an injurious draught. But it will at once be seen that these finishing touches to the system represent a mere trifling outlay when compared with the vast sums that must have been spent over the thermo-tanks, the 2000 h.p. of electricity used, among other purposes, for setting the fans in motion, the three and a quarter miles of air trunks, the condenser and steam-heating coils, &c. We have now reached the stage when it is only necessary to apply the old saying, namely, "Not to spoil the ship for the sake of a pennyworth of tar." There can be little doubt that in the course of a few months when the necessary experience is acquired the great problem of warming and ventilation will practically be solved in regard to these great ships. Indeed, I have just been informed that the patentee of the ventilation apparatus and the draughtsman who had charge of this particular section of the work sailed in the *Mauretania* on her last voyage to regulate the valves and to see to all the details. As a result no complaints have been made. On Saturday, Dec. 28th, the manager of the ventilating system and the draughtsman sailed with the *Lusitania* and it is anticipated that they will be equally successful in putting everything in order. The whole system has been carefully gone over and there is no reason why the defects should not be remedied now that efficient technicians are on board. If so we shall have here a most valuable object-lesson. Throughout I have compared the ships to towns, and I believe that much of what is done on board could with equal economy and benefit be applied on shore. Why not consider a thoroughfare of large houses, such as Victoria-street, to represent on one side the *Mauretania* and on the other side the *Lusitania*, and proceed to warm and to ventilate all the rooms in a similar manner? The experience now in the course of acquisition on board these great liners may be of use on shore as well as at sea. The entire nation has manifested enthusiastic pride in these magnificent record-breaking ships. For my part I see their utility not merely in regard to quick and luxurious travelling but as a vast field of experimentation where some of the most difficult problems affecting the sanitation of dwellings and of workshops may find an effective and economic solution.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Tuberculous Milk.

THE medical officer of health, Dr. J. Robertson, reports that after prolonged investigation it is found that 14 per cent. of the milk sent into Birmingham contains living tubercle germs. The health committee, having considered the report, has decided to recommend that, in the event of the Government not taking the matter up and as the existing legal powers are not sufficient to enable effective steps to be taken to deal with this "grave danger to the public health," additional local powers shall be sought. The position of the health committee would be strengthened if it could give some definite idea of the effect produced by the contaminated milk in any particular cases.

The Medical Students' Dinner.

The annual dinner of the Birmingham University Medical School was a more than usually successful event. There was a good attendance to meet Dr. W. Hale White and Dr. William Wright, the latter of whom was a great favourite with the students when he held the post of senior demonstrator in the anatomy department at Birmingham. The speeches were good but rather long, and the humorous vein was a little lacking except in Mr. H. G. Barling's reply for the medical school. One opinion that Mr. Barling expressed when he passed into a serious phase is well worthy the attention of the public and of the authorities of schools who are constantly struggling to increase the number of their students. He stated that he would prefer 100 well-educated medical men to 200 who were imperfectly educated, and he expressed the belief that the public would be better served by the former than by the latter.

Distribution of Prizes at the Dental Hospital.

Considering the great demand there is in the Midland district for dentists, it is somewhat surprising to learn from the statements of the speakers at the annual distribution of prizes at the Dental Hospital and at the annual dinner of the Dental Students' Society that the number of the students at the Dental Hospital does not exceed 30. The only reason that can be assigned is that in years gone by the Dental Hospital did not offer all the facilities which could be desired. Such, however, is not the case to-day; the hospital is now one of the most efficiently equipped in the country and the staff are energetic and determined. It may be hoped, therefore, that the number of the students will rapidly increase and that the wants of the district will be properly supplied. Mr. W. F. Haslam, who spoke after the distribution of the prizes, drew special attention to the necessity of students avoiding desultory reading, and his remarks are particularly important to Birmingham students who have a tendency to distribute their energies over too many objects at one time.

Hospital Sunday Collections.

At last the full accounts of the Hospital Sunday collections in Birmingham for 1907 are to hand and they show however, there were no appreciable differences between the two reactions; in these cases Dr. Detre assumed that the infection was "mediated" by both bacilli. He did not consider that one bacillus was the infecting agent and that the other only accompanied it; he held this opinion because there were cases in which besides the great sensitiveness against one species there was no sensitiveness at all against the other. The infection might take place in the following manner—a view which is also taken by Professor Behring. During infancy a child became infected with the bovine bacillus through taking milk, butter, &c., and this bovine infection, if it was not entirely recovered from, created a predisposition to the human infection contracted at a subsequent period by inhalation when sensitiveness against both species developed in the doubly infected diseased organism.

Dec. 20th, 1907.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Malaria.

IT is reported that malarial fever is raging at Smyrna and Konieh. The epidemic is attributed to the many swamps and marshes which are to be found almost everywhere in the above localities. From Konieh comes an urgent demand for a medical man, but the authorities of the medical school in Constantinople think that medical skill will be of very little use if the source of the epidemic—namely, the marshes—is not removed. The municipal authorities of Konieh have, however, been informed that a medical man will be sent to the affected districts. In connexion with this subject the Turkish newspaper *Sabah* publishes some details concerning the irrigation of the plain of Konieh and the drying up of its marshy places which are of medical interest. The schemes proposed for carrying out the work have been approved by the Council of Ministers and sanctioned by the Sultan. Large areas of land will be rendered capable of cultivation and the Anatolian railway, which is now carried as far as Boulgourlou, will shortly reach Adana, the line everywhere traversing fertile land. The water required for irrigation is to be supplied by Lake Beyshehir, situate about 100 kilometres to the west of Konieh. Two small streams, the Beyshehir Sou and Tcharshembe Sou, which provide an escape for the overflow of the lake, are to be canalised and controlled for a distance of about 145 kilometres. A canal of 30 kilometres will be built round the marshy depression at Karaviran, known as the Sogla Gol, and another canal of 20 kilometres will connect the two above-mentioned streams in the narrow Valikova Pass. Several *barrages* and three large reservoirs will also be necessary, as well as an aqueduct and innumerable small canals for the distribution of water for irrigation purposes. It is estimated that it will be possible to supply 600,000 "deunums" with water; in other words, 132,500 acres of land will, it is hoped, now be brought under cultivation. Through this scheme it is expected that not only will the irrigated places produce annually grain of excellent quality sufficient to load at least 20,000 railway wagons but also that in consequence of the drying up of the marshes they will cease to be a source of malaria.

The Italian Hospital.

A service of gratuitous consultation and surgical treatment has been opened in the above hospital by its newly appointed surgeon, Dr. A. de Fabii, who has just arrived from Italy. He was surgeon to the principal hospitals of Rome and it is expected that he will be able to do much good work in the Turkish metropolis. The gratuitous operations will be performed daily from 9 to 11 A.M., excepting Mondays and Thursdays.

Cases of Extraordinary Longevity.

The Stamboul newspapers assert that no other country produces so many cases of extraordinary longevity as does the Ottoman Empire. Not all the cases brought before the attention of the public are genuine or credible, but, on the other hand, an individual is occasionally found whose remarkably great age is proved by substantial testimony. The following case seems to be genuine. At Yeni Baghtché, Stamboul, there resides a certain Hadji Raif Effendi who is 124 years old and who has been the bookbinder of the Military School of Pancaldi for the past 80 years. This man's father died at the age of 142 years. He was named Edhem Pasha and was a Government official. It seems that in Russia centenarians are also found. It is reported (this time it is the *Levant Herald* that is responsible for the news) from Revel in the Baltic Provinces that an Esthonian lady, born in 1783, and therefore aged 124 years, has just thought it about time to make her will in case "anything should happen." The old lady, who was born in the reign of Catherine II., has thus lived in the reigns of seven of the eight Tsars belonging to the house of Romanof-Holstein whose sway dates from 1762.

Dec. 24th, 1907.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Winnipeg General Hospital.

THE city council of Winnipeg has decided to grant the request of the board of governors of the Winnipeg General Hospital to raise the annual grant from $30,000 to $40,000. The former grant had been fixed on the basis of the work done in 1904, but since that time the number of city patients has increased 40 per cent. Last year the hospital undertook several absolutely necessary improvements and additions caused by the great increase in its work. This involved an expenditure of $150,000 and so far the city has paid $125,000 of this amount. For the first time in the history of the hospital it was unable to pay its monthly accounts in October. These amount to about $13,000 per month. The board of governors also asked that the hospital be granted by the city $25,000 at once on debenture account to close out the accounts incurred by building operations last year. They also asked that legislation be obtained to provide for the immediate erection of a proper mortuary and a place for holding inquests, post-mortem examinations, &c.; also a proper pathological department. Winnipeg requires a new isolation hospital; and the board requested that it be erected and conducted by the city and so relieve the General Hospital of the work of taking care of cases of infectious diseases. The cost of such a hospital for Winnipeg is placed at $150,000. It should accommodate from 80 to 100 patients and have provision for from 40 to 50 tuberculous patients.

Toronto Hospital for Incurables.

The annual meeting of the board of management and patrons of the Toronto Hospital for Incurables, formerly called the Toronto Home for Incurables, took place recently. Dr. Bruce Smith, the Ontario Government inspector of such institutions, was present and said that of all similar institutions both in Canada and in the neighbouring country of the United States which he had visited none could surpass the state of this hospital. He also pointed out that the grant of the Ontario Government of $5323 and that of the city of Toronto of $4000 were totally inadequate when the importance of the work was considered. The secretary presented the annual report and showed that during the past hospital year 176 persons had been cared for. On Oct. 1st, 1906, patients numbering 139 were registered, and to that number 37 were added during the year. The deaths in the same period totalled 31; four patients left and there were now in the institution 141. There are 80 patients supported at present absolutely free of cost; 18 pay a nominal amount for maintenance. The present year's work was carried on with the small deficit of $486. The average cost of each patient was 56 cents per day.

Alexandra and St. Paul's Hospitals, Montreal.

These two hospitals in the city of Montreal look after respectively the cases of infectious and contagious diseases occurring amongst the English- and French-speaking population of that city. The first arrangement for the maintenance of these made with the city called for a grant to each of $15,000 per annum, but it has been found that almost a doubled grant would just about be adequate to continue their work. A new agreement is now required from the city council. It is asked that each be granted $5000 for the balance of the present year and that on Jan. 1st next the total grant to each be $25,000, this agreement to last for a term of three years. The hospitals then agree to treat all patients without regard to religious denomination who may be sent to them by the city in such numbers as the said hospitals can accommodate, each accommodation not to be introduced. There is a thermometer thus attached to every thermo-tank and it is therefore easy to ascertain promptly what is the heat of the air pumped down into the ship. But again someone must see to this and find out what the heat ought to be according to the distance to which the air has to travel, the needs of the part of the ship which it has to supply, and the general condition of the weather at the time in question.

To meet these ever-varying conditions numerous and very careful experiments will have to be made. Every thermo-tank bears an inscription stating what part of the ship it supplies, and considering the variety of the distance and the disposition of the different compartments no one rule would apply. On the *Mauretania* there are 65 thermo-tanks and they pump air through 17,000 feet of trunking. Thus there are in all three and a quarter miles of air channels, made for the most part of galvanised sheet iron and including some 5000 bends, T-pieces, &c. Is it conceivable that air can be automatically propelled along this enormous distance at exactly the rate and temperature desired? All honour to the constructors of these splendid ships for having introduced such a vast and comprehensive system of warming and ventilating. But it would be a fatal illusion to imagine that all this will work when once wound up like an eight-day clock and that it need not be touched again till the end of the week.

FIG. 3.

A row of thermo-tanks supplying air to the first-class state-rooms.

The *Lusitania* has not quite as many thermo-tanks as the *Mauretania* but there is no practical difference between the two ships. When I looked at the thermometers attached to the thermo-tanks I found that their temperature varied from 55° to 120° F.; this showed that some of these apparatus had not yet been regulated. Doubtless all this was rectified when the ship got further under way. But the fact that this was not done at starting shows how difficult is the problem and how much still remains to be achieved before experience has taught the lessons that have yet to be learnt. It will be necessary to secure the services of a few thoroughly competent engineers to regulate these apparatus, to visit and to watch over all parts of the ship, and to be constantly verifying whether the system is working properly. It will also be necessary in many instances to make considerable alterations in the valves, notably in the firemen's quarters, where the air is admitted, so that it may be split up, diffused, and not create an injurious draught. But it will at once be seen that these finishing touches to the system represent a mere trifling outlay when compared with the vast sums that must have been spent over the thermo-tanks, the 2000 h.p. of electricity used, among other purposes, for setting the fans in motion, the three and a quarter miles of air trunks, the condenser and steam-heating coils, &c. We have now reached the stage when it is only necessary to apply the old saying, namely, "Not to spoil the ship for the sake of a pennyworth of tar." There can be little doubt that in the course of a few months when the necessary experience is acquired the great problem of warming and ventilation will practically be solved in regard to these great ships. Indeed, I have just been informed that the patentee of the ventilation apparatus and the draughtsman who had charge of this particular section of the work sailed in the *Mauretania* on her last voyage to regulate the valves and to see to all the details. As a result no complaints have been made. On Saturday, Dec. 28th, the manager of the ventilating system and the draughtsman sailed with the *Lusitania* and it is anticipated that they will be equally successful in putting everything in order. The whole system has been carefully gone over and there is no reason why the defects should not be remedied now that efficient technicians are on board. If so we shall have here a most valuable object-lesson. Throughout I have compared the ships to towns, and I believe that much of what is done on board could with equal economy and benefit be applied on shore. Why not consider a thoroughfare of large houses, such as Victoria-street, to represent on one side the *Mauretania* and on the other side the *Lusitania*, and proceed to warm and to ventilate all the rooms in a similar manner? The experience now in the course of acquisition on board these great liners may be of use on shore as well as at sea. The entire nation has manifested enthusiastic pride in these magnificent record-breaking ships. For my part I see their utility not merely in regard to quick and luxurious travelling but as a vast field of experimentation where some of the most difficult problems affecting the sanitation of dwellings and of workshops may find an effective and economic solution.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Tuberculous Milk.

THE medical officer of health, Dr. J. Robertson, reports that after prolonged investigation it is found that 14 per cent. of the milk sent into Birmingham contains living tubercle germs. The health committee, having considered the report, has decided to recommend that, in the event of the Government not taking the matter up and as the existing legal powers are not sufficient to enable effective steps to be taken to deal with this "grave danger to the public health," additional local powers shall be sought. The position of the health committee would be strengthened if it could give some definite idea of the effect produced by the contaminated milk in any particular cases.

The Medical Students' Dinner.

The annual dinner of the Birmingham University Medical School was a more than usually successful event. There was a good attendance to meet Dr. W. Hale White and Dr. William Wright, the latter of whom was a great favourite with the students when he held the post of senior demonstrator in the anatomy department at Birmingham. The speeches were good but rather long, and the humorous vein was a little lacking except in Mr. H. G. Barling's reply for the medical school. One opinion that Mr. Barling expressed when he passed into a serious phase is well worthy the attention of the public and of the authorities of schools who are constantly struggling to increase the number of their students. He stated that he would prefer 100 well-educated medical men to 200 who were imperfectly educated, and he expressed the belief that the public would be better served by the former than by the latter.

Distribution of Prizes at the Dental Hospital.

Considering the great demand there is in the Midland district for dentists, it is somewhat surprising to learn from the statements of the speakers at the annual distribution of prizes at the Dental Hospital and at the annual dinner of the Dental Students' Society that the number of the students at the Dental Hospital does not exceed 30. The only reason that can be assigned is that in years gone by the Dental Hospital did not offer all the facilities which could be desired. Such, however, is not the case to-day; the hospital is now one of the most efficiently equipped in the country and the staff are energetic and determined. It may be hoped, therefore, that the number of the students will rapidly increase and that the wants of the district will be properly supplied. Mr. W. F. Haslam, who spoke after the distribution of the prizes, drew special attention to the necessity of students avoiding desultory reading, and his remarks are particularly important to Birmingham students who have a tendency to distribute their energies over too many objects at one time.

Hospital Sunday Collections.

At last the full accounts of the Hospital Sunday collections in Birmingham for 1907 are to hand and they show however, there were no appreciable differences between the two reactions; in these cases Dr. Detre assumed that the infection was "mediated" by both bacilli. He did not consider that one bacillus was the infecting agent and that the other only accompanied it; he held this opinion because there were cases in which besides the great sensitiveness against one species there was no sensitiveness at all against the other. The infection might take place in the following manner—a view which is also taken by Professor Behring. During infancy a child became infected with the bovine bacillus through taking milk, butter, &c., and this bovine infection, if it was not entirely recovered from, created a predisposition to the human infection contracted at a subsequent period by inhalation when sensitiveness against both species developed in the doubly infected diseased organism.

Dec. 20th, 1907.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Malaria.

IT is reported that malarial fever is raging at Smyrna and Konieh. The epidemic is attributed to the many swamps and marshes which are to be found almost everywhere in the above localities. From Konieh comes an urgent demand for a medical man, but the authorities of the medical school in Constantinople think that medical skill will be of very little use if the source of the epidemic—namely, the marshes—is not removed. The municipal authorities of Konieh have, however, been informed that a medical man will be sent to the affected districts. In connexion with this subject the Turkish newspaper *Sabah* publishes some details concerning the irrigation of the plain of Konieh and the drying up of its marshy places which are of medical interest. The schemes proposed for carrying out the work have been approved by the Council of Ministers and sanctioned by the Sultan. Large areas of land will be rendered capable of cultivation and the Anatolian railway, which is now carried as far as Boulgourlou, will shortly reach Adana, the line everywhere traversing fertile land. The water required for irrigation is to be supplied by Lake Beyshehir, situate about 100 kilometres to the west of Konieh. Two small streams, the Beyshehir Sou and Tcharshembe Sou, which provide an escape for the overflow of the lake, are to be canalised and controlled for a distance of about 145 kilometres. A canal of 30 kilometres will be built round the marshy depression at Karaviran, known as the Sogla Gol, and another canal of 20 kilometres will connect the two above-mentioned streams in the narrow Valikova Pass. Several *barrages* and three large reservoirs will also be necessary, as well as an aqueduct and innumerable small canals for the distribution of water for irrigation purposes. It is estimated that it will be possible to supply 600,000 "deunums" with water; in other words, 132,500 acres of land will, it is hoped, now be brought under cultivation. Through this scheme it is expected that not only will the irrigated places produce annually grain of excellent quality sufficient to load at least 20,000 railway wagons but also that in consequence of the drying up of the marshes they will cease to be a source of malaria.

The Italian Hospital.

A service of gratuitous consultation and surgical treatment has been opened in the above hospital by its newly appointed surgeon, Dr. A. de Fabii, who has just arrived from Italy. He was surgeon to the principal hospitals of Rome and it is expected that he will be able to do much good work in the Turkish metropolis. The gratuitous operations will be performed daily from 9 to 11 A.M., excepting Mondays and Thursdays.

Cases of Extraordinary Longevity.

The Stamboul newspapers assert that no other country produces so many cases of extraordinary longevity as does the Ottoman Empire. Not all the cases brought before the attention of the public are genuine or credible, but, on the other hand, an individual is occasionally found whose remarkably great age is proved by substantial testimony. The following case seems to be genuine. At Yeni Baghtché, Stamboul, there resides a certain Hadji Raif Effendi who is 124 years old and who has been the bookbinder of the Military School of Pancaldi for the past 80 years. This man's father died at the age of 142 years. He was named Edhem Pasha and was a Government official. It seems that in Russia centenarians are also found. It is reported (this time it is the *Levant Herald* that is responsible for the news) from Revel in the Baltic Provinces that an Esthonian lady, born in 1783, and therefore aged 124 years, has just thought it about time to make her will in case "anything should happen." The old lady, who was born in the reign of Catherine II., has thus lived in the reigns of seven of the eight Tsars belonging to the house of Romanof-Holstein whose sway dates from 1762.

Dec. 24th, 1907.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Winnipeg General Hospital.

THE city council of Winnipeg has decided to grant the request of the board of governors of the Winnipeg General Hospital to raise the annual grant from $30,000 to $40,000. The former grant had been fixed on the basis of the work done in 1904, but since that time the number of city patients has increased 40 per cent. Last year the hospital undertook several absolutely necessary improvements and additions caused by the great increase in its work. This involved an expenditure of $150,000 and so far the city has paid $125,000 of this amount. For the first time in the history of the hospital it was unable to pay its monthly accounts in October. These amount to about $13,000 per month. The board of governors also asked that the hospital be granted by the city $25,000 at once on debenture account to close out the accounts incurred by building operations last year. They also asked that legislation be obtained to provide for the immediate erection of a proper mortuary and a place for holding inquests, post-mortem examinations, &c.; also a proper pathological department. Winnipeg requires a new isolation hospital; and the board requested that it be erected and conducted by the city and so relieve the General Hospital of the work of taking care of cases of infectious diseases. The cost of such a hospital for Winnipeg is placed at $150,000. It should accommodate from 80 to 100 patients and have provision for from 40 to 50 tuberculous patients.

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Cremation Act, 1902, and suggested that the whole of the crematoriums in England and Scotland should join together and see if they could not get the rules and orders altered, such rules not being required in cases of ordinary burial. The precautions alluded to were, of course, intended to be safeguards against crime, but if they can be made less inconvenient and yet effective safeguards no one would be likely to object. The suggestion of the secretary was adopted and he was asked to write to the authorities of the crematoriums.

Dec. 31st, 1907.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Education Committee: Medical Inspection of School Children.

THE chairman of the education committee of the city council at its meeting on Dec. 23rd last moved the adoption of the report of the special medical inspection of school children subcommittee, which had expressed the opinion that the work of inspection could best be carried out under the immediate control of the education committee, and recommended that a special medical officer should be appointed for the purpose at a salary of £400 per annum. The subcommittee's intention was to take the medical officer of health into consultation but to retain the control itself. It did not wish to clash with any other corporation committee and according to the chairman of the education committee they had no desire to override the work which Dr. E. W. Hope had already done outside the schools and they desired that that work should still be continued. Alderman Salvidge opposed the recommendation on the ground that it would create a new department, whereas it had not yet been proved that the present health authority was unable to carry out the extra duties suggested. He moved that the recommendation should be referred back to the subcommittee in order that an opportunity might be afforded it of discussing the matter with the health committee. The amendment having been duly seconded was agreed to.

Liverpool School of Tropical Medicine: The Prevention of Yellow Fever.

A despatch has been received by the secretary of the Liverpool School of Tropical Medicine from the Foreign Office respecting the presentation of the Mary Kingsley medals conferred by the school upon Senator Professor Golgi (Italy), Dr. Charles Finlay (Cuba), Professor Danielewsky (Russia), and Professor Theobald Smith (United States). The despatch was accompanied by a translation of a lengthy report from the *Official Gazette* of the Republic of Cuba of the ceremony at which the medal was handed to Dr. Finlay, the discoverer of the mosquito theory of yellow fever, by the Provisional Governor of Cuba. The ceremony took place at the great hall of the University of Havana in the presence of a distinguished gathering, and the speeches delivered were so interesting that some are worth reproducing at some length. The Hon. Charles E. Magoon, Provisional Governor of Cuba, presided, and in handing the medal to Dr. Finlay, said: "An important foreign scientific institution, the Liverpool School of Tropical Medicine, in recognition of the eminent services rendered by Dr. Charles Finlay in his devotion to the cause of science, which culminated in his discovery of the agent by which the yellow fever germ is transmitted, has conferred upon him the Mary Kingsley memorial medal. This medal was designed upon the death of the famous African traveller, whose name it bears, in commemoration of her labours in the tropics, to be bestowed upon those persons who may have distinguished themselves in special work and researches in tropical medicine, and has been received by the Government of Cuba from the Minister of His Britannic Majesty with the request that it be officially handed to Dr. Finlay." The Rector of the University having addressed Dr. Finlay, the latter replied thanking the speakers, the University, and the Liverpool School of Tropical Medicine. Referring to the Liverpool school he said: "I wish more especially to return thanks to the Liverpool School of Tropical Medicine for the honour they have done me in conferring upon me the Mary Kingsley memorial medal. The honour is shared with Colonel W. C. Gorgas of the United States Army. The same distinction has also been bestowed upon Manson, Laveran, Ross, Koch, and others who in different parts of the world are associated with the labours of the school founded by the mercantile community on the banks of the Mersey."

Dec. 31st, 1907.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Housing in Swansea.

THE Swansea corporation has decided, upon the recommendation of the housing committee, to erect 55 houses at a cost of £160 each, to be let at a rental of 5*s.* 6*d.* weekly, and 44 double tenement houses at a cost of £300 each, to be let at a rental for each tenement of 4*s.* 6*d.* weekly. Arrangements are in progress for holding an exhibition of cottages and a conference on the housing question in Swansea under the auspices of the National Housing Council. The corporation is the owner of several large plots of land in the town and it is probable that one or more of these may be utilised for the purposes of the exhibition.

An Asylum for Swansea.

Since the establishment of the county asylum at Bridgend that institution has been available for patients resident in Swansea. The rapid growth of the county of Glamorgan led the asylum committee to give notice first of all to the Cardiff corporation and later to the corporation of Swansea to terminate the then existing arrangements and to provide separate accommodation for the needs of the two towns. Unsuccessful efforts have been made to make arrangements for sending Swansea patients to the asylum at Talgarth, which is owned jointly by the county councils of Brecon and Radnor, and it appears now to be probable that suitable accommodation will be provided by the erection of a building in the borough of Swansea upon land already in the possession of the corporation. Merthyr Tydvil having become incorporated will also have to sever its connexion with the county asylum and a suggestion has been made that the corporations of Merthyr and Swansea might advantageously combine for asylum purposes. There are over 300 Swansea lunatics at Bridgend and about 200 from Merthyr.

The Cardiff Mental Hospital.

It is expected that the Cardiff Asylum, or, as it is officially designated, the Mental Hospital, will be ready for occupation in about three months' time. The equipment of the institution is very complete and has been carefully thought out—so carefully, indeed, that the committee of the corporation concerned with the erection of the buildings has had to stand a great deal of adverse criticism on account of the cost which has been incurred. This criticism has hitherto had but little effect in preventing the accomplishment of what was really necessary. With such an excellent record it is difficult to understand the attitude of those members of the committee who have been able successfully to postpone the erection of an isolation hospital. In the original scheme this building was provided for at an estimated cost of about £3000, and although the medical superintendent (Dr. E. Goodall) expressed the opinion that the cost need not exceed £2000 it has been decided by 4 votes to 3 to postpone the erection of this building until a future date, presumably until an outbreak of some infectious disease has occurred which will prove its necessity. The majority of the members of the committee were evidently influenced in their decision by a report presented to them showing that although most of the asylums in this country were provided with isolation hospitals they were very rarely used. In spite of this it is quite certain that the Commissioners in Lunacy will quickly draw the attention of the committee to the absence of this very necessary accessory to every well-ordered asylum.

Dec. 31st, 1907.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

St. Mungo's College.

THE Faculty of Medicine of St. Mungo's College has presented a memorial to the governors of the College in which it states its views as to what should be done in order to insure the prosperity and even the existence of the College.

statistics show in his opinion that of the 1,800,000 milch cows in this State 440,000 are infected with tuberculosis. The disease is constantly spreading through the traffic in cattle. The remedy is thorough inspection by a competent corps of State inspectors.

Dec. 19th, 1907.

NOTES FROM INDIA.

(From our Special Correspondent.)

Sanitary Reform in India.

The great event of the past week has been the issue by the Government of India to the various local governments of a letter on the improvement of the sanitary services in India. It is contemplated to employ a greatly increased number of medical officers of health as well as of sanitary inspectors, and more sanitary boards will also be created. There is not a word, however, regarding legislative powers which are at present very deficient, or as to how the expenses of sanitary improvements have to be met. Money is wanted badly by every municipality for public sanitary schemes but the difficulty in effecting improvements is still greater in the case of private individuals. It is hardly recognised sufficiently that the sanitary evils chiefly pertain to the home, and to enforce measures of sanitary improvements in the case of private individuals is often a very serious hardship and perhaps as often an impossibility. The great mass of the people are poor and their unhealthy surroundings are largely due to their poverty. That more executive officers are required no one will question, and it is satisfactory to learn that the tenure of their appointments will be safeguarded by the local governments and will not be subject to the whims and fancies of municipal boards. A very large field of work will be thrown open to Indian medical men who have been trained in England and have taken a degree in sanitary science. This is as it should be, but this concession to Indians must not be carried too far and the higher posts should be reserved for British sanitarians. A temporary medical education in England does not produce that independence and force of character which belong to those Englishmen who have had a life's training at home, and the ingrained habits of life in an Indian tend to reassert themselves when he returns to his native country. It is curiously asserted that though certain appointments will be open to European and Indian officers, on grounds of economy preference would naturally be given to Indian candidates. The principle of prohibiting private practice for health officers is definitely laid down and the pay of such officers will be determined accordingly. A great deficiency at present exists in properly trained sanitary inspectors but an arrangement is contemplated for instituting some form of an examining board. This letter of the Government marks the commencement of sanitary reform but it all depends upon the local governments as to how the proposed scheme will be carried out.

A New Parsi Hospital in Bombay.

The foundation-stone of a large general hospital for Parsis has just been laid in Bombay. It is hardly a generation ago that Parsis refused to go to hospital owing to the joint family system prevailing. First, however, a maternity hospital was started and proved very successful, then a fever hospital was established, which was also successful, and now by the liberality of certain wealthy members of this community, more especially the Petit family, a magnificent hospital costing nearly 14 lakhs of rupees has just been commenced. It will have a magnificent aspect over the sea to the west and will consist of three main blocks connected by corridors. The outer blocks will each contain 120 beds and the central one will include the operating theatre, the laboratory, and rooms for electrical and light treatment. The equipment of the hospital generally will be on the most up-to-date lines. In the operating theatre the students will be shut off from the actual place of operations by plate glass and the sole ventilation of the theatre will be through an antiseptic pump. Considering that the population of the Parsi community in Bombay city is only about 80,000 it must be admitted that they are making most admirable provision for their sick.

Fever in Bengal.

It will be remembered that the prevalence of malaria in Bengal was the cause of a special committee being appointed last year and it has now presented its report. It cannot be said, however, that there is much prospect of success. In addition to the waterlogged condition of the country the main causes of fever are accredited to the insanitary state of the village sites. Any improvement in the latter direction depends largely upon educating the villagers, which is bound to be a very slow process. The report says that the value of sanitation, the prophylaxis of malaria by the use of quinine and mosquito curtains, and the efficient treatment of malaria by quinine are matters which might well be taught in the schools. This is not very promising and the use of mosquito curtains for the poor villagers may be said to be impracticable. The distribution of quinine may easily be effected, but the destruction of mosquitoes in such low country, with water nearly everywhere, is hopeless. A certain amount of improvement may be attained in a few places by suitable drainage but the nature of the country puts many limitations on this procedure. It is natural that the committee should lay stress on the necessity for further inquiry. The medical aspect of the question is to be taken up more in detail.

Dec. 12th, 1907.

AUSTRALIA.

(From our own Correspondent.)

Patent Medicines in Australia.

Under the existing Commonwealth law relating to the admission of patent medicines where a trade secret is involved no regulations can be framed prescribing the trade description unless the Governor-General considers such necessary for the welfare of the public. A new Bill has been introduced in which power is given to make a general regulation requiring a trade description, including disclosure of ingredients, for all medicines or food for infants or invalids, but in individual cases if the Governor-General is satisfied that it would mean disclosure of trade secrets and is not necessary for the public welfare he may allow a modified description. The trade description may require in the case of medicines a statement of the diseases or ailments which they are intended to cure. The practical meaning is that importers must show that a trade secret will be disclosed in order to obtain exemption from stating on bottle or packet its component parts.

Melbourne Hospital Election.

The annual report to the council of the dean of the faculty of medicine in the University of Melbourne contained a paragraph referring to the method of appointing the staff at the Melbourne Hospital. The report suggested that a communication should be made to the hospital managers pointing out that the University entrusts the whole general clinical training of its medical students to the hospital staff. "The present system," the report continued, "of electing the staff is a disgrace to the hospital, to the medical profession, and to the community, and presents a bad example to the medical students. The Melbourne Hospital stands almost alone in its methods of election." The council thereupon directed that the paragraph concerning the hospital should be forwarded to the President of the institution with the strong endorsement of the council and a request to bring it before the hospital committee. When brought before the committee at its last meeting the report met with a very chilly reception. Several members took exception to the strong terms in which it was worded and appeared to regard it as a slight upon their conduct of the institution. On the other hand, the Rev. Dr. Marshall, a member of the committee, expressed the view that the language was perfectly justified. It is probable that reform in some lines will shortly be brought about but in view of the fact that the Government is bringing down a Charities Bill in which some proposals are embodied for the appointment of hospital staffs throughout the state nothing will be attempted until these provisions are open for discussion.

Hospital Saturday and Sunday Collections in Melbourne.

The annual Hospital Saturday and Sunday collections in Melbourne have been very successful. The total amounted to £6884, which is the largest sum received since 1888. Last tuberculosis any power of producing human tuberculosis? and (2) Is it possible to distinguish the bovine bacillus from the human one so as to recognise which infection is present in a given case? The dualistic theory originated with Professor Robert Koch who asserted that bovine tuberculosis and human tuberculosis were quite distinct from one another. There was now positive evidence that these two infections were caused by two kinds of bacillus which although standing very near to each other could nevertheless be distinguished by certain signs. It was to the investigations of English and German physicians that the knowledge of these facts was chiefly due. The statement of Spengler that the two kinds of bacilli could be distinguished under the microscope when stained in a certain manner was not yet verified. A constant difference could be shown in the alkalinity of the bouillon culture of the two bacilli (Smith). An important difference between them was that the bacillus of bovine tuberculosis was much more virulent for mammalian animals than the human bacillus was. One milligramme of a culture of the bovine bacillus injected into a vein of a tame hare killed it within about three weeks, while several months were required for a culture of the human bacillus to kill a similar hare. By means of these differences it was possible to decide whether a given case of tuberculous infection in the human subject was caused by one or the other or by both types.

Up to the present time there were 20 cases known in which the bacilli were of the bovine type. In these cases the cultures were mostly obtained from the mesentery of children suffering from abdominal infection. Bovine bacilli had also been found in one or two cases of tuberculous meningitis and consumption. The difference between the two bacilli was so marked that Weber succeeded in cultivating both bacilli in one and the same case. No method has yet been discovered by which it would be possible to determine the type of bacilli present in a living subject. Dr. Detre has therefore endeavoured to draw some inference as to the nature of the infection from *differences in the sensitiveness* of the infected organism against the poisons of the two bacilli. It was known that tuberculous animals reacted strongly to the poison of the *tuberculosis bacillus* and *that they* reacted in a less degree to the poison of bacilli resembling the tuberculosis bacillus, though differing from it by their acid-resisting property. *The reaction* manifested itself partly in local and partly in general thermal and organic changes. It might, therefore, be assumed that the *organism* was most sensitive *against* the poison of the bacillus which had caused the *infection.* On the ground of this assumption Dr. Detre has compared the sensitiveness *of some persons against the* two kinds of tuberculous poison. In these observations he used the filtrate *from bouillon* cultures of the two bacilli—i.e., the human and the bovine bacilli. *He did not use* tuberculin, because Koch's tuberculin did not contain all the poisons of the bacilli.

Tuberculin and the filtrate *were not* chemically identical and there were also some striking physiological *differences* between them. In early cases of tuberculosis Dr. Detre *has found that* there was an intense sensitiveness against the filtrate; and he *has* observed *individuals* who reacted to the $\frac{1}{1000000}$th of a centigramme of the filtrate, *the symptoms* being strongly marked local œdema and a rise of temperature amounting to 0·3° or 0 4° C. On the other hand, it was known that with Koch's tuberculin such small quantities *never* produced such a reaction. He therefore inferred that the filtrate contained an unstable, easily *decomposing* poison, which might serve to distinguish the two kinds of *infection. His* procedure consisted in giving to tuberculous patients subcutaneous injections of the filtrates from cultures of human and bovine bacilli in the same degree of *dilution. He then* observed which substance and in what concentration produced local reaction. When he injected in one arm of the patient the filtrate of the human bacilli and in the other arm the filtrate of the bovine bacilli considerable hypersensitiveness against the human filtrate could be seen. The *differences* between the effects of the two injections *were* sometimes very striking. For instance, on one side a given dilution, say 1 in 100,000. gave no reaction at all, whilst on the other side there was an infiltration of the size of a penny or even larger With some individuals the *reaction* to the bovine bacillus was stronger than the reaction to the human *bacillus*—a fact which *proved* that the deviations were produced not only by quantitative differences *in the* fluid injected but also by direct specific qualitative differences. *In the* course of these investigations it happened that Pirquet announced his discovery of the so-called "allergic reaction." The basis of this reaction is the "allergia"—that is to say, the changed capability of the organism with reference to reaction. He *discovered that persons who had once suffered the effects* of the poisons of the bacilli tuberculosis—that is to say, who had withstood a tuberculous infection or were at the time of observation still infected with tuberculin—showed the so-called cutaneous reaction if tuberculin was scratched into their skin, while, on the contrary, the skin of a normal person did not react at all to tuberculin.

Having read about this discovery which Pirquet published, Dr. Detre at once proceeded to verify the results which he had already *obtained* with the cutaneous reaction. For this purpose he used concentrated and *diluted* solutions of Koch's tuberculin, Deny's tuberculin, and Spengler's human and bovine filtrate, and finally, for the sake of comparison, carbolic acid solution of 0·5 per cent. strength, all according to the method of Pirquet. The first observations have already shown that the results of the cutaneous reactions entirely corresponded with those of the previously performed subcutaneous reactions, for persons who reacted to the subcutaneous injections of the filtrate of human bacilli gave a *stronger reaction to the same filtrate* also by the skin inoculation. These observations have also shown that the reactions had a quantitative value inasmuch as the diameter of the *local* reaction was in direct ratio to the dilution of the Koch tuberculin. Besides this the prevailing filtrates gave always stronger local reactions than the ten-fold dilution of Koch's tuberculin that was of the same concentration as the filtrate. This fact supported the assumption that the filtrate contained thermolabile toxins which Koch's tuberculin had lost during the process of preparation. One considerable drawback to the Pirquet *reaction* was that the great majority (90 or 95 per cent.) of adults gave it positively. From this it could be easily understood that it was of no considerable value. *Dr. Detre has investigated* whether there were any differences in the size of the local reaction according as the case was recent or of long standing, and his inoculations have shown that fresh cases were distinguished from old ones by the former having a greater sensitiveness to the filtrate. It was an open question whether there was any constant *difference* (caused by various degrees of sensitiveness to the poison) between the reaction of the Koch tuberculin and the filtrates. For elucidating this Dr. Detre has carried out special investigations in which he used (1) Koch's tuberculin in a concentrated form; (2) the filtrate from human bacilli; (3) the filtrate from bovine bacilli; and (4) the comparison *solution* of carbolic acid. These observations have shown that the single *infections* could be classified according to certain types of reactions. In the recent *progressive cases*, sensitive to the bacterial poisons, the local reactions following injections of the filtrate were larger than, or equal to, or nearly as large as the local *reactions due to* tuberculin. In chronic *cases the* reaction after the injection of the filtrate was inferior to that produced by Koch's tuberculin as regards size. Finally, in inveterate or very extensively spread cases the *reaction* might be entirely negative. This fact has been already mentioned by Pirquet.

The explanation of this difference *was that the* energetic reaction of the fresh cases was caused by their sensitiveness to the poison; at a later period the organism became tolerant of the labile poison and it was sensitive only to the protein; *finally, it lost its* sensitiveness even to the protein. In the investigations conducted by Dr. Detre the differences between the human and bovine infections were clearly shown in the local *reactions* produced by the two filtrates. He had some cases in which the local reaction due to the bovine bacillus *had* a diameter of 1 5 millimetres, whilst the local reaction due to the human bacillus had a diameter of 12 millimetres. On the other hand, there were cases, though *fewer in number*, in which the local reaction due to the human bacillus was considerably surpassed in size by the reaction due to the bovine bacillus. This fact proved that *there* were not only quantitative differences in certain cases. It was a *general* law of immunity that the organism reacted most distinctly to substances provoking the *immunity. And because* the allergic reaction was an immunity reaction it was *very probable that the cases* of bovine reaction were caused by the bovine bacillus and the cases of human reaction were caused by the human bacillus. In a certain number of cases, The acute paroxysms were due, he considered, to an accumulation of uric acid in the circulating blood and their sudden crystalline deposition around the affected joint. Besides his Lumleian lectures THE LANCET at different times published interesting communications from Dr. Garrod, amongst which we may mention especially a note on some chronic diseases of the alimentary canal and liver, also of the skin and articulations and their treatment by the long-continued use of small doses of sulphur given in the form of compound lozenges with cream of tartar, which had proved useful in his hands.[1] Another excellent paper contributed to these columns was on Aix-les-Bains and the value of its course in rheumatoid arthritis, gout, rheumatism, and other diseases.[2]

Although the study of gout and rheumatism occupied a large portion of his activities he by no means confined himself to these subjects. As we have said above, he took for the subject of his Goulstonian lectures the condition known as diabetes. Materia medica and therapeutics also took up much of his attention and his lectures upon the application of the science of chemistry to the discovery, treatment, and cure of disease which were delivered at University College Hospital and were published in THE LANCET of 1848, showed a knowledge of the interaction of chemistry, physiology, and pathology which in those days was rare. His text-book of "Materia Medica and Therapeutics," first published in 1855, was the work to which medical men and students through the greater part of the latter half of the last century were indebted for their standard text-book. When Garrod's book appeared he was professor of clinical medicine at University College, his chair including the subjects of materia medica and therapeutics. The book on its appearance ran to 280 pages and its value was hardly recognised from the first, as nearly ten years had elapsed before a second edition was called for, by which time its author had changed his allegiance to the King's College school. In 1874 a fourth edition was reached, and of this Dr. Buchanan Baxter acted as editor; the book was by that time an established success and 1886 saw the appearance of its eleventh edition, for which Dr. Nestor Tirard was responsible under the author's supervision, since Dr. Baxter, the first editor, had died. Sir Alfred Garrod was always interested in pharmacological and pharmaceutical matters and read papers before the medical and other societies on such subjects as the action of alkalies on alkaloids.

He was for some years a Physician Extraordinary to the late Queen Victoria who shortly before appointing him to this post conferred upon him the honour of knighthood at her Jubilee in 1887. On Dec. 6th of that same year he received the honour of being entertained at a complimentary banquet given by the members of his profession resident in his native town of Ipswich. His health was proposed by Dr. W. A. Elliston, physician to the East Suffolk and Ipswich Hospital, who, our readers will remember, was President of the British Medical Association when it met at Ipswich in 1900. Dr. Elliston, in referring to Sir Alfred Garrod's labours on the subjects of gout and rheumatic gout, concluded by saying that in his opinion the guest of the evening had done for the study of these allied diseases what Jenner had done for that of continued fever. Our knowledge of these two diseases, or should we say our consciousness of what gout and rheumatism are not, has grown greatly since the date of the appearance of the book in question, but when we reviewed the first edition in THE LANCET of Dec. 24th, 1859, we concluded as follows: "We do not hesitate to affirm that we never had the pleasure of reviewing a work from the perusal of which we have derived more advantage, and we can confidently recommend it as not only highly philosophical but likewise thoroughly practical."

In his later years Sir Alfred Garrod had wholly relinquished practice, and the increasing infirmities of old age prevented him from taking any share in the life of the profession or appearing in public. He, however, continued his experimental work on the subjects in which he was most deeply interested. He died quite peacefully from old age on Dec. 28th.

In 1845 he married Miss Elizabeth Anne Colchester, by whom he had six children, of whom three survive him. The eldest son, Alfred Henry Garrod, who was a distinguished biologist and F.R.S., died, aged 33 years, in 1879.

Dr. Nestor Tirard writes to us as follows concerning his old teacher:—"The death of Sir Alfred Baring Garrod at an advanced age removes one who in his prime had an enormous influence on the practice of medicine generally and on the development of therapeutics in particular. Before he became professor of materia medica and therapeutics at King's College he had published a text-book on this subject which for very many years was in the hands of most students and practitioners. He had also published a treatise on gout and rheumatic gout (rheumatoid arthritis), and the quotation from J. J. Rousseau on the title-page—

> 'Observez la nature, et suivez la route qu'elle vous trace'—

may well be taken as the keynote of his teaching and influence upon his students. In his wards and in his lecture room he continually referred to clinical observations whether relating to the symptoms of disease or to the remedial measures to be adopted. This tendency served to vitalise the details of materia medica and to encourage others to follow in his footsteps. Those who were fortunate enough to be his pupils instinctively felt that he was master of his subject and that they had only to name their difficulties to be supplied with illuminating explanations and illustrations. Some years after the calls of private practice had necessitated the relinquishment of his professorial duties and of hospital work I again had the advantage of meeting him frequently in connexion with the production of a new edition of his book on materia medica. In this he took an extremely active part, personally retaining the control of some of the sections, notably that dealing with the different mineral waters. When the British Pharmacopœia of 1898 was in course of revision Sir Alfred Garrod was chairman of the committee appointed by the Royal College of Physicians to make suggestions for omissions, additions, and alterations. His keen interest led him to preside, if I remember rightly, at all the meetings and the changes he advocated invariably found ready acceptance. Though he has outlived many distinguished pupils and associates, the influence of his work is still evident in many directions; his books may still be consulted with advantage and many of us will always feel proud of having been privileged to study under him."

Sir Dyce Duckworth has kindly sent us the following appreciation of the venerable physician's work. "Full of years, and regarded with esteem and affectionate regard by all who knew him, Sir Alfred Garrod has passed away after leaving a record of effective service in his profession which is known and appreciated wherever a scientific study of medicine is cultivated. His epoch-making disclosure in 1848 of the intimate relation between gouty disturbances and the behaviour of uric acid in the system formed a contribution of large importance to clinical medicine, one which has stimulated research in the same direction, and can never be ignored in discussing the still unsolved pathology of gout. All careful observers have had to acknowledge his facts, although different conclusions have been drawn from them by various investigators. As an exponent of organic and clinical chemistry Garrod's methods were exact and persistent. His laboratory was the human organism, ever the best for the bedside physician. His discoveries, whether in toxicology, pharmacy, or the improvement of the materia medica, were always designed in support of the *ars medendi*, for the benefit of the patient; and his success in practice was greatly due to this procedure, so that it was wont to be said of him that 'Garrod's medicines always did good.' We may cherish this recollection in these days when some of these matters are greatly neglected both in teaching and practice. After all, it was Garrod's *method* which made him an outstanding man amongst his contemporaries, the method of Hunter, to think first and then to try, for this gives the best indication in its possessor of the *mens medica*. With this, we, who knew him well, recognised his unfailing gentle kindness and sympathy and his genial interest in all matters relating to the profession. When the first Moxon medal was awarded by the Royal College of Physicians in 1891 it was felt that no worthier British recipient of it could be found than Garrod as fulfilling the requirements of 'distinguished research and observation in clinical medicine.' Sir Alfred Garrod's work and method have laid a responsibility on all who have entered into his labours to follow in the like path of duty and fruitful service for our common humanity."

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[1] THE LANCET, April 6th, 1889, p. 665.

[2] THE LANCET, May 4th, 1889, p. 869.

for less than 100 patients per day. In case of an epidemic the city will be allowed to use all the beds for the treatment of cases of one contagious disease only.

Montreal Maternity Hospital.

The sixty-third annual meeting of the friends and supporters of the Montreal Maternity Hospital was held recently in that city, Dr. T. G. Roddick being in the chair. In making a short address Dr. Roddick stated that the building was now practically free from debt owing to the energy of the ladies of the governing body and two or three good donations and bequests. The endowment fund was increasing gradually and now amounted to $6000. During the last hospital year 370 married women had been treated in the institution, and the report for the present year showed that the number had reached 440 Private patients had nearly doubled while the number of the unmarried patients had not increased. The hospital had conducted its financial affairs successfully during the year and there was a credit balance in the bank of $356.

A Simple Staining Method for the Gonococcus.

In the *Dominion Medical Monthly* Dr. J. G. Fitzgerald and Dr. E. H. Young of the Toronto Hospital for the Insane give a preliminary note on the above subject. It is simple and has been found useful by them and, as they state, must appeal to the busy general practitioner. The gonococcus is stained by an aniline basic dye and is decolourised by Gram's method. Their method is simply the application of Nissl's soapy methylene-blue solution without any counter-stain, the solution being made as follows: methylene blue B. patent, 3·75; Venetian soap, 1·75; and distilled water, 1000. The smears, which should be made on slides (and care must be taken to have them as thin as possible), are fixed in the air and then stained (without heating) for one minute with Nissl's solution, washed, blotted, and are ready for examination with the oil-immersion lens.

Is Toronto to Have a New Medical School?

McMaster University is a denominational institution in Toronto belonging to the Baptists. At a recent Baptist convention held at Woodstock the board of governors and Senate of McMaster University submitted to that convention a report recommending the project of establishing a medical faculty in connexion with that university. The University of Toronto, with which McMaster University is not affiliated, has a strong medical faculty, their freshmen numbering this year about 230. Probably McMaster University considers this is too large a class even of freshmen for one university to handle successfully and that it could attract to itself a considerable proportion of the medical student body attached to the Provincial University. However, as yet no definite steps have been taken along the lines suggested by the Senate and board of management of McMaster University.

Dec. 20th, 1907.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Centralised Ambulance System.

ALTHOUGH New York was the first city in this country to adopt the army ambulance as a means of conveying the sick in civil practice there has never been a well-organised system of ambulance service. Each hospital has had its own ambulances and the police officials have summoned them in cases of emergency. The police authorities have created districts for the different hospitals to which the ambulances of that hospital have been limited, except on occasions of great emergencies. The Municipal Hospital Commission recently devoted a session to conferences with representatives from the various hospitals for the purpose of obtaining information in regard to the working of the present system. The conclusion was that there should be a central ambulance station corresponding to the fire headquarters to which all ambulance calls should come and through which they should be assigned to the various hospitals.

Flies the Cause of High Summer Mortality.

The Merchants' Association Committee on Pollution of the Waters has published the report of the bacteriologist of the Water Bureau of New York city on investigations to determine the influence of river flies in conveying the germs of disease to the people of the city. It appears that a large number of fly-traps were placed underneath the piers of the city which were daily visited and the flies collected and submitted to examination by counting and the best bacteriological methods. The examination showed that a "South Street house-fly" carried 100,000 bacteria. At the same time a careful investigation was made of the sanitary condition of the water front of the entire city. It was found that sewage abounded and that these flies were thickest at the point where there was the most sewage and that where it was scarce the flies were few in number. The flies were found to carry less bacteria in the early season than during the hot term. The tabulations and diagrams of the report show that the time of the greatest prevalence of flies in 1907 was the three months beginning July 1st and ending Oct. 1st. A record of the deaths from intestinal diseases shows that the deaths from these diseases rose above the normal at the time at which the flies became prevalent, culminated at the same high point, and fell off at the time of the gradual falling-off of the prevalence of the insect. The report concludes with the assertion that this so-called harmless insect is one of the chief sources of infection, which in New York city causes annually about 600 deaths from typhoid fever and about 7000 deaths yearly from other intestinal diseases.

The Plague on the Pacific Coast.

It appears from a report of a commission acting under the authority of the American Medical Association that the plague has not been exterminated from the Pacific coast. Since August 108 cases have been verified, of which 65 died. There was in addition a large number of suspected cases. The first recognised case occurred in 1900, but suspected cases had from time to time been previously reported. The effect of the great fire following the earthquake seems to have been to extend the disease by scattering the rats and the inoculation of ground squirrels, though an enormous number of rats were killed in the fire. Another feature of the fire which increased the spread of the plague was the insanitary conditions which followed. The commission states that the sewer system was almost completely broken up, water was scarce, people were compelled to cook and almost to live in the streets, garbage was thrown about promiscuously, refugees were crowded together in tents and later in shacks, and these camps became filthy. Some of these camps are said to have become hives of dirty humanity and to have swarmed with rats and fleas. That the plague is now widely scattered among the cities of the Pacific coast is evident and the measures taken to arrest and exterminate it seem altogether inadequate owing to the indifference of the people and the local authorities outside of San Francisco and Oakland where thorough anti-plague work is being done. The commission concludes that the continued existence of such a disease over such an area, and for the time during which it is evident that the infection has existed here, would seem to make the infection a subject for national consideration.

State Prohibition of Nostrums.

The State of Massachusetts, through its board of health, is rigidly enforcing its laws against the sale of noxious nostrums, one of the most conspicuous of which is cocaine in various forms. The law, which went into effect on Sept. 1st, 1906, provides—

> That it shall be unlawful for any person (including physicians) to sell or to expose or offer for sale or to give or exchange any patent or proprietary medicine or article containing cocaine or any of its salts or alpha-eucain or beta-eucain or any synthetic substitute of the aforesaid.

A large number of preparations, generally advertised as remedies for catarrh or diseases of the throat, have been condemned by the board of health, and their proprietors brought into court and convictions obtained. The effect of this law in the suppression of these injurious and often dangerous nostrums has awakened a wide-spread interest and other States are certain to take similar action.

Tuberculosis in Herds of Cattle.

The New York State Veterinary College reports through its expert bacteriologist that 72 per cent. of the herds of the State of New York are tuberculous. This expert has made a careful study of meat inspection and states that although the citizens of the State are now thoroughly protected against Chicago and Western beef by the pure food and meat inspection laws, the markets of the State are loaded with domestic beef, a large percentage of which is infected with the tuberculous germ. The statistics collected by Professor Moore show that of 364 herds examined 72·3 per cent. included tuberculous animals. Estimates based on these

year's total was £6170. The movement is now very well organised and works smoothly. The greatest contribution was made by the police whose collection through their band was £605.

Women's Hospital, Melbourne.

A fund was recently started by the Lady Mayoress of Melbourne for extension of buildings at the Women's Hospital. It is now announced that the fund has reached £5000, which enables the committee to claim a further sum of £5000 promised by the Victorian Government.

The Protection of Infant Life.

The Victorian Government has introduced a Bill dealing with this subject. In 1901 there were 525 registered nurses in charge of 779 children and the deaths were 12·7 per cent. There were 69 police inspectors. In 1902 the percentage of deaths was 15·1; in 1903, 13·7; in 1904 9·7; in 1905, 7·8; and in 1906, with 583 nurses and 974 children, the deaths were 10·9 per cent. The number of police inspectors had increased to 124. In introducing the new measure the Chief Secretary said the great difficulty was to induce a better class of women to register as nurses. He thought that this would be overcome by taking the inspection out of the hands of the police. In South Australia the Act was administered by an honorary council and in New South Wales by the chief officer of charitable institutions. Under the new Bill the control would be placed in the hands of the department for neglected children. That department had honorary committees chiefly of ladies throughout Victoria who were prepared to keep a supervision over the children. The payment of lump sums to nurses for taking charge of children was to be forbidden absolutely. The parents could pay a sum to the department but nurses would receive weekly payments. For the first 12 months the payment would be 10*s.* per week. After that the rate might be reduced to 7*s.* per week. There would be two or three female inspectors appointed and an extra £1000 per annum would be required for payments to medical men for extra supervision. Particulars of a child's parentage would be kept and revealed only by order of the Minister. In certain circumstances a medical certificate of death would be accepted instead of the statutory coroner's inquiry as at present. Under the new Bill provision is also made for the establishment of maternity homes.

Public Health in Queensland.

The annual report of the Commissioner for Public Health, Queensland, was presented to Parliament last month and covers the work to June 30th. Dr. B. B. Ham refers at some length to the inadequacy of means of domestic storage for meat and milk and remarks: "The food 'safe' and larder may often be labelled as infected domestic areas." Ophthalmia is noted as an increasing danger to children in western Queensland and the need for domestic care and school inspection is insisted upon. The inspection of foodstuffs was being carried out by the department as, with the exception of the Brisbane city council, local authorities continued to display great apathy. A marked improvement was generally manifested in existing conditions compared with those of a few years ago.

Adelaide Children's Hospital.

The thirty-first annual meeting of the friends and supporters of this institution was held on Oct. 31st under the presidency of the Governor of South Australia (Sir G. R. Le Hunte). The annual report showed that 593 in-patients had been treated with 36 deaths, that 563 surgical operations had been performed, and that the out-patient attendances totalled 8161. The revenue of the institution was well maintained and the hospital benefits largely from a legacy of £200,000 under the will of the late Mr. T. Martin. The share of revenue available from this fund will permit extension of the hospital buildings in the near future and the committee had already been able to make some additions and renewals. The officer-bearers were re-elected on the motion of the Bishop of Adelaide.

Transposition of Viscera.

A patient recently died in the Queenstown Hospital, Tasmania, from acute nephritis. The medical officer noted during life that the heart was transposed and a post-mortem examination revealed complete transposition of all the viscera. The deceased was a boiler-maker and had always enjoyed vigorous health.

Nov. 30th, 1907.

Obituary.

SIR ALFRED BARING GARROD, M.D. LOND., F R C.P. LOND., F.R.S.,

CONSULTING PHYSICIAN, KING'S COLLEGE HOSPITAL.

BY the death of Sir Alfred Baring Garrod, which occurred on Dec. 28th, 1907, at the advanced age of 88 years, the profession of medicine in the United Kingdom loses one of its oldest and best known members.

Alfred Garrod was born in 1819, at Ipswich, and received his early education at the Ipswich Grammar School, whence, after serving an apprenticeship to Mr. Charles Hammond, surgeon to the East Suffolk Hospital, he proceeded to University College and the hospital attached thereto. He graduated at the University of London, being placed first in medicine at the examination for the degree of M B. in 1842 and also at that for the degree of M.D. in the following year. He became a Member of the Royal College of Physicians of London in 1851, was elected a Fellow in 1856, served as Senior Censor in 1887, and as a Vice-President in 1888. In the year following his election as Fellow he was the Goulstonian lecturer, the subject of his lectures being Diabetes. In 1858 he received the honour of being made a Fellow of the Royal Society of London. In 1883 he delivered the Lumleian lectures at the Royal College of Physicians of London, his subject being Uric Acid: its Physiology and its Relation to Renal Calculi and Gravel. As regards his career as a practising physician, he was elected assistant physician to University College Hospital in 1847 and full physician and professor of therapeutics and clinical medicine in 1851. In 1863 he became physician to King's College Hospital as well as professor of materia medica and therapeutics and clinical medicine at the college. These posts he held until 1874 when he was made consulting physician.

Sir Alfred Garrod is best known to the present generation of medical men by his work upon materia medica, originally published in 1855, and by his researches into the nature of the pathological conditions which are associated with the terms "gout" and "rheumatics." It was in 1847 that he discovered the presence of uric acid in the blood of gouty patients and a paper by him upon this subject was communicated to the Royal Medical and Chirurgical Society of London on Feb 8th, 1848, by the late Dr. C. J. B. Williams. The paper was received with great interest and Dr. Williams pointed out that although he himself had for years taught that the presence of lithic acid in the blood was the cause of gouty manifestations yet the demonstrative proof that this acid did exist in the blood in such circumstances was entirely due to Dr. Garrod. The subjects of gout and rheumatism continued to interest Dr. Garrod for many years and in 1859 he published his well-known work upon the Nature and Treatment of Gout and Rheumatic Gout. This latter disease he proposed should in future be called rheumatic arthritis, a designation which is now giving way to arthritis deformans. It was in this book that he drew attention to the use of the lithium salts for gouty conditions. In 1883 Dr. Garrod delivered the Lumleian lectures as stated above. In these lectures he first discussed the probable seat of origin in the body of uric acid, alluding naturally to his own discovery of that substance in the blood in 1847. He also considered the urines of all classes of the animal kingdom with which he had made many experiments, as he had also done with their blood by his now classical thread test. He entered very fully into the whole matter, concluding that the evidence was strongly in favour of the true renal origin of uric acid. He then discussed the bearing of his views on calculus formation and the influence of different diets upon that disorder, and finally described experiments which he had made to check the late Sir (then Dr.) William Roberts's well known work on the Solubility of Uric Acid in Alkaline Carbonates and Other Reagents. This excellent course of lectures proclaimed him a patient investigator and a clear thinker on a subject in which he was keenly interested. In these lectures he did not expound his views on uric acid in relation to gout but it is interesting to recall them as he expressed them elsewhere He held that with lessened alkalinity of the blood there was increased uric acid owing to faulty elimination and that this diminution of alkalinity caused the deposition of the sodium urate, which required a more alkaline medium to hold it in solution.

SIR ALFRED BARING GARROD, M.D. LOND., F.R.C.P. LOND., F.R.S.,
CONSULTING PHYSICIAN, KING'S COLLEGE HOSPITAL.
(*From a photograph taken about 1887.*)

he was urged by some of his colleagues to apply for that post but could not be induced to do so. He was for some years medical officer of health of the borough of Wrexham and rendered valuable services in the advancement of sanitary science and public health. He was a former president of the North Wales branch of the British Medical Association and his year of office was a most successful one. He had high ideals of medical ethics and his advice was always in consonance with the best traditions of the duties of members of the profession to the public and to one another. Not the least of his characteristics were his modesty and unassuming manner. To all who knew him he was the embodiment of uprightness of conduct and he lived and died a pattern not only of a good physician but of an English gentleman.

THOMAS ANNANDALE, M.D. EDIN., F.R.C.S. ENG. AND EDIN., D.C.L. DURH.,

REGIUS PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

IT is difficult for those who knew Professor Annandale and frequently saw him going to, or returning from, the infirmary to realise that his figure has finally disappeared from the streets of Edinburgh. Few men were more widely known to sight by the general public. No one would have guessed that he would so suddenly have been removed from the sphere of active surgical work. On Thursday afternoon, Dec. 19th, 1907, he operated in the infirmary, dined at home, retired early as was his habit, and on Friday morning was found dead in bed. That this was a great shock to his colleagues and professional friends can easily be realised. There had been no hint of indisposition of any kind; no man seemed to carry his years more easily; no man appeared more equable or seemed to work with greater ease; and yet within the space of a few hours he passes from the operating theatre to the final bourne. That his more intimate friends in the Senatus and outside should have been stunned by the occurrence is not difficult to realise.

Professor Annandale was born in November, 1838, so that he had only reached his sixty-ninth year. He was a native of Newcastle and made his first acquaintance with surgery in the hospital of that town and in his father's practice. In 1856 he became a student of medicine in Edinburgh. He graduated in 1860 and received a gold medal for his thesis on the Injuries and Diseases of the Hip-joint. In 1859 he obtained the M.R.C.S. Eng. Immediately after graduation he became house surgeon to Professor Syme, a post which he held for 12 months. In this position he so impressed his great master with his surgical capacity that Syme made him his private assistant. He occupied this important position from 1861 to 1870, when Syme died. He accompanied his master to operations all over the country and when he became a candidate for an honorary surgeoncy in the infirmary he had Professor Syme's warm support, a support which no doubt weighed heavily in determining his appointment. Before this appointment he had been awarded the Jacksonian prize for his essay on the Malformations, Diseases, and Injuries of the Fingers and Toes and their Surgical Treatment. In 1871 he became a full surgeon to the infirmary and became entitled to lecture on clinical surgery. He was a popular lecturer and always drew a large number of students to his lectures and his ward clinics. When in 1877 Professor (now Lord) Lister resigned the chair of clinical surgery Mr. Annandale was appointed his successor. This post he filled until his death. Professor Annandale's professional life was thus spread over a very remarkable period in the history of surgery. He began surgery at a time when expertness and dexterity, nerve, and courage were absolutely necessary to the surgeon. He had as his master in these departments the great Syme. Meanwhile Lister was slowly, laboriously, but surely laying the foundations of a scientific side of surgery that was destined to revolutionise the whole practice and to transfer technical dexterity with the operating knife to dexterity in asepsis. Following upon this came abdominal surgery where patient labour in the depths of that cavity led to the great victories gained in this region. Professor Annandale's 45 years of active surgical work thus covered a time marked by the beginning, the growth, and the complete success of a revolution in his own department.

In virtue of his surgical instinct and his great experience his opinion was often invaluable; his dexterity, resourcefulness, and nerve never forsook him. He was known wherever Edinburgh graduates were placed; he was proud of his friends and former students dotted all over the globe; he used to boast that he had operated in three, if not in four, continents. He was a member of various learned societies and he was Surgeon-General to H.M. the King's Bodyguard for Scotland—the Royal Archers. In all University matters he took the warmest interest, especially in all matters affecting the comfort, or well-being, or interests of the students. He took a prominent part in connexion with the Students' Union and with the Athletic Club and other projects which he regarded as for the good of the students. He was much liked by them; indeed, their liking amounted to affection. He was a kind-hearted, friendly, and genial influence in Edinburgh medical life.

Professor Annandale married in 1874 a daughter of the late Mr. William Nelson, of the well-known publishing firm. There was a family of three sons and three daughters. The funeral took place on Dec. 23rd from St. John's Episcopal Church to the Dean Cemetery.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Professor Adalbert Tobold, *privat-docent* of laryngology and rhinoscopy in the University of Berlin. Dr. Oskar Lassar, *privat-docent* of dermatology and syphilis in the University of Berlin.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following appointments have been made: Senior Demonstrator in Anatomy, Dr. W. L. H. Duckworth; Junior Demonstrator in Anatomy, Dr. D. G. Reid. The following has been examined and approved for the degree of Master of Surgery:—

E. W. Sheaf, Downing.

At examinations for Medical and Surgical Degrees held in Michaelmas Term, 1907, the following candidates were successful:—

SECOND M.B. EXAMINATION.

Human Anatomy and Physiology.—R. L. Barker, B.A., Caius; F. S. Bedale, Clare; J. P. Benskin, Christ's; D. C. Bluett, Emmanuel; C. H. B. Booth, King's; E. G. S. Cane, B.A., Jesus; R. G. Canti, B.A., King's; R. F. P. Cory, B.A., Caius; H. T. Depree, B.A., Clare; C. Ede, King's; R. Ellis, B.A., Catharine; A. G. Evans, Trinity; J. T. Fox, B.A., Sidney Sussex; A. W. Gaye, B.A., Caius; A. C. Gemmell, B.A., Trinity; R. W. B. Gibson, B.A., Jesus; H. K. Griffith, B.A., Trinity; L. S. M. Habich, B.A., St. John's; J. B. Hance, Christ's; L. C. D. Irvine, Emmanuel; A. C. Jepson, B.A., Pembroke; J. C. John, King's; L. F. G. Lewis, B.A., Christ's; J. R. Marrack, St. John's; W. G. Marsden, Emmanuel; C. C. Messiter, B.A., C. G. H. Moore, B.A., and P. A. Opie, B.A., Caius; G. M. Parker, B.A., Emmanuel; A. B. Pavey-Smith, Clare; J. W. Pigeon, Christ's; H. B. Pope, Caius; P. A. Powell, B.A., Trinity; R. A. Ramsay, Caius; E. Rayner, Pembroke; W. D. Ross King's; A. Sandison, B.A., Trinity; F. P. Saunders, B.A., Clare; W. Shipton, B.A., Emmanuel; I. Singh, B.A., Pembroke; G. N. Stathers, Trinity; F. J. Thorne, B.A., Jesus; P. B. Wallis, B.A., Pembroke; and F. H. Watson, B.A., and J. B. A. Wigmore, Caius.

THIRD M.B. EXAMINATION.

Part II., Surgery, Midwifery, and Medicine.—J. B. Banister, M.A., Jesus; J. W. H. Bean, B.A., H. Selwyn; E. Beaton, B.A., Caius; H. S. Berry, M.A., Clare; C. W. Bowle, B.A., Trinity; D. W. A. Bull, B.A., Caius; B. P. Campbell, B.A., Clare; J. R. C. Canney, B.A., Christ's; H. B. Carlyll, B.A., St. John's; R. G. Chase, B.A., Trinity; R. N. Chopra, B.A., Downing; F. Clayton, B.A., Trinity; H. N. Coleman, B.A., Christ's; G. H. Davy, B.A., Caius; A. W. C. Drake, B.A., Pembroke; N. M. Fergusson, B.A., Magdalene; G. B. Fleming, B.A., King's; R. L. Gamlen, B.A., Caius; G. Graham, B.A., Trinity; F. W. W. Griffin, B.A., King's; O. Heath, B.A., Trinity; B. B. Hinde, B.A., Emmanuel; A. F. Jackson, B.A., Peterhouse; K. A. Lees, B.A., King's; S. G. Luker, M.A., Pembroke; M. W. B. Oliver, B.A., Trinity; E. V. Oulton, B.A., Christ's; B. H. Palmer, B.A., Pembroke; W. G. Parkinson, B.A., Emmanuel; B. A. I. Peters, B.A., Jesus; J. H. Ryffel, M.A., Peterhouse; L. Shingleton-Smith, B.A., St. John's; E. Slack, M.A., Pembroke; B. C. Sparrow, B.A., Trinity; H. H. Taylor, B.A., Pembroke; C. H. Treadgold, M.A., Clare; F. B. Treves, B.A., Caius; P. J. Verrall, B.A., Trinity; K. M. Walker, B.A., Caius; and A. Wilkin, B.A., King's.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following students of the above school successfully passed the examination in Tropical Medicine held at the end of the twenty-fifth session, October to December, 1907:—

*Graham U. Smith, M.B., D.P.H., M.R.C.S., L.R.C.P.; *Major W. Westropp White, I.M.S., M.D., M.Ch., M.A.O.; *H. L. Deck, M.R.C.S., L.R.C.P.; *J. Cross, M.B., Ch.B.; G. H. Hustler, M.B., Ch.B. (Colonial Service); Captain M. J. Quirke, I.M.S., M.B., Ch.B.; F. L. Henderson, M.R.C.S., L.R.C.P. (Colonial Service); T. L. Craig, M.B., B.Ch. (Colonial Service); W. R. Larbalestier, L.R.C.P., M.R.C.S., L.D.S. (Colonial Service); A. E. Oakeley, M.R.C.S., L.R.C.P.; W. B. Gibson, F.R.C.S., L.R.C.P.; F. A.

SIR ALFRED BARING GARROD, M.D. LOND., F.R.C.P. LOND., F.R.S.,
CONSULTING PHYSICIAN, KING'S COLLEGE HOSPITAL.
(*From a photograph taken about 1887.*)

practitioner present worked appropriately by making President for the evening Dr. R. Palgrave Simpson who, after 40 years' practice in Weymouth, is shortly retiring. An excellent dinner was served and after the toast of "The King" allusion was made to the approaching departure of Dr. Simpson and his health was enthusiastically drunk. In returning thanks the chairman recalled the fact that he was the sole surviving representative of the old local book club which was already defunct before the arrival in Weymouth of any other medical man present. The remainder of the evening was occupied by an excellent programme of music and at the close of a very pleasant gathering the club congratulated itself on a most propitious "send-off."

Royal Microscopical Society.—At the Royal Microscopical Society on Dec. 18th, 1907, Mr. J. E. Barnard showed a number of luminous bacterial cultures in test-tubes and flasks. He said that the bacteria were all of marine origin and that they were cultivated in an ordinary gelatine medium to which certain salts had been added. At first he used the chlorides of sodium, potassium, and magnesium in proportions resembling those in which they occurred in sea water, but he afterwards found that quite different salts, such as phosphate of sodium, were equally suitable provided the solution was isotonic to sea water. The light emitted was very nearly monochromatic, being included almost entirely between the F and G lines of the solar spectrum. The curve of light energy therefore rose and fell very abruptly, forming quite a contrast to the gradual rise and fall of the similar curve for sunlight. Before leaving this subject we may mention that directions for the cultivation of these organisms will be found in The Lancet of Oct 13th, 1900, p. 1087. A paper by Mr. E. M Nelson on Gregory and Wright's Microscope was read by the secretary. This microscope was made about 1786 by the firm of Gregory and Wright who were probably the successors of Benjamin Martin. It was a stage focusser and was described as an "aquatic microscope" —i.e., one in which the object-glass moved over the object instead of the object moving under the object-glass. Some of the features of Oberhäuser's drum microscope, made in 1835, were described. Another paper by Mr. Nelson, also read by the secretary and entitled "A Correction for a Spectroscope," suggested that the telescope of a spectroscope should have its object-glass pivoted so that the rays emerging from the prism might be received by it at varying angles. The secretary also read a paper entitled "Some African Rotifers," by Mr. James Murray who was at present on his way to the Antarctic regions. Mr. Eustace Large exhibited as polariscope objects a variety of sections of selenite illustrating the phenomena of "twinning." They were shown both in table polariscopes and under low powers of the microscope; the visible effects consisted of brilliantly coloured geometric patterns.

BOOKS, ETC., RECEIVED.

Perlado. Páez y Ca (Sociedad en Comandita) (Sucesores de Hernando), Arenal, 11, 7 Quintana, 31, Madrid.

Diagnóstico y Tratamiento de las Enfermedades de las Vías Urinarias. Lecciones elementales. *Por Alberto Suárez de Mendoza*, Profesor de Enfermedades de las Vías Urinarias en la Facultad de Medicina de Madrid. *Price* 15 pesetas.

Richards, Grant, 7, Carlton-street, London, S W.

The Birds of the British Islands By Charles Stonham, C.M.G. F.R.C S., F.Z.S *With illustrations by* Lilian M. Medland. In 20 parts. Part VIII. Price 7*s.* 6*d* net.

Rueff, J., 6 and 8, *Rue du Louvre, Paris.* (En Vente chez Vigot Frères, Paris.)

Les Ferments Métalliques et leur Emploi en Thérapeutique. *Par* Albert Robin, Professeur de Clinique Thérapeutique à la Faculté, Membre de l'Académie de Médecine. Price Fr 4.

Schoetz, Richard, Wilhelmstrasse, 10. Berlin.

Der tatsächliche Krebserreger, sein Zyklus und seine Dauersporen. Von Dr. Robert Behla, Geheimer *Medizinalrat. Price* M. 4.50.

Walker, John, and Co., Limited, Farringdon House, Warwick lane, London, E.C.

Walker's *Diaries for* 1908. *No.* 7/77, American Russia, 3*s.* No. 23, Long-Grain, 2*s.* 6*d.* 17/417, Graphic, solid Basil 1*s* 6*d.* 4/64, Long-Grain, 2*s.* 6*d.* 3/53, cloth, 9*d.* 2/62, Long-Grain, 1*s.* 6*d.* 1/111, Solid Basil, 1*s.* 1/81, Solid Pigskin, 1*s.* 6*d.* Quarterly Diary (Vest Pocket), Long-Grain, 1*s.*

Whitaker, J., and Sons, Limited, 12, Warwick-lane, Paternoster-row, London, E.C.

An Almanack for the Year of our Lord 1908. By Joseph Whitaker, F.S.A. (Whitaker's Almanack). Price 2*s.* 6*d.* net.

Whitaker's *Peerage*, Baronetage, Knightage, and Companionage for the Year 1908. Price 2*s.* 6*d.* net.

Wilson, Effingham, 54, Threadneedle-street, London, E C.

A Practical Guide to the Death *Duties* and to the Preparation of Death Duty Accounts. By Charles Beatty, Solicitor, of the Estate Duty Office, *Somerset House.* Second edition (Revised and enlarged). Price 4*s.* net.

Wright and Potter Printing Company, State Printers, 18, Post Office-square, Boston.

Twenty-eighth Annual Report of the State Board of Health of Massachusetts. *Price not stated.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Attenborough, Wilfrid, M.R.C.S., L.R.C.P. Lond, has been appointed House Physician at Addenbrooke's Hospital, Cambridge.

Byrne, P. Kevin, M.D., M.R C.P. Lond., has been appointed Assistant Physician to the London Temperance Hospital.

Clark, Robert V., M.B. Edin., has been appointed Medical Officer of Health of Leeds.

Corbin, H. H., M.R.C.S., L.R.C.P. Lond., D.P.H., has been appointed Medical Officer of Health of Stockport.

Dimock, Horace, M.B., B C. Cantab., has been appointed House Surgeon at Addenbrooke's Hospital, Cambridge.

Hailstone, J. E., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon at Addenbrooke's Hospital, Cambridge.

Hawes, Ivon Henry Skipwith, M.B., B.S. Durh., has been appointed Medical Officer for the Wick District by the Chipping Sodbury (Gloucestershire) *Board of Guardians.*

Higgs, F. W., M.B, B.S. Lond., M.R.C.P. Lond., has been appointed *Medical Registrar to St. George's Hospital.*

Hosford, J. Stroud, F.R.C.S. Edin., has been appointed Assistant Ophthalmic *Surgeon* to the London Temperance Hospital.

Hourigan, W. P., L.R.C.S. Irel., L.R.C.P. Edin., has been appointed Certifying Surgeon *under the Factory and Workshop Act* for the Freshford District of the county of Kilkenny.

Hunter, William, M.D., *C.M. Edin., F R C.P. Lond.*, has been appointed Physician to Charing Cross Hospital.

Jameson, R. C., M.B., C.M. Edin., has been appointed Honorary Clinical Assistant to the Eye and Ear Department *of* the Leeds Public Dispensary.

Johnson, L. Capper, M.B. Lond., Ch.B. Vict., M.R.C.S., L.R.C.P. Lond., has been re-appointed Honorary Anæsthetist to the Surgical Department of the Leeds Public Dispensary.

Legge, J. H, M.B., B Sc. Lond., has been appointed Honorary Anæsthetist to the Dental Department of the Leeds Public Dispensary.

MacHale, P. J., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Belmullet District of the county of Mayo.

Maclure, W. J., M.B., B.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Conisborough District of the county of York.

O'Grady, *F. R.* L.R.C.S. Irel., L.K.Q.C.P. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the *Swineford District of the* county of Mayo.

Quick Hamilton Ernest, B.Sc., M.B., B.S. Lond., L.R.C.P., M.R.C.S., *has been appointed* House Surgeon at the Swansea Hospital.

Sandilands, J. E., M.D. Cantab., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Winchester *District of the county of Hants.*

Spriggs, N. I. M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon *under the Factory* and *Workshop* Act for the Shrewsbury District of the county of Salop.

Sutcliffe, Amelia, *M.B., Ch.B. Edin., has* been re-appointed Honorary Clinical Assistant to the Leeds Public Dispensary.

Thomson, May, *L.R.C.P. & S. Edin., L.F.P.S. Glasg.*, L.M. Dub., has been re-appointed Honorary Clinical Assistant to the Leeds Public Dispensary.

Ward, J., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the *Factory* and Workshop Act *for the Leamington District* of the county of Warwick.

Whalley, Frederick, M.B., Ch.B. Leeds, *has been appointed* Honorary Anæsthetist to the Dental Department of the Leeds Public Dispensary.

Whitehead, Francis Henry, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the *Post Office* at *Battersea*, S.W.

Wilson, E. Allan, M.D. Lond., M.R.C.S., L.R.C.P. Lond., has been re-appointed Honorary Anæsthetist to the Dental Department of the Leeds Public Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bootle Hospital for Infectious *Diseases.*—Resident Medical Officer unmarried. Salary £100 per annum, with board, washing, and apartments.

Brighton, Sussex County Hospital.—Third House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

Burslem, Borough of.—Medical *Inspector* of Children in Public Elementary Schools (female). Salary at rate of £150 per annum, rising to £200.

SIR PATRICK HERON WATSON, LL D. EDIN., M.D. EDIN., F.R.C.S. EDIN., HON. F.R.C.S. IREL.,

HONORARY SURGEON IN SCOTLAND TO THE KING.

THE medical profession in Scotland has lost one of its most prominent members by the death of Sir Patrick Heron Watson of Edinburgh. The sad event was not unexpected, for he had been in poor health for some years and during the last six months he had been seldom out of doors. Heart failure was the cause of death and he passed away on Dec. 21st, 1907, at his residence in Charlotte-square, Edinburgh.

Patrick Heron Watson was a son of the late Rev. Charles Watson, D.D., parish minister of Burntisland, Fifeshire, and was born on Jan. 5th, 1832. In 1853 he graduated as M.D. at the University of Edinburgh; in the same year he also became a Licentiate, and two years later a Fellow, of the Royal College of Surgeons of Edinburgh. On the outbreak of the Crimean war he joined the Army Medical Corps as staff assistant surgeon, afterwards being assistant surgeon in the Artillery and Royal Horse Artillery. For six weeks after reaching the Crimea he was invalided with typhus fever and then was attached to the battery at Balaclava, where he had dysentery and was seriously ill. For his services in the war he received the Crimean, Turkish, and Sardinian medals On his return home Dr. Watson commenced the teaching of surgery at High School Yards, Edinburgh; was subsequently elected lecturer on systematic and clinical surgery at the school of the Royal College of Surgeons of *Edinburgh*; and was then appointed surgeon to the Royal Infirmary, of which he continued a consulting surgeon. He was also consulting surgeon to Leith Hospital and *surgeon at Chalmers Hospital, Edinburgh. He* represented the Royal College of Surgeons of Edinburgh on the General *Medical Council from 1882 to 1906*, succeeding the late Mr. James Spence and being himself succeeded by Dr. *J. W. B. Hodsdon*. He was also a member of the Edinburgh University Court, a curator of patronage, and an honorary Fellow of the Royal College of Surgeons in Ireland. In 1884 he received the distinction of LL.D. from the University of Edinburgh; he was an honorary surgeon in Scotland to Queen Victoria and was honorary surgeon to the King. He was a Chevalier of the Order of Carlos III. of Spain, was a surgeon of the 5th Volunteer Infantry Brigade, and held the Volunteer Decoration. He was also a Deputy Lieutenant of the City of Edinburgh No surgeon was more widely known in Scotland, and his services as operator or consulting surgeon were in request in difficult cases all over the country. In July, 1903, he received the honour of knighthood. As President of the Royal College of Surgeons of Edinburgh he took a leading part in the celebrations of the quatercentenary of the College in 1905. That was the second occasion upon which he had held the position of President, the previous occasion being in 1878. His principal published works, with their dates, were "The Modern Pathology and Treatment of Venereal Disease" (1861) and "Excision of the Knee-joint" (1867) He also edited the late Professor James Miller's "System of Surgery." He married a daughter of Professor Miller to whom he acted as assistant for several years after his return from the Crimea. His wife predeceased him several years ago but he is survived by two daughters and two sons.

For the following appreciation of the life and work of the deceased we are indebted to Mr. Rutherford Morison of Newcastle-on-Tyne:—

"The death of Sir Patrick Heron Watson must leave in the minds *of his old* pupils a sense of painful bereavement, for his was a unique and impressive *personality. To his old* house surgeons he was a hero they worshipped, for to work with him was an inspiration which *could not fail to leave its* mark on the least plastic of men. It was my privilege to act as his resident *surgeon in the year 1875 in the old Royal* Infirmary at Edinburgh. His reputation was then made and he was universally recognised as one of the foremost operators in the world. He had already performed most of the abdominal operations which are now common property, and had excised the spleen, the kidney, ovarian and uterine tumours, and portions of intestine at a time when it was thought impossible to bring such undertakings to a successful issue. He had then also excised the whole larynx for malignant disease and had performed several successful thyroidectomies by a new *and* original method, since generally adopted, of ligaturing the arteries of supply before interfering with the gland itself. It has indeed often seemed to me, in looking back to the time when I was working with him, that most of what he did then is the operative surgery of to-day and was at least 20 years in advance of that period. That he has not received the recognition as a surgical pioneer he deserved is due solely to the fact that he failed to avail himself, as so many of the strongest and ablest men of that generation did, of the revolution in the treatment of wounds which was being brought about by Lord Lister. It was impossible for him to accept the new principles in the whole-hearted fashion necessary to carrying out the details with success. Operations such as lateral lithotomy, excision of the jaw and tongue and rectum, which he performed with a skill I never saw equalled, gave brilliant results; many others, more dependent on attention to antiseptic detail, were in spite of his diagnostic ability and manipulative dexterity doomed to failure.

At the time previously mentioned (1875) and for twenty years afterwards his whole time was busily occupied by professional work. In addition to the largest surgical practice in Scotland, *consulting* and operating, he constantly had medical patients with all sorts of ailments under his care, and how he managed to get through all he had to do was a mystery to his friends. Yet he never appeared to be in a hurry and always found time to spare for his hospital work and surgical lectures and private pathological museum. Patients came from all parts of the world to consult him and with such faith it was a common saying in Edinburgh 'that most of them would rather be killed by Dr. Watson than cured by anyone else.' Small wonder that patients trusted him. Everyone who saw him felt at once his strength and capacity. Every surgeon must have experienced after finishing an anxious and difficult operation doubt as to whether he did the best that could be done to meet some sudden and unforeseen emergency, but nobody ever doubted this of Sir Patrick Heron Watson. He seemed to have considered every possibility beforehand, and any difficulties were so quietly met and so methodically dealt with that they could not appear, except to the initiated, as difficulties at all. There was a stronger individuality about Dr. Watson than about anyone else I *have* known and though this cannot be conveyed to strangers his *old house* surgeons will remember his military walk, his correct attire, his neat, plainly-written notes, his method of interviewing and prescribing for out-patients, his courteous manners, his independence of character, and his ready command of language, which might not always be to their satisfaction but was always *to their* lasting advantage, as peculiarly his own. There are many of us who will revere these memories for we loved the *man*."

JOSEPH LLEWELYN WILLIAMS, M.B., C.M. EDIN., M.R.C S. ENG., L.S.A.

THE *medical* profession in Wrexham and district has lost one of its kindest and most loyal colleagues in the lamented death of Dr. J. Llewelyn Williams of Holt-street House, which occurred somewhat suddenly on Friday evening, Dec. 13th, 1907, from heart disease. By his death the profession suffers a severe loss and to those who knew him best his sterling qualities and steadfast friendship will ever remain as cherished memories. Dr. Williams was the son of the late Dr. Edward Williams, who died in 1893 after many years of extensive practice in Wrexham and the surrounding neighbourhood. Dr Llewelyn Williams, like his father, was an ideal "family doctor." His gentle voice, honest, grave eyes, and sympathetic personality did much to cheer and help those in suffering and sorrow; always patient and ready to hear and to sympathise with their minor troubles and worries, he never left a bedside without a cheery word of help and comfort for his patient. Dr. Williams took his medical course at the University of Edinburgh, where he graduated with the degrees of Bachelor of Medicine and Master of Surgery in 1867; he also studied at St. Bartholomew's Hospital and qualified as M.R C S. Eng. and L S.A. He was a justice of the peace for the county of Denbighshire and took a keen interest in his *magisterial work*.

In 1876 he was elected honorary surgeon to the Wrexham Infirmary, a post which he held until 1881. *During* this period he gave his time, experience, skill, and encouragement to the suffering poor under his care, and there the kindly acts and unostentatious aid rendered to so many in a humbler sphere, although unrecorded, will not be forgotten. When a vacancy occurred later on the staff of that institution be diluted with water to the same concentration as normal blood serum. Distilled water is not suitable as a diluent, as it sometimes causes pain. It is better to dilute the sea-water with natural potable water in the proportion of 2 parts to 5. In conclusion, M. Carles points out that this method of treatment is not invariably suitable and that it rests with clinical experience to indicate the cases in which it may advantageously be employed.

LORD ROBERTS'S TROPHY FOR BRITISH (IMPERIAL) SCHOOLBOYS.

WITH the object of encouraging rifle shooting among boys under the age of 16—Government grants are only available for boys over this age—the committee of "Lord Roberts' Boys Association," 42, Sun-street, London, E.C., has issued a series of regulations under which the "Roberts Trophy" will be competed for by teams of primary schoolboys. The trophy will be given annually to the winning team of British (Imperial) schoolboys who are not over 16 years of age on July 1st in the year of the match. A bronze medal will be given to each member of the winning team, and a silver medal (the C. B. Fry medal) to the captain of the team. The first match will take place during the present year.

PRACTICAL HINTS ON MATERNITY NURSING, AND A "SPECIALIST."

THERE seems no end to the little books which are published on maternity nursing, and we have received another by "A Certificated and Experienced Nurse," published by the Scientific Press at the price of 6*d*. The information in this book is mostly trustworthy, but *although its author is undoubtedly well meaning she should* not write as follows. "*Unfortunately, few doctors seem to* understand the operation [circumcision] and make a long job of it, snipping the flesh away in places. ...... A neater and better effect is gained when circumcision is performed by one who knows how to do it," supplemented by a footnote—"Rev. A. Tertis, 'Specialist' in Circumcision, 33, Listria Park, Stoke Newington, N." We do not think that she should recommend the nurse to snip the mucous membrane in "tongue-tie" and we do not like her method of making a linseed poultice, but we take it that when she says "Each eye [of the baby] must be washed with a separate piece of rag and thrown away" she does not mean it. Otherwise the book is, as we have said, mostly trustworthy, and the list of "requisites" *for the mother, nurse, and baby is good.*

THE WINES OF WALLINGTON.

To the Editor of THE LANCET.

SIR,—In *Macmillan's Magazine* for January, 1880, the late Dr. (afterwards Sir) Benjamin Ward Richardson relates how on the First of April in the preceding year he had received an intimation by letter of a bequest which had been made to him by the late Sir Walter Trevelyan, Bart., of Wallington in Northumberland—a bequest which he considered of so remarkable a character that he could not rid his mind of a suspicion as to its genuineness, especially when he remembered that the intelligence regarding the benefaction had lighted upon him on All Fools Day. The letter acquainted him that the late Sir Walter Trevelyan (*a pronounced total abstainer like himself*) had left to him the wines in the *cellars of Wallington "to be applied to scientific* purposes." The wines, Dr. Richardson states, turned out many of them to be of great age as well as of rare vintage, the labels upon them dating as far back as 1752, but the chief difficulty with regard to them appeared to him to be how to apply them "to scientific purposes."

A perhaps pardonable spirit of inquisitiveness which a recent perusal of the *Macmillan* article has aroused prompts me to ask through THE LANCET, with your permission, whether any practicable scheme was ever devised *for* carrying into effect the beneficent desire of the testator in the application of the bequest "to scientific purposes," and if so what was its nature?

I am, Sir, yours faithfully,
W. R.

Dec. 26th, 1907.

THE MORPHINE HABIT IN RANGOON.

THE Superintendent of Excise at Rangoon, writing on the prevalence of the morphine habit in that city, says the present belief is that persons who habitually practise hypodermic injections to excess only live *for* a few years. The Superintendent of Excise and his assistant visited in June, 1900, a morphine den in Eighteenth Street and took the names and addresses of 30 persons present. Most of them were personally known to the assistant superintendent. On making inquiries in March, 1907, it was found and verified that all those 30 persons were dead. Some five had died from plague and the remainder from various other causes. This is probably an extreme instance, but it is evident that the habit is physically degrading as it is morally. At the suggestion of the Collector at Rangoon the Government *of* Burma has now ordered a leaflet describing the fatal effects of the *drug to be printed* and circulated in quarters where the morphine habit is known to hold sway.

MILK AND MANGLING.

SANITARY authorities are realising more than ever the importance of keeping a watchful eye upon purveyors of milk. Prosecutions are becoming more frequent and they should be the means of not only serving as a warning to milk-sellers but of drawing public attention to some of the conditions to which milk is subjected before it is retailed in small quantities. Two notices, "Mangling done here" and "Milk sold here," recently appeared in a window at a private house in Brighton and a visit by sanitary officers showed th in a small scullery were a mangle and a quantity of milk in a cha Offensive smells in the house and in the yard in the rear wa caused by their general dirtiness and were aggravated by the fa that greyhounds roamed about the place, the milkman being breeder of those animals. The sequel to the visit of the officers w the appearance of the milkman before the borough magistrates o Dec. 18th. He was summoned for failing to take reasonable an proper precautions in connexion with the storage and distribution o *milk and otherwise to* prevent the exposure of *milk on his* premis to any contamination. But the seriousness of the offence seems hardl to have been realised by the magistrates who only inflicted a fine o 40s. and costs, and this notwithstanding that defendant had bee warned about the condition of the premises 12 months before. I their decision the magistrates may have been actuated by the fa that it was the first prosecution of the kind in Brighton, althoug the regulation under which process was taken was one of a set mad as far back as the year 1900 by the corporation under the Dairi Cowsheds, and Milkshops Order of 1885.

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Concerned should notify the Registrar at 299, Oxford-street, Londo W., of the omission of his name and state exactly *how it* occurred His name will then be restored by a formal process at the next meeting of the General Medical Council on payment of a fee.

Veritas.—Abuse might arise out of advertisements similar to the one t which our correspondent calls our attention. But in the particula case we feel sure he need have no apprehension as *to* the aims of th lecturer or the value to the community *of his words.*

Button.—We must beg our correspondent to read the letters which hav so recently appeared in our columns, when he will find that all wh he says—we agree with most *of it*—has been said before.

ERRATUM.—In THE LANCET, of Dec. 21st, 1907, p. 1756, in a Note of a Case of Bone Abscess caused by an "Intermediate" Bacillus allied t Bacillus *Paratyphosus*, the sentence beginning "As the typhoid bacillus coagulates milk" should read "As the typhoid bacillus does not coagulate milk and renders glucose acid without the formation o gas the organism in question is generally classed as paratyphoid," &c.

COMMUNICATIONS not noticed in our present issue will receive attentio in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. *Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham* (Ophthalmic, 2.30). P.M.

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), *King's College (2 P.M.)*, Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (10th).—*London (2 P.M.), St. Bartholomew's* (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), *Middlesex* (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), *St Mary's* (10 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), Wille, M.B., Ch.B., M.D., D.P.H.; T. F. Macdonald, M.B., C.M., M.R.C.V.S.; R. FitzHerbert Johnston, M.B., Ch.B.; and W. S. Snell, L.R.C.P., L.R.C.S. (Colonial Service).

* With distinction.

Donations and Bequests.—Under the will of Mr. Isaac Coley of Peckham, S.E., Guy's Hospital, St. Thomas's Hospital, University College Hospital, and the Lying-in-Hospital will each benefit by a sum of about £3000.

Medical Magistrates.—The Lord Chancellor has, on the recommendation of the Duke of Fife, the Lord Lieutenant of the county, added the name of Dr. R. J. Collie to the commission of the peace *for the county of London.*—Dr. Henry Willson of Weybridge has been placed upon the commission of the peace for the county of Surrey.

Presentation to a Medical Practitioner.—Mr. J. W. Smith, M.R.C.S. Eng., L.S.A., was on Dec. 25th last presented with a motor-car with accessories and motor-house by the inhabitants of Weaverham, Acton, Delamere, Cuddington, Norley, and surrounding districts in recognition of 40 years' professional services and 18 years' service as a Cheshire county councillor.

Tragic Death of a Medical Man.—Dr. George John Sealy of Weybridge, Surrey, lost his life on Dec. 24th last in a tragic manner. He was riding on horseback with his groom along the towpath towards Chertsey. Owing to the floods the path was quite unsafe and near Chertsey Bridge Dr. Sealy's horse, which was leading, plunged and slipped, with the result that both horse and rider were precipitated into the river. The horse managed to get out again but *nothing* could be seen of Dr. Sealy. The groom dismounted and tried to render assistance, as did also the driver of a van who witnessed the accident but neither could render any help to rescue the unfortunate medical man. Dr. Sealy became M.R.C.S. Eng. and L.S.A. in 1861 and M.D. St. Andrews in 1862 and worked in conjunction with Dr. R. D. R. Crofton-Atkins of Weybridge.

The Children's Sanatorium (Holt, Norfolk).—A first report, with accounts from March, 1904, to Dec. 31st, 1906, with a list of subscribers, has recently been issued. The sanatorium is established for the treatment of children, few sanatoriums taking children under the age of 16 years. The age of admission for girls is from two to 16 years and for boys (until permanent buildings are erected) from two to seven years. Cases must be in the early stage of pulmonary tuberculosis. Payment for cases depends on the condition of the maintenance fund. A limited number of cases are received at 7*s.* 6*d.* per week, other cases at 15*s.* per week, and other cases from unions or other local authorities are received by special arrangement. The length of stay depends upon the report of the visiting medical officer (Dr. J. B. Gillam of Holt) and upon the continuance of the payment, if any. On August 1st, 1906, the first batch of children arrived at Holt, "and up to the present time" (presumably the end of October, 1907) some 21 cases have been received. From the accounts we gather that £220 have been spent on the maintenance of cases, and that of the 21 cases so far taken 15 have paid 7*s.* 6*d.* a week, five have paid 15*s.* a week, and one has been taken free. The income annually required to maintain always 15 cases (a full occupation of the accommodation), if taken quite free, would amount to £850, or if the same number of children were to pay 7*s.* 6*d.* per week each, the sum necessary would be £550 per annum. The committee, however, appeals for an annual subscription of £700 in order that about half the cases may be taken without payment and half at 7*s.* 6*d.* per week. It also appeals for donations to the building fund. Dr. F. W. Burton-Fanning of Norwich, who is the honorary consulting physician, states that the Children's Sanatorium has acquired an ideal site at Holt and he trusts that it will be supported in its endeavours to supply a pressing want. Donations for the building fund, or donations or annual subscriptions for the maintenance of cases fund, will be gratefully received by the honorary secretary of the sanatorium (Mr. T. H. Wyatt, M.V.O.), at 68, Denison House, Vauxhall Bridge-road, London, S.W. The bankers are Messrs. Hoare and Co., London. The Rev. E. C. Bedford is the chairman of the committee and the treasurer is Mr. Alfred Hoare. As soon as the money is forthcoming 50 patients can be dealt with. Holt (near Cromer) should be of interest to Cambridge graduates on account of its connexion with Sir Thomas Gresham, "the Royal Merchant," who went to Caius College, Cambridge, and who, it is recorded, was called by Caius "Doctissimus mercator." Some authorities say he was born at Holt, but more maintain that London was his birthplace. However, he founded a school at Holt.

Derbyshire Women's Hospital.—The new buildings which form the extension of the Derbyshire Women's Hospital, Derby, were opened on Dec. 12th, 1907, by Lady Fitzherbert. The new buildings comprise an out-patient department, with waiting-room for 50 people, consulting and retiring rooms, and a dispensary; a ward containing seven beds and two smaller wards for such cases as are being treated apart; additional accommodation for the nursing and domestic staff; and a laboratory and workroom. The estimated cost of the additions to the hospital is about £2000. The hospital was founded in 1891, during which year 34 patients were treated. In 1906 the in-patients numbered 136 and the out-patients 1284.

Livingstone College.—Satisfactory progress in the work of this college is shown by the report for the year 1906–07, which was adopted at the annual general meeting of members held at the college, Leyton, London, E., on Dec. 10th, 1907. The deficiency of £522 at the commencement of the financial year has been reduced to one of £404. 32 students entered for the whole or part of the complete session of nine months, representing 15 different missionary societies, some of these coming from Germany, Switzerland, Sweden, Finland, and South Africa. The report points out that missionaries abroad are often responsible for the education of the young in the districts in which they are placed, and that they may be the means of giving instruction in hygiene, which may be of the utmost importance to the people of the country. Malaria, plague, and sleeping sickness are all of them, to a considerable extent, preventable diseases, and Livingstone College students may do much to combat their ravages.

Leprosy in India.—At Sabathu, where there is a large leper asylum for natives, a small cottage was set apart some time ago by Dr. Carleton, the American missionary in charge, for two European young women who had contracted the disease, and recently the number of inmates has been increased to five by the admission of two boys and a middle-aged man, all three with white skins. The price of grain food in India is at present very high, and we learn from the *Times of India* that mainly owing to this cause the bank account of the Mission to Lepers, of which Mr. Wellesley C. Bailey is superintendent, is now overdrawn to the extent of £1000. In Purulia, where there are 700 lepers in the asylum, the food is being bought at what once were considered famine rates, and at the Allahabad asylum the difference between former and present cost comes to Rs. 150 a month. Similarly depressing accounts are furnished by the numerous asylums in other parts of India which are dependent on the Mission. It is proposed to hold a conference next February at Purulia and delegates from Bengal, the United Provinces, the Central Provinces, and Central India are expected to attend.

The Weymouth and District Medical Club.—This club has recently been started on what is believed to be original lines. All resident medical men, active or retired, are eligible for membership, whilst Service men are invited to attend, as honorary members, the ordinary meetings of the club. The objects of the club are stated in its rules to be "the promotion of social intercourse and mutual support in any difficulties which may arise from time to time affecting the profession or individual members." The former object is attained by engaging a room in a central hotel, the Gloucester, in which the members may meet without any formality on one evening of each month in the winter, whilst provision is made for the latter by putting it into the power of any two members to bring any matter to the consideration of an early meeting of the committee, which consists of all the resident medical men in active practice. No permanent chairman or president is appointed but a new departure is made by a rule which places in the chair at any meeting of the club that member present who has been longest in actual practice in the district. An inauguration dinner, which was held at the Gloucester Hotel on Dec. 17th, 1907, was a great success and was attended by nearly every medical man in the place, the navy being well represented. The rule placing in the chair the senior

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Messrs. C. Ash, Sons, and Co., Lond.; Aberystwyth Infirmary, Secretary of; Anglo-American Pharmaceutical Co., Lond., Manager of; Mr. A. Anderson, Northampton; Dr. Izett Anderson, Lond.

B.—Mr. C. A. Ballance, Lond.; Major Blackham, R.A.M.C., Devonport; Dr. H. Bliss, Lond.; Mr. T. B. Browne, Lond.; Mr. H. Butterfield, Northampton; Mr. A. E. Bailey, Lond.; Messrs. J. H. Booty and Son, Lond.; Messrs. Battley and Watts Lond.; Dr. G. D. M. Beaton, Blackburn; Bailbrook House, Bath, Medical Superintendent of; Dr. B. M. Bernheim Baltimore, U.S.A.; Dr. D. T. Barry, Cork; Dr. Henry Bartlett, Hastings; Mr. Joseph Bruton, Hove; British Medical Benevolent Fund, Lond., Hon. Secretary of; Messrs. Robert Boyle and Sons Lond.; British Medical Temperance Association, Enfield, Hon. Secretary of.

C.—Dr. Edmund Cautley, Lond.; Mr. M. H. A. Clarke, Puteaux; Dr. S. G. Corner, Colchester; Chesterfield and North Derbyshire Hospital, Secretary of; Messrs. A. H. Cox and Co., Brighton; Mr. F. W. Clarke, Chorlton-cum-Hardy; Central Midwives Board, Lond., Secretary of; Mr. F. W. Collingwood, Lond.; Central London Throat and Ear Hospital, Secretary of; Mr. C. Campbell, Southport; Messrs. Carmacho, Roldan, and Van Sickel, New York; Messrs. T. Christy and Co., Lond.; Messrs. E. Cook and Co., Lond.; Messrs. Claye and Son, Stockport; Messrs. Cornish Bros., Birmingham; Messrs. J. and A. Churchill, Lond.; Mr. H. H. B. Cunningham, Belfast; Dr. W. H. Cooke Bath; Dr. Harry Campbell, Nice; Mr. Thos. E. Coulson, Bristol; Dr. R. J. Collie, Lond.

D.—Dr J. L. Dick, Ayr; Lieutenant-Colonel C. M. Douglas, A.M.S., Dunmow; Lieutenant K. Dixon, R.N., Lond.; Dr. A. B. Dunn, West Bridgford, Derbyshire Royal Infirmary, Derby, Secretary of; Mr. S. Davey, Caterham Valley.

E.—Dr C. M. Bigood, Moseley; Major W. M. Earle, I.M.S., Lond.; Equipoise Couch Co., Ashford, Manager of.

F.—Dr. P. G. Foulkes, Dorchester; Fermanagh County Hospital, Enniskillen, Secretary of; Mr. A. C. D. Firth, Lond.

G.—Dr. Lachlan Grant, Ballachulish; Guardian Assurance Co., Lond., Secretary of; Messrs. R. W. Greeff and Co., Lond.; Messrs. Gaymer and Son, Attleborough; Messrs. Gillies and Co., Glasgow.

H. Mr. F. W. Howe, Brighton; Dr. Musa Y. Hassan, Atbara; *Hospital Assistant*, Kolhapur, Editor of; Heatley Patent Commode Bed Co., Edinburgh; Dr. P. W. Hampton, Douglas, Isle of Man; Hartlepools Hospital, Secretary of; Messrs. Haar and Steinert, Paris; Messrs. Hirschfeld Bros., Lond.; Mr. H. Hilliard, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Dr. Tetens Hald, Copenhagen.

I.—Messrs. Isaacs and Co., Lond.; Ireland Advertising Agency, Philadelphia, U.S.A.; International Plasmon, Lond., Secretary of; Incorporated Institute of Hygiene, Lond., Secretary of.

J.—Miss Jex-Blake, Hereford; Messrs. Jones Bros., Bristol; J. F.

K.—Mr. Newman Kaplan, Lond.; Messrs. Kilner Bros., Lond.; Messrs. Knoll and Co., Lond.; Mr. Kundig, Geneva; Messrs. S. Kutnow and Co., Lond.; Dr. K. M. Koury, Dueim, Sudan; Mr. S. Karger, Berlin.

L.—Leslies Ltd., Lond.; L. H.; Leeds Public Dispensary, Secretary of; Mrs. Ada M. Lewis, Neuilly sur Seine; Local Government Board, Lond., Secretary of; Mr. S. G. Longworth, Melton; London School of Tropical Medicine, Secretary of; Leeds and West Riding Medico-Chirurgical Society, Leeds, Senior Secretary of.

M.—Dr. D. M. MacRae, Edinburgh; Messrs. Mackie and Co., Warrington; Dr. J. Muir, Bellshill; Miraj State, India, Chief Medical Officer of; M. H. B.; *Manchester Weekly Times*, Editor of; Mr. J. Rutherford Morison, Newcastle-on-Tyne; Medico-Chirurgical Society, Sheffield, Hon. Secretary of; Dr. C. J. Martin, Lond.; Dr. S. G. Moore, Huddersfield; Messrs. Maple and Co., Lond.; Manchester Medical Agency, Secretary of; Messrs. Meister, Lucius, and Brüning, Lond.; Dr. C. W. MacGillivray, Edinburgh; Mrs. Mathias, Southbourne.

N. Messrs. G. Newnes and Co., Lond.

O. Odol Chemical Works, Lond., Secretary of.

P.—Dr. J. S. Purdy, Auckland; Mr. A. J. Pressland, Edinburgh; Mr. C. S. R. Palmer, Lond.; Phillips, Edinburgh; Pierre's Dentifrice, Lond.

R.—Dr. C. Reissmann, Adelaide; Dr. C. Rolleston, Eastbourne; Mr. W. Ramsay, Melbourne; Rebman, Ltd., Lond., Secretary of; Dr. P. Rendall, Epsom; Messrs. Richardson and Co., Lond.; Messrs. Reynolds and Branson, Leeds; Royal Albert Hospital, Devonport, Secretary of; Mr. W. Russell, Ilminster; Mr. W. C. Rivers, Northwood; Registered Nurses' Society, Lond., Secretary of; Mr. R. Redpath, Newcastle upon-Tyne; Mr. H. Rundle, Southsea; Sir Henry E. Roscoe, West Horsley.

S.—Miss M. Slater, Plymouth; Messrs. Savory and Moore, Lond.; St. Andrew's Hospital, Northampton, Clerk to the; Messrs. Smith, Elder, and Co., Lond.; Star Engineering Co., Wolverhampton; Saarbach's News Exchange, Mainz; Swansea Corporation, Clerk to the; Messrs. G. Street and Co., Lond.; Mr. Herbert Sieveking, Lond.; Mr. Hugh Stott, Lewes; Mr. George Stoker, Lond.; Salford Royal Hospital, Secretary of; Mr. G. G. Steinicke, Munich; Dr. L. H. Stevenson, Temple Sowerby; Dr. A. K. Stevenson, Ballyclare; Mr. B. L. Davy Singh, Mannargudi, India; Messrs. W. B. Saunders and Co., Lond.; Dr. T. D. Savill, Lond.; Dr. M. Sharman, Rickmansworth; Mr. T. Scott, Manchester; Mr. Edward Stanford, Lond.

T. Dr. F. M. Turner, Lond.; Dr. A. G. Troup, Aberdeen; Mr. W. J. Teufel, Stuttgart; Dr. J. C. Thresh, Lond.; Mr. A. Taylor, Burnley.

V.—Mr. Dennis Vinrace, Lond.; Mr. S. G. Vinter, Torpoint; Dr. T. C. Visser, Winburg; Messrs. J. and J. Vickers and Co., Lond.

W.—Dr. J. J. Welply, Bandon; Messrs. W. Wood and Co., New York; W. J. L.; Dr. F. Warner, Lond.; Dr. W. Westcott, Lond.; Messrs. Wyleys, Coventry; Dr. Henry Willson, Weybridge; Dr Watson Williams, Bristol; Windsor and District Medical Society, Hon. Secretary of; Mrs. Wiesh It, Lond.; Westminster, Medical Officer of Health of; Messrs. F. Williams and Co., Lond.; Wrexham Infirmary, Secretary of; W. N. H.

Y. Dr. Ernest Young, Lond.

Z.—Messrs. A. and M. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A. Dr. J. Andrew, Coatbridge; Dr. A. B. Atherton, Fredericton; Dr. W. S. Anderson, Chapel-en-le-Frith; Ardath Tobacco Co., Lond.; A. B. M. T.; Messrs. Armour and Co., Lond.; Apothecaries' Hall of Ireland, Dublin, Secretary of; A. G.

B. Mr. J. A. Barth, Leipzig; Mr. T. Bates, Worcester; Dr. R. A. Bennett, Saltburn-by-the-Sea; Dr. C. R. Box, Lond.; Dr. W. C. Brown, Lond.; The Hon. E. T. Born, Port Stanley; Dr. J. G. Bisset, Aberdeen; Dr. W. Ironside Bruce, Lond.; Dr. J. S. Brown, Montclair, U.S.A.; Belgrave Hospital for Children, Lond., Secretary of; Dr. H. S. Branfoot, Brighton; Dr. A. J. G. Barker, Sarawak; Dr. Hugh Boyd, Bendigo, Australia; Sir Hugh Beevor, Bart., Lond.; Mr. W. H. Boulter, Woolwich; Messrs. Brady and Martin, Newcastle-upon-Tyne; Birkenhead Borough Hospital, Hon. Treasurer of; British Viavi Co., Lond.; Messrs. Berryman and Sons, Lond.

C. Dr. V. Cammareri, Messina; Dr R. H. P. Crawfurd, Lond.; Miss E. Clapham, Lond.; Dr. B. Collyer, Croydon; Messrs. J. A. Carveth and Co., Toronto; Mr. R. Connihan, Kilrush; Dr H. J. Cardale, Lond.; Messrs. Curling, Wyman and Co., Lond.; Mr. H. F. Cottrell, Bristol; Dr. W. B. Cooke, Wigan; Mr. A. E. Charlesworth, Boscombe; Dr. J. C. Connell, Kingston, Canada.

D. Deputy-Inspector G. Dudley, R.N., Glenarm; Mr. J. Dunlop, Lond.; Messrs. Darley and Cumberland, Lond.; Mr. R. Davis, Lond.; D. G. G. M.; Dr. D. Douglas, Bellshill; Messrs. Duncan, Flockhart, and Co., Lond.

E.—Messrs. Evans, Sons, Lescher, and Webb, Lond.; E. B. S.; Ernakulam, India, Chief Medical Officer of; *Edinburgh Medical Journal* Publisher of; Messrs. Evans, Sons, Lescher, and Webb, Liverpool.

F. Dr. A. D. Fordyce, Edinburgh; Messrs. Findlater, Mackie, Todd, and Co., Lond.; Messrs. Fairchild Bros. and Foster, Lond.; Dr. T. O. Fisher, Torquay; Dr. C. J. Finlay, Havana; Dr. W. C. Faulkner, Waratah; Fellows Medical Manufacturing Co., New York; Mr. J. Flach, Lond.; Messrs. Faulding and Co., Lond.

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THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Dronfield, in the county of Derby; and at Stratford, in the county of Essex.

Births, Marriages, and Deaths.

BIRTHS.

SIBLEY.—On Dec. 27th, 1907, at The Mansions, Duke-street, Grosvenor-square, W., the wife of W. Knowsley Sibley, M.A., M.D., of a daughter.

WORTHINGTON.—On Dec. 29th, 1907, at The Sycamores, Birchington, Thanet, the wife of H. E. Worthington, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES

GREENWOOD PENNY—PHILLIPS.—On Nov. 14th, 1907, at St. James's, Exeter, by the Rev. P. Williams, the Rev. W. David and the Rev. R. Reid, Sydney Greenwood Penny, M.R.C.S., L.R.C.P., of Penmeneth, Marazion, Cornwall, younger son of the late Robert Greenwood Penny of Nethergrove, Chulmleigh, N. Devon, to Gwenllian Helen Leigh, younger daughter of the late Rev. James Phillips of Exeter.

JONES—EVANS.—On the 1st inst., at Aberayron, Edmund Benjamin Jones, F.R.C.S. Eng., of "Chatsworth," North End-road, Golder's Green, N.W., to Ina Margaret, second daughter of the late Llewelyn Evans, of Pantclynhir, New Quay, Cardiganshire.

DEATH

GARROD.—On Dec. 28th, 1907, at Harley-street, Cavendish-square, W., Sir Alfred B. Garrod, M.D., F.R.C.P., F.R.S., Physician Extraordinary to her late Majesty Queen Victoria, in his 89th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PUBLIC TELEPHONE CALL OFFICE AS A FACTOR IN THE SPREAD OF DISEASE.

IN our issue of July 27th, 1907, p. 240, we directed attention to the unventilated condition of the public telephone call offices and to the possible risk of contracting infectious disease while using them. In the construction of these call offices it is essential that external noises should be excluded as much as possible in order that the person who is inside may be able more easily to hear what is said to him from the distant station. Hence the difficulty of ventilation. The substance of our article was reproduced in *Didaskalia*, a periodical published in Frankfort, and Mr. Richard Goll of that city has consequently written to us that he is the patentee of a system of ventilation which has been successfully applied to telephone call offices. According to the description which we have received it is an arrangement of tubes or conduits (*eine Anordnung von Leitungen*) the action of which is noiseless and automatic, depending only on natural or accidental differences of pressure (*Luftdruckunterschiede*). Particular attention is called to the fact that at the Hotel Marquardt in Stuttgart there are four telephone call offices (*Telephonzellen*) for the use of visitors, and the ventilation of these by Mr. Goll's system has given satisfaction.

HUMOUR.

IT is a good sign when human beings can appreciate humour. Not so very long ago a play of fancy was supposed to be incompatible with science. Science was regarded as a sober, solemn affair on no account to be treated lightly. Geniuses were serious creatures of whom but a small minority could understand a *jock* and that with *deefficulty*. To effect an entrance for a witticism into their surcharged sensoriums surgical operations were a preliminary essential. We have been led to make these frivolous remarks by Captain J. Crawford Kennedy, R.A.M.C., who has successfully extracted "A Little Humour from the Malta Commission" for publication in the December number of the journal of his corps. At the risk of some of the allusions proving caviare to the general unfamiliar with the internal economy of line regiments, we venture to reproduce the extract from an adjutant's letter with which Captain Kennedy closes his article.

> DEAR KENNEDY,—P. has passed your note on to me, and all our men are now running about with butterfly nets, or trying to tempt the wily mosquito with lumps of raw meat, and I've indented for a small size of mouse-trap, but am doubtful if the Government will supply the necessary bait. Up to the present the bag is one, and he struggled so when our regimental police were effecting his capture that he had to be hit hard on the head and I'm afraid is almost unrecognisable. PS.—Another capture just reported. We've put him in the guard room till your boxes arrive. He has been biting —— and was consequently drunk and his capture was easy. Ought mosquitoes (when drunk) to have their boots removed?

THE MEDICINAL EMPLOYMENT OF SEA-WATER.

IN a recent number of the *Répertoire de Pharmacie* M. P. Carles gives an interesting account of the use of sea-water in medicine. In addition to common salt sea-water contains many important mineral substances, the total solid matter amounting to 3·2 to 3·8 per cent. Some of these substances are present only to an infinitesimal extent, but in biology the value of a substance is not necessarily dependent upon its actual size or quantity. It has been shown that various marine plants have the power of extracting from sea-water minute quantities of compounds of iodine, bromine, arsenic, boron, manganese, lithium, fluorine, rubidium, cæsium, and other elements. Hence it was not unreasonable to suppose that the higher animals might derive benefit from the assimilation of even minute traces of these physiologically active substances. The employment of sea-water as a remedial agent dates back to the time of Hippocrates, and modern physiological investigations have led to its reintroduction into medicine. Thus it has been shown that if a portion of the blood serum of a dog be replaced by an artificial serum the most suitable serum for the purpose is sea-water, isotonic with the natural serum. Sea-water has been given by the mouth and by injection with good results in cases of dyspepsia, loss of appetite, and tuberculosis. In general the appetite was improved and strength was rapidly regained. In order to obtain the best and most immediate results it is necessary to observe certain precautions. The sea-water must be natural as it is impossible to imitate so complex a liquid. Indeed, it has been proved that sea-salt, when re-dissolved in distilled water, lacks some of the properties of natural sea-water, exerting a toxic action upon a dog when injected subcutaneously. It must be freshly collected, as it loses carbon dioxide on standing, with precipitation of some of its salts. It should be taken from the open sea remote from rivers and other sources of pollution. It should be sterilised by filtration, as heat dissociates the bicarbonates and destroys the natural equilibrium of the liquid. When required for subcutaneous injection it should the surrounding counties, the death-rate from tuberculosis is so high? Secondly, the census returns for the last three decades indicate an extraordinary influx of lives into Belfast between the ages of 15 and 35 years (females showing an abnormally high proportion). These are good lives, and yet we have a high consumption rate. Thirdly, notwithstanding the fact that emigration has produced a curious age distribution of population in Ireland (persons aged 60 years and upwards are equal to 14·2 per cent. of the total population of Ireland, as compared with 10·4 per cent. of the total population of England and as compared with 10·9 of the total population of Scotland) it is a remarkable fact that the birth-rate, corrected for the number of women at child-bearing ages and for the number of married women, has actually increased in Ireland, while it has decreased in England and Scotland, a fact which indicates that fertility and vitality have not decreased in Ireland. Fourthly, if the cause of the high tuberculosis death-rate in Ireland be the physical decadence of the people in Ireland, what about the condition of those who leave our shores for America? Well, it is stated that in the United States (and figures have been given) the phthisis death-rate for the Irish is higher than for other nationalities. According to this view, if the occurrence of tuberculosis be taken as a test of a physically inferior people those who emigrate are no better than those who remain behind. Fifthly, Belfast is in that part of Ireland which has probably suffered least from emigration and where prosperity is, from a commercial point of view, the greatest, and yet its death-rate from tuberculosis is very high. Sixthly, in a recent examination of recruits the smallest number of rejections were among the Irish. Seventhly, as pointed out by Dr. A. Newsholme, in the past it was the small farmers, the cottiers, and the labourers who emigrated in the largest numbers and these, owing to their extreme poverty, must have been among the least fit, while on the other hand those remaining are the offspring of people more favourably situated and who have been living under progressively better conditions than their predecessors in the past and who accordingly should be more vigorous.

4. *The susceptibility of Irish people to tuberculosis.*—It has been stated that there was in the Irish (some said the Celtic, including the Scotch Highlander) race a soil upon which the tubercle bacillus grew with extraordinary facility, and American statistics have been quoted to support this view, and it has also been laid down that Ireland by that reason was severely handicapped in the race with other countries to stamp out tuberculosis. I deny altogether that Irishmen, as a race, are specially prone to consumption. Why was it that according to the Registrar-General's return Ireland in 1864, when there were far more Celts in the country, had a lower death-rate from tuberculosis than either England or Scotland? Again, it was curious that of the smaller urban towns in Ireland the one with the highest phthisis death-rate was Newtownards, situated in the most Scottish county in Ireland, Down, where, at the time of the Ulster plantation, the people came not from the Highlands, the home of the Scotch Celts, but from the Lowlands. The people of Ireland are unfortunately suffering from tuberculosis not because they are Irish or Celts but because, as I shall show later, through want of education, they have not been taught in the past how to grapple with the white plague, and our emigrants in America suffer largely for the same reason, and also because they keep so much together and are influenced by their environment (that is, the conditions under which they live). Further, I do not accept the view that a high consumption death-rate is a sign of physical inferiority any more than I do that the existence of typhus fever in Ireland in the past was to be regarded in the same way. In both cases their prevalence was, and is, due to want of care being taken to stamp them out.

5. *Poverty and social position as a cause of tuberculosis.*—The fact that comparing the mortality in the four classes the rate was, from tuberculosis, 0·63 in the professional or independent class, 2·79 in the middle class, 3·54 amongst the artisan and petty shopkeepers, and 4·12 in the general service class, shows that amongst those better housed, clothed, and fed the mortality is much less than among those who have not the same advantages as regards these factors, and whose occupation is more exposed, severe, and laborious. But this explanation, it must be admitted, applies to almost every disease (infectious or not) as well as to tuberculosis. Yet, on the other hand, we must not forget that Ireland has during the past quarter of a century shared with England in increased cheapness of food and of living; wages have increased, and the savings bank returns show that while in 1870 the lodgments were £2,700,000 they had increased to £6,970,000 in 1894.

6. *Food and drink.*—There is ground for believing that the increased use of tea and white household bread instead of the old porridge and buttermilk and the excessive use of alcohol have lowered the resistance of the people to the tubercle bacillus. The food which is of greatest importance in reference to tuberculosis is milk, because it is now practically agreed that the bacillus of tuberculosis is the same in the cow and in man and that the disease is intercommunicable, and in the second interim report of the Royal Commission appointed to inquire into the relation of human and animal tuberculosis, Part I., Report, 1907, pp. 36 and 37, the Commissioners in their conclusion make the following weighty deliverance:—

> A very considerable amount of disease and loss of life, especially among the young, must be attributed to the consumption of cow's milk containing tubercle bacilli. The presence of tubercle bacilli in cow's milk can be detected, though with some difficulty, if proper means be adopted, and such milk ought never to be used as food. There is far less difficulty in recognising clinically that a cow is distinctly suffering from tuberculosis, in which case she may be yielding tuberculous milk. The milk coming from such a cow ought not to form part of human food and ought not to be used as food at all.
>
> Our results clearly point to the necessity of measures more stringent than those at present enforced being taken to prevent the sale or the consumption of such milk.

I am in a position to say, from a communication which I have received from one of these Royal Commissioners, that "the German commission has ultimately come to much the same conclusion as we have, and the Americans have fallen into line." In Ireland it has been estimated that probably at least 30 per cent. of the milch cows are afflicted with tuberculosis. Now, in the children's hospitals in Belfast—and the same is true of similar institutions in England and Scotland—about from 20 to 30 per cent. of all the children treated suffer from various forms of tuberculosis (bones, joints, glands, abdominal and cerebral types). As a rule these hospitals do not admit children over 12 years of age and it is curious that the pulmonary forms of tuberculosis are rare, showing that the disease is not in them so often acquired by inhalation as in adults—while, on the other hand, the ravages of the disease in children who require surgical treatment far outnumber what are called the medical forms of tuberculosis. One is driven to the conclusion that the disease is acquired in children largely by ingestion through swallowing tuberculous milk.

7. *Industries.*—According to some it is the influence of industries—especially in towns—which causes the high tuberculosis death-rate. Now, it is curious that in Dublin they have little or no textile industries as in Belfast, and yet the Dublin phthisis death-rate is the higher of the two cities. Then in Bolton, Manchester, Oldham, and other towns where there are cotton and other industries the death-rate from phthisis has fallen, while it has not done so in Ireland. Further, in Great Britain, much of the reduction of phthisis had occurred before systematic action had been well begun for the suppression of dust in factories. Year by year the conditions in the mills regarded as inimical to health—dust, damp, high temperature, and imperfect ventilation—have improved, and in 1904 Commander H. P. Smyth, in his report upon flax mills, says: "I cannot speak too highly of the efforts that have been made by many [manufacturers]. They have spent time, thought, and large sums of money, going far beyond any legal requirements that have yet been made." I am firmly convinced that the influence of industries—especially the textile ones—as a contributory cause of tuberculosis in Ireland has been overstated. Legally, the owners of mills are obliged to reduce as much as possible anything in their works inimical to health and taking Belfast, the great industrial centre of Ireland, as an example, supposing the death-rate was proved to be higher among the workers in mills and in factories in that city than among the rest of the population, still that excess would raise the total death-rate only by a twelfth part, because at the present time the numbers of these workers are about 25,000 females and 5000 males; therefore, if the mill and factory death-rate were 23 per 1000, whilst the total death-rate was 20, to eliminate the 30,000 mill-workers would make the death-rate 19·75, instead of 20 per 1000.

8. *Want of sanitary reform in Ireland.*—There can be no question that in the past we have not made the same progress as has been done in England and Scotland in the sanitary measures taken to improve the dwellings of the people all over the country, and in both England and

roat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children St. mond-street (9.30 A.M.).

he Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the l London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

L SOCIETY OF MEDICINE, 20, Hanover-square, W.

ursday.—(*Obstetrical and Gynæcological Section*). 7.45 P.M., Dr. J. P. Hedley, Dr. Harold Sington (introduced by Dr. Handfield-Jones), and Dr. A. H. N. Lewers: Specimens. Mr. J. Bland-Sutton: On Carcinoma of the Ovary from a Clinical Standpoint. Dr. Carver and Dr. Fairbairn: On Hæmorrhage into the Pons Varolii as a Cause of Eclampsia.

iday.—(*Clinical Section*). 8.30 P.M., Exhibition of Cases. Dr. Sidney Phillips: A Case of Fatal Illness in a Child with Post-mortem Appearances of the "Status Lymphaticus." The patients will be in attendance at 8 P.M.

ED SERVICES MEDICAL SOCIETY, Royal Army Medical lege, Millbank, S.W.

hursday.—8.30 P.M., Major M. P. C. Holt, D.S.O.: The Advisability of Operation for Recurrence of Hernia in the Services.

TH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's eral Hospital, Tottenham, N.

hursday.—4.15 p.m., Address:—Dr. Robert Hutchinson: Modern Theories of Diet in their Relation to Practice.

TURES, ADDRESSES, DEMONSTRATIONS, &c.

ICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, enies-street, W.C.

uesday.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P.M., Lecture:—Dr. F. J. McCann: The Diagnosis and Treatment of Inflammation of the Fallopian Tubes.

Vednesday.—4 P.M., Mr. Jackson Clarke: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. Purves Stewart: Psychasthenia.

hursday.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. Beresford Kingsford: Some Special Methods of Administering Chloroform and their Relative Advantages.

riday.—4 P.M., Mr. C. A. Parker: Clinique (Throat).

DON INSTITUTION, Finsbury-square, E.C.

Wednesday.—8.30 P.M., Lecture:—Dr. Dundas Grant: Some Important Aspects of Suppuration of the Middle Ear.

NT VERNON HOSPITAL, CENTRAL IN-PATIENT DEPART-ENT, 7, Fitzroy-square, W.

Thursday.—5 P.M., Opening Lecture:—Sir Thomas C. Allbutt, K.C.B.: Angina Pectoris (Post-Graduate Course).

JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, icester-square, W.C.

Thursday.—6 P.M., Lecture:—Dr. M. Dockrell: Bullous and Vesicular Eruptions: I., Urticaria; II., Pemphigus; III., Pompholyx; IV., Varicella.

EDITORIAL NOTICES.

It is most important that communications relating to the itorial business of The Lancet should be addressed clusively "To the Editor," and not in any case to any ntleman who may be supposed to be connected with the itorial staff. It is urgently necessary that attention be en to this notice.

is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

ctures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

tters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

e cannot prescribe or recommend practitioners.

ocal papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

etters relating to the publication, sale and advertising departments of The Lancet *should be addressed "To the Manager."*

e cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index and Title-page to Vol. II. of 1907, which was ompleted with the issue of Dec. 28th, are given in this umber of T [illegible]

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Volumes for the second half of the year 1907 will be ready shortly. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, Jan. 2nd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 27	29·70	S.E.	...	42	39	35	34	36	Cloudy
" 28	29·61	E.	...	37	34	34	33	35	Cloudy
" 29	29·89	N.E.	...	36	36	34	34	36	Overcast
" 30	29·87	E.	...	36	36	34	33	34	Overcast
" 31	29·90	E.	...	39	39	34	34	35	Overcast
Jan. 1	30·00	E.	...	37	36	35	33	35	Overcast
" 2	30·35	N.E.	...	43	33	30	29	31	Fine

During the week marked copies of the following newspapers have been received:—*Coventry Herald and Free Press, Reading Mercury and Oxford Gazette, Nottingham Evening News, North Mail (Newcastle), South Wales Daily News, Sanitary Record, Birmingham Despatch, Standard, Yorkshire Daily Post, Newcastle Chronicle, Preston Guardian, Dublin Evening Telegraph, Liverpool Courier, Pall Mall Gazette, Hereford Times, Yorkshire Daily Observer, Nottingham Press, &c.*

(1845–48) the restrictions as to the giving of outdoor relief were for the time relaxed, and after the famine the rigid rules as to outdoor relief were reimposed; but, notwithstanding, outdoor medical relief gradually became more general, and from 1880 onwards the general policy of the Poor-law authorities was completely inverted, until in the year 1903–04 it is really astounding to record that the proportion of new cases of sickness attended, either at dispensaries or in their own homes, formed nearly one-eighth of the total population of Ireland. When I speak of outdoor relief in Ireland I mean, of course, medical relief given in the forms of medical attendance, advice, and medicine, either at the dispensaries or at the homes of the patients, and if we have to lament that pauperism in this sense has not declined in Ireland, it is clear that it is due to statistical and administrative causes. In Great Britain, as pointed out by Dr. Newsholme, the regulation has been generally enforced that in order that a sick or disabled husband among the poor may receive relief to which his destitution entitles him he must enter the infirmary. A sick wife, however, is not entitled to parochial relief so long as her husband is in receipt of wages sufficient to support her. This is the reason why a much larger proportion of male than of female consumptives are treated in England in workhouse infirmaries.

In an extremely interesting recent paper by Dr. Newsholme, to which as well as to his other thoughtful writings I gladly acknowledge much indebtedness, he points out the remarkable fact that while typhus fever has diminished in Ireland, phthisis has contemporaneously increased, and asks this question, "Now, if improvement in general well-being of the population associated with better nutrition, diminished overcrowding, and improved houses has, as is commonly stated, been the main determining cause of the diminished mortality from typhus and phthisis in England and in Scotland, how has the equally striking diminution of typhus in Ireland been brought about and why has it not only been accompanied by any diminution in the death-rate from phthisis but by an actual increase in the death-rate from this disease?" It is plain that the reduction of typhus fever and the increase of phthisis in Ireland have both of them been associated with Poor-law administration. As Dr. Newsholme puts it, at first outdoor or domestic relief under the Irish Poor-law was very restricted, but in the process of time the Poor-law policy of Ireland was changed, medical and other forms of relief being freely given to people still living at home. During the last 25 years outdoor medical relief had been more largely given than indoor relief, especially when allowance is made for the fact that indoor relief includes the provision of a large portion of the general hospital accommodation of Ireland. Associated with this changing administration was the fact that residential conditions of relief were imposed, which tended to prevent the great vagrancy and mendicancy which had prevailed so much in Ireland. What would be the effect on typhus fever and phthisis of (1) the increasing immobilisation of the population in their own districts, and of (2) the increase in the proportion of sickness in the aggregate, and especially of phthisis, treated in the homes of the people? The readiness with which medical treatment, both at home and at the dispensary, could be obtained led to the greater portion of the lives of consumptive patients being spent at home. For typhus fever it was otherwise. Here was a disease which, unlike phthisis, was not infectious for several years but only for two or three weeks and which disabled immediately instead of after protracted ill-health. The objections of the people to the union hospital were easily overcome for this disease, but only rarely in the case of phthisis. Hence, Dr. Newsholme shows, the same measures which were successful for typhus fever led to an actual increase of phthisis. Typhus fever has been brought to the point of extinction by *its institutional treatment, acting in conjunction* with the removal of the motives for vagrancy. Phthisis has been rendered even more prevalent than formerly by increasing for this disease domestic at the expense of institutional treatment, and by thus continuing the enormous number of domestic foci of this disease which are implied by the home medical treatment of phthisis among the poor.

10. *Popular ignorance of the nature of tuberculosis.*—Lastly, want of knowledge on the part of the public of the nature of the disease, of the measures needed for its prevention, and of the precautions required to limit its spread is a factor of importance as explaining the great prevalence of tuberculosis in Ireland. Want of knowledge brings carelessness, indifference, and in the end even apathy.

Having tried, therefore, to show why tuberculosis is still so prevalent in Ireland, and remembering that it is an infectious disease due to a bacillus which may enter the body either through the pulmonary system by being inhaled, or by the alimentary tract by being swallowed, and occasionally through a skin wound, what steps should be taken to combat the disease in Ireland?

PRACTICAL SUGGESTIONS FOR THE PREVENTION AND TREATMENT OF TUBERCULOSIS IN IRELAND.

1. The starting point for dealing with all infectious diseases or pestilences is notification, and in my opinion this must be made compulsory in the case of tuberculosis all over the country. In no other way can we know where the disease exists or what stage it is in, and unless both these facts are ascertained how can any attempt be made to deal with it from a public health point of view? Nothing seems more incongruous than the prompt care that is properly taken to cut short an outbreak of small-pox, typhus fever, or spotted fever in Ireland, and the utter apathy displayed in dealing with an infectious disease like tuberculosis, whose victims are so immensely more numerous than *those of* all the other infectious maladies combined. Compulsory notification is the first and most essential step in the anti-tuberculosis campaign.

2. When by notification we know where the disease is, our next duty is to pursue in Ireland, as is being done in every country where the death-rate from tuberculosis has fallen, the institutional treatment of pulmonary phthisis, especially of those advanced cases which are so ill as to be unable to look after themselves, and who in the interest of the healthy members of the household, must be removed, just as cases of typhus fever are in Ireland and as advanced cases of leprosy are isolated in Norway. Separate wards could be arranged for these advanced "open" cases, which are more dangerous the nearer they come to the end, in the union hospitals, where they would be so much better attended and nursed than at home. As we know that pulmonary consumption is mainly spread by infection from a tuberculous patient, the placing of such a person in a hospital or an infirmary releases his household from its principal exposure to infection, but further by reducing anxiety and worry it indirectly improves the health of the family. In Ireland, if we are to stamp out the disease, the institutional (that is by hospital or infirmary) treatment of advanced cases of pulmonary consumption must be done on a scale not hitherto thought of, and such treatment must be made attractive. If it is absolutely necessary, then there should be fresh legislation declaring tuberculosis an infectious disease; but even without waiting for this the Irish Local Government Board might follow the example of the Local Government Board of Scotland which took the bold and independent course on *March 10th, 1906,* of issuing a circular (Public Health, No. 1, 1906) in which it was laid down that tuberculosis of the lungs or consumption was an infectious disease within the meaning of the Public Health Act, and that the sections of the Public Health Act applicable to other infectious diseases are equally applicable to pulmonary phthisis, and the obligation resting on the local authority to deal with and control infectious *disease* was made to extend to pulmonary phthisis.

The provisions of the Public Health Act as to removal of cases of *infectious disease to hospital* and as to the provision of hospitals are available for dealing with cases of pulmonary phthisis as with cases of other infectious diseases. These provisions, the circular points out, can be adapted in practice to any type of case—incipient cases, where the danger of infection to others, though for the time at a minimum, may suddenly become serious; intermediate cases, where the patients, still able to work, may, if uncontrolled, become dangerous; and advanced cases, where the patients, frequently unable to attend to themselves, may be a source of grave danger. With reference to the advanced cases, "the isolation of such dangerous cases," says *this* circular of the Scottish Local Government Board, "is a primary duty of the local authority." When a case of typhus fever, small-pox, or scarlet fever is sent into a union fever or other hospital in Ireland such a case must not be removed (being dangerous infectious diseases) whilst so suffering under a penalty of £5, and any person in charge of the case which is thus removed is liable to a similar fine of £5, yet at present an advanced case of pulmonary tuberculosis, the most dangerous of all forms of tuberculosis, and admittedly most infectious, *can*, *if* in a union or other hospital, be removed at any time, and can be taken home to spread disease by infection among the family.

An Address

ENTITLED

WHY IS TUBERCULOSIS SO COMMON IN IRELAND?

WITH SUGGESTIONS FOR ITS PREVENTION AND TREATMENT.

Delivered in Lurgan on Dec. 18th, 1907, in connexion with the Tuberculosis Exhibition,

BY SIR JOHN BYERS, M.A., M.D. (R.U.I.),

PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, QUEEN'S COLLEGE, BELFAST.

APPALLING STATE OF IRELAND WITH REGARD TO TUBERCULOSIS.

MR. CHAIRMAN, LADIES AND GENTLEMEN,—That tuberculosis (that is, consumption in its various forms)—and the Tuberculosis Exhibition here demonstrates that almost every part of the body may be affected—is far too prevalent in Ireland is evident from the following facts, most of which are shown in the statistical charts on the walls of this room. 1. In the records of the various countries of the world Ireland stands fourth highest in its mortality from pulmonary tuberculosis, being only exceeded by Hungary, Austria, and Servia. 2. Comparing England, Scotland, and Ireland, it appears that while in 1864 Ireland stood lowest of the three, with a rate of 2·4 per 1000 living, the rate for England being 3·3 and that for Scotland 3·6, in 1905 and in 1906 Ireland was highest with a rate of 2·7, Scotland next with 2·1, and England lowest with a rate of 1·6. In 1879 the death-rate in England and Ireland from tuberculosis was about the same, and in 1885–86 it was the same in Scotland and Ireland. In Ireland in 1906 no less than 11,756, or 15·8 per cent., of the total deaths were due to tuberculosis—that is, more people died from this cause alone than from cancer and all the principal epidemic diseases (influenza, whooping-cough, typhoid fever, measles, diphtheria, and diarrhœa) added together. Further, the majority dying were in the prime of life (between 15 and 45 years of age) and for every death from tuberculosis there were at least ten persons suffering from various forms of that disease, many of whom have their wage-earning power diminished or altogether taken away. It is a terrible feature of the white plague in Ireland that the mortality is greatest in those ages which ought to form the very backbone of our people. 3. Further, since 1873 in England and Wales, and since 1870 in Scotland, the mortality from what is ordinarily called consumption—pulmonary phthisis—has been reduced by one-half among females and one-third among males, yet there is no such fall in Ireland. In 1906, again, more women than men died in Ireland from pulmonary or tuberculous phthisis.

The above facts show that the condition of Ireland as regards tuberculosis is simply appalling and demands the most careful consideration.

TUBERCULOSIS AN INFECTIOUS DISEASE.

As you are aware, tuberculosis is now regarded as an infectious disease, the immediate cause being the bacillus or rod-shaped vegetable organism discovered in 1882 by Koch, so microscopic in size that it has been computed that four hundred millions could be ranged close together on the surface of a penny postage-stamp. There are two avenues by which the cause of the disease enter the body—first, by inhalation of the germs directly by close contact with a person suffering from pulmonary phthisis (being disseminated in the act of coughing, shouting, &c., in the form of minute moist particles of spray), or indirectly, through dust containing the dread bacillus given off in the expectoration of a careless person ill of the disease; and secondly, by the ingestion of tuberculous meat and milk, but there can be no question that of the two (meat and milk) the latter (milk) is much the more important, because while meat is taken cooked (which destroys the bacilli) in small quantities by adults whose power of resistance, or immunity as it is scientifically termed, is increased, milk is taken in large quantities in a raw condition—often as their sole food—by children, with relatively diminished powers of resistance. The bacilli may also find an entrance by skin wounds, or they may be carried in with air in mouth inspiration, or by dirty objects placed in the mouth by children. When the bacilli reach a favourable place or nidus they multiply rapidly and by their presence and irritation they excite the surrounding tissues to increased growth which results in the formation of nodules called "tubercles." These in turn usually soften, and if in a lung are coughed up as the expectoration, if in a limb they form a discharge (abscess).

There are two factors in the causation of tuberculosis; first the bacilli, and secondly the predisposition or susceptibility of the individual; and certain conditions, to be mentioned later, might increase or diminish the infectivity of the bacilli, while on the other hand certain factors heighten or lessen the susceptibility of the individual. We are now in a position to attempt to answer the question, "Why is tuberculosis so common in Ireland?". I propose to-night to discuss some of the reasons that have been usually assigned.

CAUSES ASSIGNED FOR THE PREVALENCE OF TUBERCULOSIS IN IRELAND.

1. *The damp climate.*—We have been told that the prevalence of tuberculosis in Ireland is due to its damp atmosphere, the general humidity causing chest affections which tend to form a nidus for the tubercle bacillus. At the opening of the Tuberculosis Exhibition in Dublin Professor William Osler, in alluding to this view, denied it altogether, and pointed out Cornwall with a much damper atmosphere than in Ireland as being a place so free from the disease that consumptives were sent there. In comparing different towns I was much struck with the fact that while in Belfast the death-rate from phthisis was in 1906 2·77 per 1000, with a rainfall of 34·57 inches, in Glasgow with its humid atmosphere and higher rainfall (35·80 inches) the phthisis death-rate was only 1·5 per 1000. In Bolton with a moist climate and a rainfall of 42·43 inches the death-rate from phthisis has fallen to 1·11 per 1000 for 1906. In Cardiff (with a damp climate and with the ground water in many places near the surface in the gravel and with the lower part of the town near the docks, moors, &c., on a stiff marine clay, very retentive of moisture) the death-rate for 1906, with a big rainfall of 42·81 inches in this town (very much recovered from the sea as Belfast was) instead of being, as in Belfast, with a smaller rainfall of 34·57 inches, 2·77 per 1000, was only 1·20; and it has steadily fallen. In Manchester the climate is both damp and foggy, and the deprivation of light is greater than in any other English city (in spite of strenuous efforts to deal with smoky chimneys); yet, notwithstanding this, the phthisis death-rate has fallen to 1·82 in 1906. In Liverpool, a damp city, it is 1·82, and in London, with its fogs at times, the phthisis death-rate in 1906 was only 1·42. Again, if we go to Dublin, with a rainfall less than in Belfast (27·73 as compared with 34·57 inches in Belfast), the death-rate from consumption was 2·91 (that is, higher than in Belfast) for 1906. I cannot, therefore, admit that there is much in the dampness of the atmosphere as a cause of tuberculosis in Ireland.

2. *Dampness of the soil.*—The dampness of the soil has also been assigned as a cause. Now, it used to be thought that after places were thoroughly drained the phthisis-rate fell, and the experience of Salisbury and Ely were formerly quoted in support of this view; but it was forgotten that in another town, Chichester, that was not drained at all, the phthisis death-rate fell, probably owing to the larger proportion of phthisical patients who died in the workhouse in that town, while in Belfast the main-drainage scheme has had no effect in diminishing the phthisis death-rate. Whilst subsoil may be of some importance it is now recognised that other conditions are of much more potency in the problem of the causation of phthisis. It is a curious fact, as shown in the annual report of the Registrar-General for Ireland in 1904, that in reference to the seasonal mortality from tuberculosis the greatest number of deaths were registered in the June quarter.

3. *Emigration as a cause of tuberculosis.*—It is held by some that the long tide of emigration from Ireland has left behind a physically inferior population—a race of weaklings who propagate weaklings—all very susceptible to phthisis. I am aware that many hold this view, but there are serious scientific objections to it. First, Why is it that in a comparatively new town like Belfast, which—from its industries supplying employment—attracts the robust and strong from

years previously. From here it appears to have spread slowly and in an uncertain manner in an almost due easterly direction until it reached the coast. The line of its extension corresponds accurately with the chief trade route in this region and it is by reason of its following this course that the Chinese province to the north and India to the south with their teeming millions escaped infection at this time. It reached Pakhoi on the Tonquin Gulf in the year 1867, from which place, and also directly from Yunnan, it travelled to Canton which it reached in 1894; Hong-Kong which is in close proximity to and in intimate commercial relationship with, Canton became infected in the same year. Bombay was infected in 1896, a date which marks an important epoch in the history of the pandemic, for previously no extension inland on a large scale had taken place from any of the infected ports. How the disease was imported into Bombay is not exactly known. Plague cases and dead rats were first discovered in the vicinity of the docks accommodating cargo steamers from Hong-Kong. It commenced in a slow and insidious manner and it was some time before its real nature was recognised. The plague history of Bombay since 1896 has been marked by two features; first, the annual recrudescence of the disease in an epidemic form; and secondly, its extension inland, so that this city has acquired the character of being the great distributing centre from which the disease has spread nearly all over India. The rapidity and extent with which this has taken place have been further increased by the fact that perhaps now, for the first time in the history of the present pandemic, modern facilities of locomotion became available for its dissemination by land.

It was not until 1901 that the epidemic appeared to reach the Punjab, the most northerly province of India; in the spring of 1907 Peshawar, a city in the extreme north-west corner of India, was infected for the first time, and cases of the disease have recently been reported from Jellalabad and Kabul in Afghanistan. In addition the disease is slowly spreading westwards along other trade routes leading from India into Afghanistan; thus Dera Ismail Khan at the head of the Gomul trade route and Edwardesabad at the head of the Tochi valley have this year become infected. Further south, by another route, Seistan is already infected, so that the disease is showing a marked tendency to spread westwards by various channels of communication leading from India. It therefore appears highly probable that sooner or later the disease will make its appearance on the confines of Europe, and whenever this may happen, in consequence of its intimate commercial relations with the East, Constantinople is not likely to escape long. The historical facts of previous known pandemics show that in the first of them which occurred in the sixth century Constantinople (Byzantium) was infected from Pelusium in Egypt and from this city the disease spread widely over Europe. In the second pandemic which commenced in the eleventh century and was afterwards known in England as "The Black Death" the disease, similarly starting from the East, entered Europe by way of Constantinople.

The Mode of Spread of Plague.

The mode of extension of plague epidemics is well illustrated by the occurrences in the Punjab. First of all it is necessary to state that plague exhibits a seasonal periodicity which, though not the same in all places, tends to recur about the same time each year in any particular place. Thus in the Punjab it is only during the period from February to June that plague assumes epidemic proportions.

During the "free season," or that portion of the year in which the epidemic is not present, the disease may be introduced with impunity. For instance, during the period from August, 1906, to February, 1907, plague was imported on 15 occasions into the Jhelum district without it spreading to the inhabitants of the village or, as far as could be ascertained, causing rat mortality. As to the reason for this I am unable to offer any certain explanation, but the disease did not appear to remain latent until the arrival of the epidemic season, for no influence, either immediate or remote, could be traced to its importation at this time. In the month of February when the "plague season" commences a very different story is elicited. The occurrence of imported cases still continues and perhaps becomes more frequent, but now they give rise to rat mortality and to the occurrence of indigenous cases of the plague in man. The various modes by which this may take place will now be considered *seriatim*.

Spread by pneumonic plague.—It is a curious fact that pneumonic plague appears to be strictly confined to the first two months of the epidemic, a point recognised by Guy de Chauliac as long ago as 1348 but which recently does not appear to have attracted much attention, though its existence as a disease since its discovery by Lieutenant-Colonel L. F. Childe, I.M.S., in 1897 is a matter of common knowledge. As to the frequency with which it occurs, this appears to vary from year to year. During the present year, from personal investigations made at the time of the outbreak in 56 villages, pneumonic plague was responsible for the epidemic in nine, or 16 per cent., of the total. All of these occurred in the months of February or March—i.e., during the first two months of the epidemic. During this period it is responsible to a considerable extent for the spread of plague. Thus the effect of the introduction of one case was followed up and traced to five villages where, in spite of efforts made to stamp it out, it caused the death of 27 persons. But this was not all, for in addition it was also responsible for subsequent outbreaks of bubonic plague in two of these villages, with the result that 54 individuals also died from this form of the disease.

The history in all these cases is very similar and shows that the outbreak of the disease closely follows the arrival in the village of an individual suffering from, or incubating, pneumonic plague. It quickly spreads to the other inmates of the same house, often with such virulence that every individual is wiped out in the space of a few days. In my experience recovery rarely, if ever, takes place. The disease also spreads with alarming certainty to those who come in contact with the sick or tend the dying. By these it is spread to other households, who in turn infect their friends and relatives. From the evidence which has been collected it is impossible to resist the conclusion that the infection in pneumonic plague is direct from man to man but that it can also pass with ease from man to rat, and when this takes place an outbreak of bubonic plague on the usual lines follows.

Spread by the agency of man.—So much for the spread of the disease by pneumonic plague. This is, however, not the most usual course of events, for the history obtainable in the majority of cases is that at the onset of the plague season rat mortality was the first sign of the approaching epidemic. In the case of endemic areas no cause for this can be assigned, but in previously uninfected villages it will frequently appear that this has been preceded by the arrival of a person suffering from plague or who developed the disease shortly after arrival. A typical history of such cases is that about one week or ten days after the disease was thus imported by an infected individual dead rats began to be noticed in the vicinity of the house occupied by this individual.

The future course of the disease is characteristic. Starting from the house forming the original focus of infection the area in which dead rats are discovered gradually increases, then in the vicinity of the house in which dead rats were first found a plague case occurs. From this time the epidemic may be said to begin, at first slowly, with perhaps only one or two cases a day; subsequently, as the infected area becomes larger, the plague figures rapidly rise, so that 50, 100, or more fresh cases occur daily. After lasting usually from one month to six weeks it declines and finally ceases in the same order as it commenced.

It is usual to find in bubonic plague epidemics that the rat mortality precedes the occurrence of plague in man, thus giving a warning of approaching danger. Heralded in this manner by the rat epizootic, the epidemic can often be seen to travel from the house forming the original source of infection slowly up and down the street, frequently keeping for some time to one side of the road before crossing over.

In the epidemic in the Punjab this is, in my experience, by far the commonest history obtainable. Thus, of the 56 villages in which during the present year the cause of the outbreak was investigated at the time of its occurrence, in 36, or 64·2 per cent. of the total, the course of events conformed in all essential details to the above.

Spread by infected clothing or merchandise.—At the end of March, 1907, a small merchant visited the village of Lehri, a plague-free area, having come from an infected village some 40 miles distant. He stayed in the house of a relative for four days and then left for Rawal Pindi in his usual health. About two weeks after his departure dead rats were found in the house he had occupied. A few days later, on April 19th, a case of plague occurred in this house; subsequently a rat

Scotland, from about 1860 to 1882, when Koch discovered the bacillus of tuberculosis, owing to sanitary reform, coupled especially with the segregation of advanced cases, the disease had decreased even before the discovery of its immediate cause. Tuberculosis has been well called a dwelling or house disease, and, as pointed out by Koch, a person suffering from the disease became dangerous only when he was personally uncleanly, that is, did not disinfect his sputa, or became so helpless in consequence of the far-advanced state of the disease that he was no longer able to see to the suitable removal of the sputa, and, finally, that for the healthy the dangers of infection increased with the impossibility of avoiding the immediate neighbourhood of a dangerous patient—for instance, in densely inhabited rooms—and especially if these rooms were overcrowded and if they were badly ventilated and inadequately lighted. Let me give some interesting experiments on this question. If you take virulent sputum (expectoration) from a consumptive patient and deposit it on the window-ledge of a house that is insanitary—that is, badly ventilated—perhaps built directly on the clay and not cut off properly from the ground air and water—it will retain its power for months; nay, more, the ordinary processes of disinfection will not destroy the infective activity of such tuberculous material, indeed, it will survive freezing and thawing. On the other hand, when similar virulent expectoration is exposed in houses which have light and air with but little radiant sunshine for even two days its power for evil is gone. With light and ventilation it does not reach its dangerous state of dust before it is deprived of all power of doing harm, long-lived though the bacilli may be under certain insanitary conditions. Now sanitary reform of the houses does something else in addition to lessening the infectivity of the bacilli: it increases the resistance of the human body to their inroads. Those who have thoroughly investigated the question tell us how often cases of pulmonary consumption in our towns recur in certain houses and streets, how frequently one or more persons share the room or even the bed of a consumptive, how commonly the consumptive changes his house thus multiplying infection, and how rarely the house of a consumptive is disinfected either during his illness or after his death. I am bound to admit that the housing of the people in Ireland has improved, but in neither town nor country districts is it at all equal to what it is in England, and therefore want of sanitary progress in Ireland must, I think, be accepted as a cause for the prevalence of tuberculosis.

9. *The domestic or home treatment of the advanced cases of pulmonary tuberculosis.*—We now come to what I regard as the most potent cause which has prevented a lowering of the tuberculosis death-rate in Ireland and that is the domestic or home treatment of advanced cases of phthisis, because increasing experience demonstrates that with isolation of these advanced or "open" cases in any country the death-rate falls. Here are a few examples: In Stockholm, a city with a population of 300,000 (that is less than Belfast), over 400 cases of pulmonary tuberculosis are cared for in the hospitals of the city, with the result that in the last decades the death-rate from phthisis has gone down 38 per cent. As Koch puts it, we are to derive from this the lesson that the greatest stress is to be laid on this measure—namely, the placing of cases of pulmonary phthisis in suitable establishments—and far more care should be taken than hitherto that such patients do not die in their dwellings where they are for the most part in a helpless situation and inadequately nursed. In Prussia from 1876 to 1886 the pulmonary phthisis rate stood very high; since that time it has fallen from year to year and the decrease is now more than 30 per cent., that is about one-third; indeed, it has been calculated that though the population has meanwhile increased the number of people who die every year from pulmonary phthisis in Prussia is now about 20,000 less than it was 20 years ago, and Koch says that he is firmly convinced that the better provision for patients in the last stage of pulmonary phthisis—namely, the lodging of them in hospitals which is done in England as well as in Prussia to a comparatively large extent—has contributed most to the improvement. The very opposite line of practice—that is, the want of institutional treatment—is the cause why in Austria and Hungary the pulmonary phthisis death-rate still continues as formerly so high. In Berlin the death-rate from pulmonary consumption has decreased *pari passu* with the circumstance that during recent years more than 40 per cent. of the cases of pulmonary phthisis die in hospitals. A disease which comes near to tuberculosis in many respects is leprosy. In Norway, by isolating the most dangerous cases, the number of lepers has fallen from 3000 in 1856 to 500 at the end of 1905, and Koch, pointing to this as an example, emphatically declares that advanced cases of phthisis, those which are admittedly the most dangerous, ought to be lodged in hospitals. No man has devoted greater attention to this question than Dr. Newsholme, medical officer of health of Brighton, president of the Epidemiological Section of the Royal Society of Medicine, and one of the greatest living authorities in matters of public health. He made a most elaborate inquiry into the principal causes of the reduction of the death-rate from phthisis in different countries and came to the conclusion that the one common factor present in all places where the death-rate from this disease fell was the segregation of the patients in general institutions—that is, infirmaries or hospitals. In each country in which the institutional has replaced the domestic relief of destitution there has been a reduction of the death-rate from phthisis which is roughly proportionate to the change. Here are his interesting observations as to the increase of consumption in Ireland contemporaneously with its diminution in England. In the United Kingdom, he says, paupers receive two kinds of medical relief, outdoor or domestic and indoor or institutional (that is, workhouse or workhouse infirmaries). In England during 1861–65 the total number of paupers per 100,000 of the population was 4824, of whom 694 were in receipt of indoor relief and 4130 of outdoor relief. In 1901–03 the number of paupers per 100,000 of the population had diminished to 2218, and of these those receiving indoor relief were 688 (almost the same as 1861–65), while those in the receipt of outdoor relief were now only 1530. In Scotland there were during 1868–70, 3896 paupers per 100,000 of the population, of whom 253 got indoor and 3643 outdoor relief, while in 1901–03 the total number of paupers per 100,000 of population had sunk to 1922, of whom 242 (almost the same as in 1868–70) got indoor and only 1680 outdoor relief. In Ireland, on the other hand, during 1861–65 there were 1036 paupers per 100,000 of population, of whom 928 received indoor and 108 outdoor relief, while in 1901–03 the total number of paupers per 100,000 of the population had actually increased to 2272, and while those who got indoor relief were 947 (almost the same as in 1861–65), those receiving outdoor relief had increased to 1325. These figures, Dr. Newsholme thinks, and I am in entire agreement with him, give the key to the difference between Ireland and Great Britain. It is the enormous increase in the former country of pauperism relieved medically at home by the dispensary system which favours the treatment of even advanced cases of phthisis at home. Hence, Dr. Newsholme said, crowded and insanitary homes had their natural effect—when infectious patients have not been removed from them—of increasing the consumption death-rate. The fact that in Ireland the death-rate from consumption is higher among women than among men supports this view as it indicates domestic rather than industrial infection. The women (wives, sisters, and daughters) nursing the sick at home become infected. Further, it has been noted that consumptives do not remain nearly so long in the Irish workhouses as they do in the English, and even in Belfast where the most admirable arrangements were made in the union infirmary to treat consumptive patients in wards by themselves there is a common custom for the advanced (and most dangerous) cases to go home near the end to die. The same practice occurs, though I am glad to say to a less degree, with patients in the admirable sanatorium of the Belfast Union at Whiteabbey where in the verandahs in the present weather patients are sleeping. It has also been noticed that Irish Americans, who contract the disease when they emigrate, often come home to die, a practice which of course tends to spread the disease among the poor in Ireland; and those living in country districts know how often the people who have acquired the disease in Irish towns come in the end—often in the hope of recovery in their native air—to their old homes in the country to die.

It is interesting to note that there was no Poor-law provision in Ireland until 1838, and the Act passed then for the more effective relief of the destitute poor in Ireland, unlike the English Act, entirely prohibited outdoor relief. Before the end of 1840 127 unions were formed, each with its own workhouses, and the total 130 arranged for in the Act were soon afterwards established and relief could not be obtained except in these institutions. During the great famine and a bactericide. Haffkine's prophylactic should also be available in quantity so that it may be immediately distributed in case of necessity to all those willing to resort to it. As regards medicinal treatment no drugs in my hands have yielded results worthy of mention. Cases of plague appear to be best treated on general principles with the free exhibition of cardiac tonics. In India, at any rate, there is no doubt that a large number of unnecessary deaths take place from heart failure, due either to leaving the recumbent attitude too soon or sometimes directly to fear.

Jhelum, Punjab, India.

GRADUATED LABOUR IN PULMONARY TUBERCULOSIS.[1]

BY MARCUS S. PATERSON, M.B., B.S. DURH.,
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THE Brompton Hospital Sanatorium is situated on the Chobham Ridges, about two and a half miles from Frimley station, at an altitude of 380 feet. It contains 108 beds, 78 for men and 30 for women. Patients are not admitted directly to the sanatorium but are selected from the in-patients of the Brompton Hospital by the physicians of the hospital.

Early in 1905, while resident medical officer of the Brompton Hospital, I was asked by the committee to organise the new sanatorium which was on the point of completion. I had observed that many tuberculous patients who had followed their ordinary occupations up to the time of admission were in a very fair condition of health. The case of a navvy may be cited as an example. He had worked for 40 hours almost without a rest, altering a water main, a few days previously, and although he had a considerable amount of disease, was apparently none the worse for such arduous work. It occurred to me that, if some consumptive persons under adverse circumstances, and without any medical guidance, could act thus without apparent injury they ought, under ideal conditions and with the work carefully graduated in accordance with their physical state, to be able to undertake useful labour. On this assumption manual work should be of great advantage to patients undergoing treatment in a sanatorium, as, first, it would do much to meet the objection that members of the working classes are liable to have their energy sapped, and to acquire lazy habits by such treatment; secondly, it would make them more resistant to the disease, by improving their physical condition; and thirdly, would enable them by its effect upon their muscles to return to their work immediately after their discharge. The idea was a new one and in opposition to the generally accepted medical opinion on the subject. It had, however, been shown by Dr. Otto Walther of Nordrach that excellent results could be obtained by graduated walking exercise, especially when, in suitable cases, this exercise was pushed to the extent of walking 20 miles a day. In this form of exertion, however, the muscles used were chiefly those of the lower limbs. I had it in mind to employ also the upper limbs which are supposed to have a more direct influence on the expansion of the lungs. The objections naturally raised to this method of treatment were: (1) that the disease would become active again under the strain; and (2) that the exertion would tend to produce hæmoptysis.

At the outset great care had to be exercised, not only from the fear that as the views which had led to the adoption of the method were possibly unsound, harm might be done, but also because the patients did not take kindly to the work, it being absolutely contrary to their preconceived views of treatment suitable to their condition. Some of them imagined for a time that it was not designed for their benefit but purely for the advantage of the institution, and they regarded me rather as a labour master trying to get so much work out of them than as a medical man who was endeavouring to cure their disease. Care was especially necessary in the selection of patients for the work, as had there been a case of severe hæmoptysis, or of high fever or pleurisy, it would probably have been impossible to convince the patients that the method was sound and they would have refused to work.

Walking exercise was first ordered, the distance being gradually increased up to 10 miles a day. When a patient had reached this stage he was given a basket in which to carry mould for spreading on the lawns, &c. No case of hæmoptysis or of pyrexia occurred among these patients. When they had been on this grade with nothing but beneficial results for from three weeks to a month, they were given boys' spades with which to dig for five minutes, followed by an interval of five minutes for a rest. After a few weeks several of the patients on this work, who were doing well, were allowed to work as hard as possible with their small spades without any intervals for rest. As they had all improved on this labour larger shovels were obtained, and it was found that the patients were able to use them without the occurrence of hæmoptysis or of a rise of temperature. About this time many of the patients were feeling so well that it became necessary to restrain them from doing too much. The tradition of absolute obedience to the orders as to the amount of work to be done had not yet been firmly established, and one of the patients who had improved most of all was found wheeling a heavy barrow full of sand without permission. When admonished for infringing his instructions he replied that he felt quite fit for such work, and as he would have to leave shortly and do hard work he wanted to get into condition for it. This argument appeared to be sound, and as he was willing to take the risk he was allowed to continue to wheel the barrow for the full labour period, which at that time was three hours a day. He suffered no ill-effects, but, on the contrary, did exceedingly well, and has since been at work for over two years. It was thus shown that a tuberculous man could, in certain instances, do heavy manual labour and continue to improve in health. I accordingly decided to work out a carefully graduated scale of labour.

At the end of the first six months a great advance had been made, for the tradition of work as a method of treatment was firmly established and the patients saw clearly that it was for their own benefit. The extension of the system required great care and minute supervision, for the patients, far from objecting to, or attempting to shirk, their appointed labour, now had a tendency to do more than they were ordered. Harder work was first prescribed for those patients who could be trusted. It was found that they could gradually be trained to use the heaviest spades, shovels, and 5-pound pickaxes with advantage to their physical condition, and without any attack of hæmoptysis or rise of temperature. The patients all expressed the opinion that the work did them good and that the harder they worked the better they felt. Many patients have since written to say that they date their improvement from the commencement of the labour and that they think that the hardest work did them the most good. Within the first year there were several patients who would, despite all instructions, over-exert themselves and use heavier tools than they should have done. In most instances no serious harm resulted but several of them developed fever and subsequently pleurisy. Pleurisy, indeed, appears to be a frequent result of any excessive work. One of these patients was laid up for nearly two months and was much worse at the end of that time, although eventually he did well and is now at work, but the extent of his disease was increased by the over-exertion. The necessity of absolute obedience to the medical officer's orders was firmly established by such cases. Each patient on admission is told that he will be treated by prescribed rest and exercise and that as he does not himself know the amount of rest or exercise which he requires he must do exactly as he is told, and that whilst harm will result if he does too much he will not receive proportionate benefit if he does too little. It is also pointed out that he must consider himself under treatment for the whole day, the amount of rest and exercise being definitely fixed for the 24 hours.

Details of the System of Graduated Labour.

1. *Results of physical examination.*—Each patient on arrival at the sanatorium is examined and the extent of the disease as indicated by physical signs is noted. The patients are then divided into two classes: (*a*) Those with early disease—i.e., slight signs in one or two lobes; and (*b*) those with more extensive disease—i.e., with either extensive infiltration of one lobe, or infiltration of two, three, or four lobes of some duration, the lesions often showing signs of fibrosis.

2. *General condition.*—The next points noted are the facial expression and the general physical development of the

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[1] A paper read before the Medical Society of London on Jan. 13th, 1908.

For the very early cases, in the hope of arresting the disease, sanatoriums should be erected, and one might suffice for two or three counties. These sanatoriums should be made of some cheap material, say wood, so as to be *burned* at times, and not of costly brick or stone, and the cheaper they are the better, if only efficient in other respects. For those intermediate between the early and the advanced cases who are able still to be at their work but too advanced for sanatorium treatment the greatest efforts should be made to instruct them (and indeed the whole people) as to the danger of tuberculosis and how much they can do by carefully disinfecting their expectoration and by not indulging in the filthy and dangerous habit of spitting, which should be made an offence punishable by a heavy fine. Everything that tends to educate the people of Ireland as to the danger of tuberculosis, such as lectures and exhibitions—like the one that is here—is to be encouraged, and I believe the visits among the poor in order to instruct them as to what is now known in regard to tuberculosis (especially as to cleanliness, sleeping in a room by themselves, and the treatment of the sputum) by the members of the various branches of the Women's National Health Association of Ireland will be of enormous aid. In the larger towns a dispensary for tuberculous patients should be instituted.

3. We must educate the people more and more as to the importance of keeping their houses clean and sanitary, well ventilated, not overcrowded, and so situated as to be properly lighted by the sun, and they must be taught what measures they can adopt to prevent the onset and spread of the disease; in other words, we must teach the people that they themselves have it in their own power largely to control the disease.

4. Temperance in all things should be inculcated, as well as the use of nourishing properly cooked food, and the laws of hygiene and temperance should be taught in the primary schools, which should be medically inspected.

5. As to meat, every person, rich or poor, should have a guarantee that all meat used by him has been inspected, and the veterinary inspectors in my opinion should be State officials. There should be public abattoirs or slaughterhouses and all private ones should be abolished. The same type of inspection of meat should prevail in town and country.

6. Considering the teaching of the recent report of the Royal Commission appointed to inquire into the relations of human and animal tuberculosis all cows with tuberculous disease of the udders should be forthwith slaughtered and those that react to the tuberculin test should be branded. The control of our milk-supply is so important that I believe it will never be managed rightly until the State takes it under its care, the regulations for inspection of the dairies (medical and veterinary), and for the clean production, conveyance, and distribution of milk being enforced by experts *responsible* to the State. It is time the truth was realised that the conditions which maintain health in the cows are very similar to those which we advise for the human race—that is, fresh air, proper ventilation, sunlight, suitable food, pure water, and cleanliness. The Department of Agriculture and Technical Instruction for Ireland and the various agricultural shows and societies, I trust, will unite with the Government in devising means for getting rid of tuberculosis in animals. I admit all these measures I have suggested will cost money and it is clear compensation for loss of cattle will have to be paid; but are we really to speak of money when, on the other hand, we contemplate almost 12,000 lives lost annually (with 120,000 ill) through a disease which science and experience show us is preventable? What money has been expended freely to stamp out cattle plague, foot and mouth disease, pleuro-pneumonia, glanders, swine fever, &c.? Are human beings of less value? To those who think that to rid Ireland of the white plague is an impossible task I reply in the words of the Spanish proverb in Don Quixote, "The beginning of health is to know the *disease*." We are now thoroughly acquainted with tuberculosis as we never were before and the experience of other countries shows what could be done in Ireland by combined effort. We are no longer in the doubtful position of the sailor of whom Ovid writes: "Hope it is which makes the shipwrecked sailor strike out with his arms in the midst of the sea, even though on all sides he can see no land."

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> Naufragus in mediis brachia jactet aquis."

We now see other lands where years ago tuberculosis was far more prevalent than with us, they have since largely got rid of it, why can we not profit by their experience and follow their methods?

I *rejoice* to know that the public of Lurgan are joining the rest of their fellow countrymen in this glorious campaign to free our land from a plague that too long—largely owing to *our* want of education—has prevailed among us; but now that our mothers and our wives and our sisters have been awakened—thanks to the splendid efforts of one of the ablest, most benevolent, and large-hearted women that *ever* lived, Her Excellency the Countess of Aberdeen—we are all full of hope that a better time is in store for *our* beloved country and that the cloud and the stigma that hang over Ireland at present for her high mortality from a preventable disease will in time be completely removed.

THE EPIDEMIOLOGY OF PLAGUE.

WITH SPECIAL REFERENCE TO ITS MODE OF SPREAD AND THE MEANS BY WHICH IT MAY BE COMBATED.[1]

BY CLIFFORD ALLCHIN GILL, M.R.C.S. ENG., L.R.C.P. LOND.,

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THE prevention of plague, even if judged merely from the hygienic and epidemiological standpoint, involves difficult problems which render the subject one of peculiar interest to those who in various lands have the care of the public health. My knowledge of the complicated bearings of the question is derived from the fact that for the past two years I have been studying these problems as they present themselves in the epidemic which is creating such havoc in India. One of the objects of this paper will be to show that there are reasonable grounds for believing that the pandemic of plague now chiefly affecting India may, in the near future, extend itself widely over the world, and by again visiting Europe cause another of those devastating epidemics with which history has made us acquainted.

On the present occasion I will keep as much as possible to the purely practical side of the question, without entering into the clinical, bacteriological, or other aspects of plague.

The subject may be conveniently arranged under the following three heads. 1. The course of the present pandemic of plague from its origin to the present time. 2. The mode of spread of the disease: (*a*) within an infected area, and (*b*) from an infected to an uninfected area. 3. The methods by which the disease may be combated: (*a*) prophylactic measures in uninfected areas, and (*b*) preventive measures in the epidemic zone.

The Course of the Present Pandemic.

For a proper appreciation of the dangers of the situation in which we are placed it is necessary to consider the course and history of the present pandemic from its origin to the present time. Two well-marked centres of endemic plague are now recognised to exist and the forms of the disease to which they respectively give rise are not in all respects alike. The differences, however, are not sufficiently distinct to warrant them being termed "varieties"; they are more correctly spoken of as different "strains" of the same disease and they have been named in accordance with their geographical distribution (1) the Western Asian strain and (2) the Indo-Chinese strain. Of the differences in their characters the two most striking are the greater virulence and power of extension of the Indo-Chinese "strain" and its marked association with rat mortality.

Plague has long been known to exist in Western Asia, but on account of its mildness and lack of power of extension it has come to be regarded with indifference, and public opinion in Europe has come to regard the disease as a purely Eastern one and as possessing no significance for modern Europe. It must be remembered, however, as a very important point, that the disease with which we have to deal nowadays is the virulent and diffusible Indo-Chinese strain of plague and not the milder and less important Western Asian strain. So far as is known the Indo-Chinese strain of plague *originated* in Yunnan, a province of Western China, about the year 1860, though in all probability it had existed in this little known province some patient. These points should always be considered together with the physical signs, as a patient with tubercle bacilli in his sputum may look very ill and have marked wasting and poor development, even though no physical signs of disease are found on examination of the chest. Such a patient is quite unfitted for much, if any, exercise, whereas a patient looking fairly well, of good development, but with physical signs indicating that even as many as four lobes are affected, may be quite capable of considerable muscular exertion. It must be remembered that the resisting power of a patient with a very limited lesion is practically an unknown quantity and has to be determined, whereas a patient with a lesion involving four lobes who has continued at work for some time and has remained, in spite of the disease, in fair condition probably had a good initial resisting power.

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[1] Abstract of a paper contributed to the International Congress of Hygiene and Demography, held at Berlin in September, 1907.

3. *Presence or absence of fever.*—The next point for consideration is the temperature, which is taken in the mouth. Should this be, or have been, 99° F. or over during the week preceding admission to the sanatorium the patient is put to bed after the journey. So long as the temperature remains at 99° in the case of men or 99·6° in the case of women the patient is not allowed up for any purpose. Work is prohibited and reading is the only recreation permitted. Naturally the object of this stringent rule is to try to check the activity of the disease. I consider that if a patient with few signs of disease, when absolutely at rest in bed, still has a temperature of 99° active disease is present. Such patients are usually kept together in one ward for the sake of cheerfulness, male and female patients being of course in separate wards. After the temperature has been normal for a week or ten days the patient is allowed up for dinner but returns to bed as soon as the meal is finished. So long as the temperature is unaffected by this exertion the patient is gradually allowed up for longer and longer periods. In practice it is found that the longer the time the patient has had to stay in bed before his temperature subsides to, and remains at, the normal level the more protracted must be the period before he can be allowed to remain up for a whole day in safety. When this stage is reached the patient commences to work with the fingers, sewing, making mats, mops, &c.

4. *Exercise.*—If the general condition and appetite are good and the patient is feeling well after from 10 to 14 days of this treatment he is allowed to walk half a mile a day for a week. He then gradually goes through the grades of exercise subsequently to be described as suitable for those patients whose temperature is normal. Patients with apparently limited disease, but who are in poor general condition and without fever, are allowed to be up all day but are not permitted to take further exercise than is entailed by walking to and from the dining hall for their meals. The remainder of the day is spent resting, and work entailing no physical exertion is allowed with the sole object of occupying their minds. As their condition improves they are allowed to walk half a mile a day, then a mile a day, and so on, until a distance of six miles a day is achieved. The rate of increase in the amount of exercise depends upon such factors as the patient's disposition, weight, and appetite. It is not possible to make a definite statement as to the number of days during which the patient should be set to walk half a mile, two miles, four miles, and so on, as each case requires to be judged on its merits and on the response to treatment. A patient allowed to walk a mile a day for 14 days may be doing well yet the increase of half a mile may cause the temperature to rise to 99°. If this occurs he is then ordered to rest for a day or so before recommencing with a mile a day. It will thus be seen that the exertion required for each grade of work acts as a test not only of the fitness of the patient for such labour but also of his fitness for an increased amount of exercise.

The grades of work may be summarised as follows: (A1) Walking from ½ mile to 10 miles daily; (1) carrying baskets of mould or other material; (2) using a small shovel; (3) using a large shovel; (4) using a pickaxe; and (5) using a pickaxe for six hours a day. Patients in Grades 1, 2, 3, and 4 work for four hours a day.

Grade 1.—Basket work is subdivided into three sections. In the first the patient carries a load of about 12 pounds in weight a distance of 50 yards up a gradient of 1 in 10·7—i.e., rising 14 feet in that distance. Such patients carry in a day 80 loads, or, in other words, they will carry 8½ hundredweights a distance of 50 yards and return for a distance of 4000 yards with the empty basket. In the second section the weight carried is about 18 pounds, the conditions being the same, and these patients carry about 13 hundredweights per day. In the third section the weight carried is 24 pounds. A patient on this work carries during the day about 17½ hundredweights for the same distance.

Grade 2.—The small shovel is the ordinary coal scoop provided with a long handle. Patients commencing on this grade of labour will dig two tons of earth a day and raise it seven feet into a cart, and as they increase in strength will in a day lift about four tons the same height.

Grade 3.—The large shovel is the ordinary shovel used by a navvy. Patients on this grade will dig and lift about six tons a day a distance of seven feet.

Grade 4.—Pickaxe work is the hardest work possible, and consists of breaking unbroken ground, excavating, &c.

Concrete mixing comes under the heading of pickaxe work, as although the large shovel is used the work is heavier than moving sand or mould. Each man moves about ten tons a day and *has to keep going* or he stops the whole of the men, whereas on the other work he can take his own time.

When a patient has been on a grade of labour for about three weeks his fitness for harder work is considered. If the temperature has been normal, the weight satisfactory, the appetite good, and if he is feeling well (this is to be determined by watching the way in which he performs his work) then he is put on harder work. Here may be noted an interesting psychological effect of physical improvement. Many patients on their arrival are somewhat remarkable for a certain sullen and apathetic attitude, but as soon as their physical condition undergoes amelioration all traces of gloom and depression leave them and they become transformed into lively, cheerful individuals. After three weeks it is usually found that the patient who is working within his strength is of his own accord working harder than he did when first placed in that particular grade. This is specially noticed with "basket men," who carry about 8 pounds weight of earth. The quantity is gradually increased and finally the patient is allowed to fill his own basket, which he usually does to its fullest capacity.

I consider the basket grade the most important of all, and patients as a rule spend far more time in this grade than in any other. I regard it as the connecting link between walking and work. It does not entail much exertion and yet brings into use nearly all the muscles of the body and so fits the patient for light work. I am always careful to have a definite and apparent object in this and all work, so that the patients can see the result of their labour. Patients hate nothing more heartily than work which is of no practical utility.

Patients who have successfully gone through the above grades and worked for six hours a day are three weeks before their discharge put to work at their trades, if they have a trade, in order that the muscles used in their particular work may become accustomed to it before they leave the sanatorium. These examples are given to show approximately what amount of energy is exerted in each grade of labour. Patients are not confined to the work enumerated above but are given other work corresponding in severity to the use of the tools mentioned. For instance, painting, hoeing, and chopping wood are equal to the work of Grade 2. Sawing trees into firewood is equal to the work of Grade 3. Planing wood is equal to the work of Grade 4. Any form of labour can be utilised, but an estimate must be made of the amount of energy which it involves. Patients who have reached the stage of walking four miles a day or any higher grade of work make their own beds, change their bed linen, clean their wards and windows, polish the floors of adjacent corridors, and keep the dining halls clean and the brasswork bright.

The grades of exercise and work for the women are similar to those for the men, but the various implements, such as baskets, shovels, &c., are of smaller size. These patients are not allowed to work as hard as the men and consequently do not accomplish as much in the same time. They also keep in order their own part of the grounds, cultivate a small kitchen garden, and, in addition, they have charge of the poultry. The final grade corresponding to the hard navvy work of the men consists of scrubbing work indoors.

One of the first indications that a patient is taking too much exercise is that he loses his appetite and suffers from slight headache. If he continues to do the same amount of work the temperature will rise to 99°. This temperature is the danger signal and any patient who has a temperature of 99° and is suffering from the slightest headache is immediately ordered to bed. In cases of extensive disease—e.g., of

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> Naufragus in mediis brachia jactet aquis."

We now see other lands where years ago tuberculosis was far more prevalent than with us, they have since largely got rid of it, why can we not profit by their experience and follow their methods?

I rejoice to know that the public of Lurgan are joining the rest of their fellow countrymen in this glorious campaign to free our land from a plague that too long—largely owing to our want of education—has prevailed among us; but now that our mothers and our wives and our sisters have been awakened—thanks to the splendid efforts of one of the ablest, most benevolent, and large-hearted women that ever lived, Her Excellency the Countess of Aberdeen—we are all full of hope that a better time is in store for our beloved country and that the cloud and the stigma that hang over Ireland at present for her high mortality from a preventable disease will in time be completely removed.

THE EPIDEMIOLOGY OF PLAGUE.

WITH SPECIAL REFERENCE TO ITS MODE OF SPREAD AND THE MEANS BY WHICH IT MAY BE COMBATED.[1]

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THE prevention of plague, even if judged merely from the hygienic and epidemiological standpoint, involves difficult problems which render the subject one of peculiar interest to those who in various lands have the care of the public health. My knowledge of the complicated bearings of the question is derived from the fact that for the past two years I have been studying these problems as they present themselves in the epidemic which is creating such havoc in India. One of the objects of this paper will be to show that there are reasonable grounds for believing that the pandemic of plague now chiefly affecting India may, in the near future, extend itself widely over the world, and by again visiting Europe cause another of those devastating epidemics with which history has made us acquainted.

On the present occasion I will keep as much as possible to the purely practical side of the question, without entering into the clinical, bacteriological, or other aspects of plague.

The subject may be conveniently arranged under the following three heads. 1. The course of the present pandemic of plague from its origin to the present time. 2. The mode of spread of the disease: (*a*) within an infected area, and (*b*) from an infected to an uninfected area. 3. The methods by which the disease may be combated: (*a*) prophylactic measures in uninfected areas, and (*b*) preventive measures in the epidemic zone.

The Course of the Present Pandemic.

For a proper appreciation of the dangers of the situation in which we are placed it is necessary to consider the course and history of the present pandemic from its origin to the present time. Two well-marked centres of endemic plague are now recognised to exist and the forms of the disease to which they respectively give rise are not in all respects alike. The differences, however, are not sufficiently distinct to warrant them being termed "varieties"; they are more correctly spoken of as different "strains" of the same disease and they have been named in accordance with their geographical distribution (1) the Western Asian strain and (2) the Indo-Chinese strain. Of the differences in their characters the two most striking are the greater virulence and power of extension of the Indo-Chinese "strain" and its marked association with rat mortality.

Plague has long been known to exist in Western Asia, but on account of its mildness and lack of power of extension it has come to be regarded with indifference, and public opinion in Europe has come to regard the disease as a purely Eastern one and as possessing no significance for modern Europe. It must be remembered, however, as a very important point, that the disease with which we have to deal nowadays is the virulent and diffusible Indo-Chinese strain of plague and not the milder and less important Western Asian strain. So far as is known the Indo-Chinese strain of plague originated in Yunnan, a province of Western China, about the year 1860, though in all probability it had existed in this little known province some tested by tuberculin. These nine cases are left out as to their after-results, so that the number to be accounted for is 155. Of these, 135 are at work, nine have not reported themselves, nine are not at work, and two are dead.

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[1] Abstract of a paper contributed to the International Congress of Hygiene and Demography, held at Berlin in September, 1907.

A point which I wish to emphasise is that all of the above patients returned to their previous occupations whatever they happened to be, and not to light out-door work. To advise the latter has always seemed to me like recommending plenty of good food and milk to those who are practically penniless: excellent advice but impossible to carry out.

Some ten months ago Dr. A. C. Inman suggested to me that the explanation of the satisfactory results obtained from the system of graduated labour was that the work caused an inoculation of the patient by his tuberculin. This theory, the origin of which is given in Dr. Inman's paper, was supported by the fact that after a rise of temperature, and therefore an auto-inoculation, patients were often better than before, and that patients who were not improving on a certain grade of work did improve on harder work. The theory is that the harder work gives rise to an auto-inoculation whereas the lighter work fails to do so. For the past ten months I have used this as a working hypothesis in determining the suitability of a patient for any particular grade of labour and have found it to be of very great assistance. The method entails a more careful graduation of the labour, as two important questions have to be answered: 1. Is the patient doing work which is too hard? 2. Is he doing sufficient work to keep himself properly inoculated? In other words, suitable work has to be found for what is regarded as the exact medical condition of each patient. When Dr. Inman commenced to examine the bloods of the patients and required cases of a certain kind I was able to find without any difficulty examples of cases required: as, for instance, a patient who was auto-inoculating himself slightly, or again one with a high opsonic index. The same is true of patients with a normal index, also of patients who from excessive auto-inoculation had low indices, and of patients whose index was constantly low. The results of the examinations of the blood were most convincing, because they bore out so exactly the condition of the patient as determined by clinical observation. One case was especially useful. It was that of a man who was regarded as possibly fit for harder work but whose condition was such that it was judged to be unwise to take the risk of increasing his task. The blood was examined and his index found to be practically normal. He was then put on harder work for a week and the index again taken. Again it was practically normal. He was then put on the heaviest work and performed it without harm. In a case of this kind the opsonic index proves an invaluable guide, saving perhaps months of time, by determining within a week that the patient is fit for the hardest work, when clinically we should hesitate to come to such a conclusion. Dr. Inman's work, so far as it has gone, confirms the value of graduated manual labour in the treatment of pulmonary tuberculosis and has done so in a manner that could only be determined by a further trial lasting over several years.

The points so far determined appeared to me to be as follows. 1. Suitably selected patients can be gradually trained to do the hardest navvy work for six hours a day, the result being that their general condition is much improved whilst some lose both their sputum and their tubercle bacilli. 2. Certain patients who do not improve on light work show marked improvement on harder work. 3. Patients who have slightly over-exerted themselves and are kept at rest for the few following days are subsequently not only not worse but may be in their own opinion better.

My observations so far lead me to the conclusion that graduated labour is a definite medical treatment for cases of pulmonary tuberculosis and raises the general health and resisting power of the patients.

Finally, I should wish to express very strongly the opinion that the combination of rest, pure air, and over-feeding is not the only treatment for chronic pulmonary tuberculosis and equally strongly to advise those physicians who may adopt these suggestions contained in this paper to pay particular heed to the word *graduated* and to remember the importance of the temperature of 99° F.

Frimley.

A NEW MEDICAL PASHA.—Professor Wieting, director of the Osman Clinical Hospital, Gulhane, Constantinople, has been raised to the dignity of a Turkish Pasha.

THE EFFECT OF EXERCISE ON THE OPSONIC INDEX OF PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS.[1]

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(From the Bacteriological Laboratory of the Brompton Hospital.)

THE study of the part played by the blood as a protective agent in bacterial infections has recently entered upon a new phase. Hitherto the subject had been mainly one of scientific interest only; the results obtained and the principles and theories evolved had been for the most part confined within the walls of the laboratories. The phagocytic action of the white corpuscles and its rôle in immunity had ceased to interest the clinician. The discoveries of Ehrlich, brilliant as they were, were appreciated by few who were not pathologists, the "side-chain theory" with its difficult nomenclature having but little effect on bedside medicine. But the publication of Sir Almroth Wright's investigations and the principles of immunity expressed by him have not only thrown a new light upon clinical problems hitherto in obscurity but have produced results and suggested inquiries of great importance in the domain of practical medicine. Wright, by a modification of Leishman's technique, completely separated all three elements necessary for the phenomenon of phagocytosis—viz., white corpuscles, serum, and bacteria—and was thus able to investigate the rôle played by the blood in bacterial infections more fully than had previously been possible. In his lecture before the Harvey Society of New York he shows that as regards active immunisation there are three great agencies by which immunising responses can be evoked in the organism: (1) the inoculation of bacterial vaccines; (2) artificially induced auto-inoculations; and (3) spontaneous auto-inoculations. In previous publications he had expounded the principles of vaccine therapy and had been able to show by means of curves constructed from the opsonic indices of patients vaccinated against their infection the definite train of events which follow upon a single inoculation. He has defined these successive phases as the negative phase, the positive phase, and the phase of maintained high level. Freeman, working in Wright's laboratory, next opened up a new field for investigation by his observations on the effect of massage on gonococcal joints. Owing to this work it has been possible "*to show that auto-inoculations follow upon all active and passive movements which affect a focus of infection and upon all vascular changes which activate the lymph-stream in such a focus.*" Further, it is obvious that, as Wright puts it, "where in association with a bacterial invasion of the organism bacteria or bacterial products pass into the general lymph- and blood-stream intoxication effects and immunising responses, similar to those which follow upon the inoculation of bacterial vaccines, must inevitably supervene." And it is by the agency of such auto-inoculations that nature achieves curative effects in bacterial infections. The far-reaching importance of these observations on spontaneous and artificially induced auto-inoculations decided me to investigate the part played by auto-inoculation in pulmonary tubercle. Moreover, it is obviously desirable before attempting to treat a disease, however rationally, to try to find out what the body is doing of itself and to what extent extraneous circumstances, such as movements, influence these attempts on the part of the body.

The technique.—In these experiments the technique as carried out by Wright and Douglas has been followed. 1. The corpuscles were very carefully washed in sterile salt solution (0·85 per cent.) after the first centrifugation so as to get rid of all traces of serum and citrate solution. 2. The emulsion. A culture, obtained from a solid medium, and suspended in 1·5 salt solution was used. 3. The serum was always collected in Wright's tubes and the blood allowed to clot at room temperature. The blood was always examined the same day as it was drawn, usually within five or six hours. Before each experiment a "trial trip" was made with the normal serum with a view of seeing that all the epizootic followed by a small epidemic, radiating from this house, spread through the village. No other person was stated to have recently visited the village, which occupies a very isolated position, and was at that time at least 20 miles distant from the nearest infected village. This illustration strongly suggests that the disease was conveyed to the village on the clothing or person of the man or in his baggage, while he himself escaped the disease. In the 56 epidemics analysed, this mode of infection occurred in two, or 3·6 per cent. of the total, and in six others, or 10·8 per cent. of the total, it was thought to have taken place, but accurate information was lacking.

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[1] A paper read before the Medical Society of London on Jan. 13th, 1908.

Spread by the migration of rats.—A fourth mode of spread of the disease has been described—namely, that under the influence of the panic occasioned by the epizootic migration of rats from village to village takes place with the result that the infection is conveyed in this manner. My observations on the common rat of India, the black rat (mus rattus), go to show that, as regards this rodent, the spread of the disease between villages can rarely if ever take place by this means. The accidental transportation of infected rats in ships and merchandise is, however, a fruitful source of the disease being conveyed long distances.

A few words are necessary as to the manner in which man becomes infected. This we have seen in the case of pneumonic plague is "direct" from sick to healthy, in the case of the bubonic variety a link between man and the rat appears necessary; that this is supplied, in the majority of cases, by the rat flea, pulex cheopis (Rothschild), the work of the Indian Plague Commission leaves but little room for doubt. But this is not the only mode of infection, as accidental inoculation in the case of man, feeding experiments and infection through the shaved skin in the case of animals abundantly prove. Any method by which the bacillus is introduced into the body is capable of producing the disease. More knowledge is required concerning the habits of the rat flea before its influence can be fully determined, but at first sight the fact that infection may take place in a variety of ways and that in the most virulent type of the disease—pneumonic plague—this insect is not concerned, would suggest that the rôle of the rat flea in the transmission of the disease is a passive one. It has recently been suggested that the occurrence of the annual epidemics are dependent on and associated with the prevalence of the rat flea, but though some relationship does exist between flea prevalence and plague prevalence, this does not appear to warrant the assumption that the flea is anything more than one of the factors in the case.

Preventive Measures.

Up to the present the measures which have been chiefly relied on, and which obtained official recognition at the International Sanitary Convention of Paris (1903), have been confined to the prevention of the importation of the disease and to methods of stamping it out when it has occurred on board ship or elsewhere. These no doubt are very necessary, but they are not sufficient, for it is not always possible to detect every case of plague even in the most favourable circumstances, and, furthermore, a case of human plague is not an essential preliminary to an outbreak of the disease. It is for this reason that the large sums of money spent in the past on disinfection and similar measures have not been attended with success, with the result that not only has the progress of the disease not been arrested, but all anti-plague measures have fallen into discredit.

It therefore becomes necessary to consider what other means are available to remedy this defect. One of the essential requisites is that every sanitary authority should possess a special plague department, the sole duty of which it should be to frame and to carry out the measures suited to the requirements of the area under its control.

The chief means of the spread of bubonic plague from place to place is, we have seen, by the agency of man, and methods designed for the protection of uninfected areas may therefore be directed to the control and supervision of individuals coming from infected areas. It is chiefly on such control that most anti-plague measures in the past have been based but they have not met with invariable success. As regards bubonic plague they are open to obvious objections—namely, that adequate supervision is extremely difficult and that they take no account of the possibility of infection by infected merchandise, clothing, or rats, which, as we have seen, are occasionally responsible for the transfer of the disease from place to place. While therefore not underrating these measures, which should form part of all methods of plague prevention, it is necessary to remember that although man is the agency by which the disease is conveyed from place to place, the rat is the means by which the disease, once imported into a given area, is afterwards disseminated throughout it. On this account I believe that the destruction of rats, combined with the other methods already indicated, will be completely successful in preventing outbreaks of plague in uninfected areas. In my opinion it is to the neglect of this factor of the rat that the failure of anti-plague measures in the past is to be largely attributed.

Any seaport in communication by shipping with an infected port is liable to infection. Here the principal danger lies in the disease being conveyed by infected rats rather than by human agency. Regulations on the following lines are, therefore, necessary and should be made obligatory: (1) all ships communicating directly or indirectly with infected ports should be periodically cleared of rats by the Clayton process or some similar method; (2) in addition other methods of destroying rats should be carried out, such as periodical poisoning or the permanent use of rat-traps, a certain number of which it should be obligatory on all ships to carry; and (3) inspections by the sanitary authorities of ports should be made from time to time to see that these measures are being carried out. To prevent the transfer of rats from the dock to the ship all gangways or other communications between the ship and the shore should be removed at night and a circular iron sheet having a diameter of three feet and a thickness of about a quarter of an inch should be affixed to each hawser or cable both near its attachment to the ship and also at its shoreward extremity. These "rat-shields" would effectually prevent any rats passing from the shore to the ship or *vice versâ*. They should be immediately put in place on coming into port on all occasions.

By the adoption of these measures all danger of infection from the side of the ship would be abolished except in so far as infected merchandise is concerned. Since it is by the inclusion of infected rats, or by infection derived from them, that merchandise usually becomes contaminated the destruction of these animals will materially reduce the danger of this taking place.

Similarly, to insure a condition of safety on shore it is essential that the destruction of rats in all ports liable to infection should be also carried out; and this is particularly necessary in the vicinity of all docks, wharves, and warehouses. Herein lies the necessity for a special plague department, for the work requires to be carried out systematically under careful supervision, such, for instance, as is now the case at Bombay and other places in India. Some central depôt in each town or city is necessary to which all rats captured may be taken for identification and if necessary bacteriological examination for plague bacilli. The question of species is important in view of the fact determined by Liston that the black rat (mus rattus) is by reason of its habits more concerned with the spread of plague than the brown rat (mus decumanus). The relative distribution of these two therefore becomes a matter of importance, but since they are both equally susceptible to the disease their extermination is necessary.

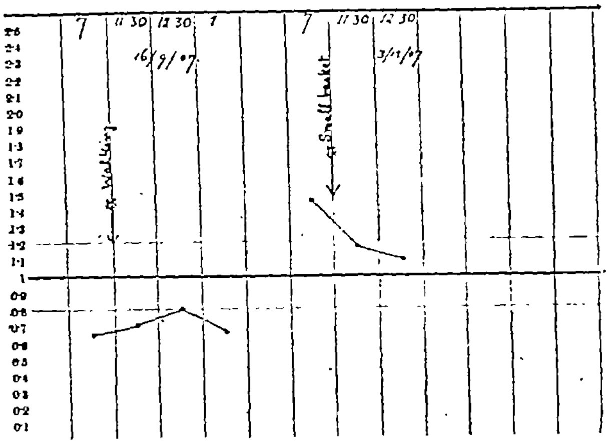
As regards the methods of combating the disease in an infected area reliance must not be placed on any one particular measure, for the greatest hope of success lies in the suitable combination of all methods. Thus the access of infected persons to uninfected areas should, where possible, be prevented. The destruction of rats should be carried out by the best means available, since there is good reason to believe that it is by means of chronic plague in the rat that the disease is carried over from one epidemic to another. It should be carried out in the "free season," and if poisoning is the means adopted it should be carried out just before the breeding season of the rat. On plague breaking out evacuation of infected houses should be immediately resorted to, but much harm will result if the inhabitants flee to uninfected areas; hence, where possible, arrangements should be made to accommodate them temporarily in the vicinity of their homes. Disinfection, except at the very commencement of an epidemic, is entirely useless, but for carrying it out at this time and also for dealing with imported cases a staff for disinfection purpose must be provided and, since the rat-flea is an important means of infection, they should be supplied with a solution such as phenol, which is both a pulicide probably the treatment consisted unintentionally of carefully graduated, artificially induced auto-inoculations. It was therefore decided to investigate the Frimley cases from this point of view and the following observations were made during a stay of one month at the sanatorium. In all, over 300 bloods were examined, from which a few cases only are selected under each heading for the sake of brevity.

The cases examined may be grouped as follows: (*a*) Cases which when examined at Brompton had a low index and which at Frimley with graduated work show a rise of the opsonic index.

CASE 1 (Chart 3).—The patient was a female, aged 18 years. Diagnosis, chronic pulmonary tuberculosis. Left upper lobe, rather quiescent second stage; left lower lobe, infiltration. Duration, nine months. Onset, insidious with cough. Sputum, tubercle bacilli present.

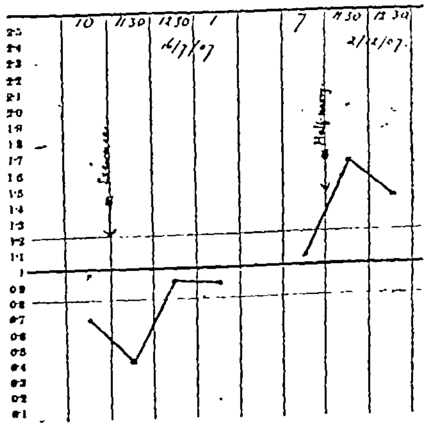
CASE 2 (Chart 4).—The patient was a male, aged 26 years. Diagnosis, infiltration of the right upper and lower lobes. Duration, 16 months. Onset, cough and hæmoptysis. Sputum, tubercle bacilli present.

CHART 4.



CASE 3 (Chart 5).—The patient was a male, aged 26 years. Diagnosis, infiltration of the right upper lobe. Duration, one year. Onset, cough followed by large hæmoptysis. Sputum, tubercle bacilli present.

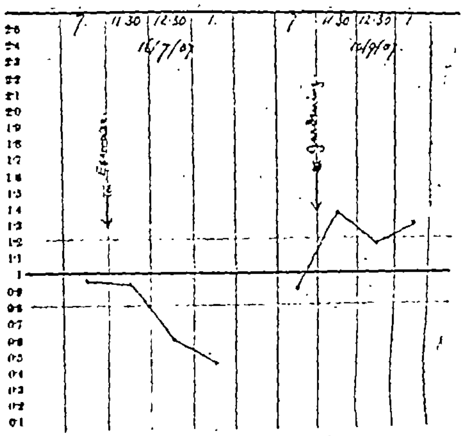
CHART 5.



CASE 4 (Chart 6).—The patient was a man, aged 23 years, a bookbinder. Diagnosis, chronic pulmonary tuberculosis. Extent, extensive infiltration of the left upper and left lower lobes; infiltration of the right upper lobe. Duration, 11 months. Onset, hæmoptysis. Sputum, tubercle bacilli present.

It might be argued that these high readings were not the result of auto-inoculation but merely of increased general physical fitness due to fresh air, &c., as obtained by sanatorium life. If a high index were merely evidence of a better resistance to the disease this might be so, but the high index expresses the fact that in the serum of the patient under observation there are substances which increase the phagocytic power of the white cells in excess of those contained in the blood of any healthy non-tuberculous subject. These substances are elaborated only in response to a defined stimulus, the introduction of bacteria or their products into the blood and lymph streams, and in these cases the only "tuberculin" used was that elaborated by the patient from himself and for himself. Thus we are dealing with examples of artificially induced auto-inoculation.

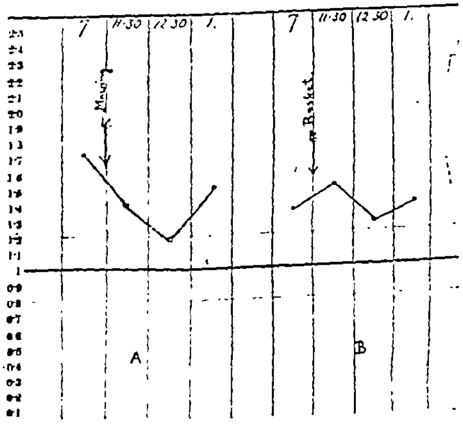
CHART 6.



(*b*) Investigations on cases working on the different grades of the labour scheme.

CASE 1 (Chart 7, A).—The patient was a male, aged 21 years, a clerk. Diagnosis, chronic pulmonary tuberculosis. Infiltration of the left upper lobe and apex of the lower lobe. Duration, seven months. Mode of onset, cough. Sputum, tubercle bacilli present. The patient is doing very well on full work. He has lost sputum and tubercle bacilli. The temperature is normal. He is now two stones over-weight.

CHART 7.



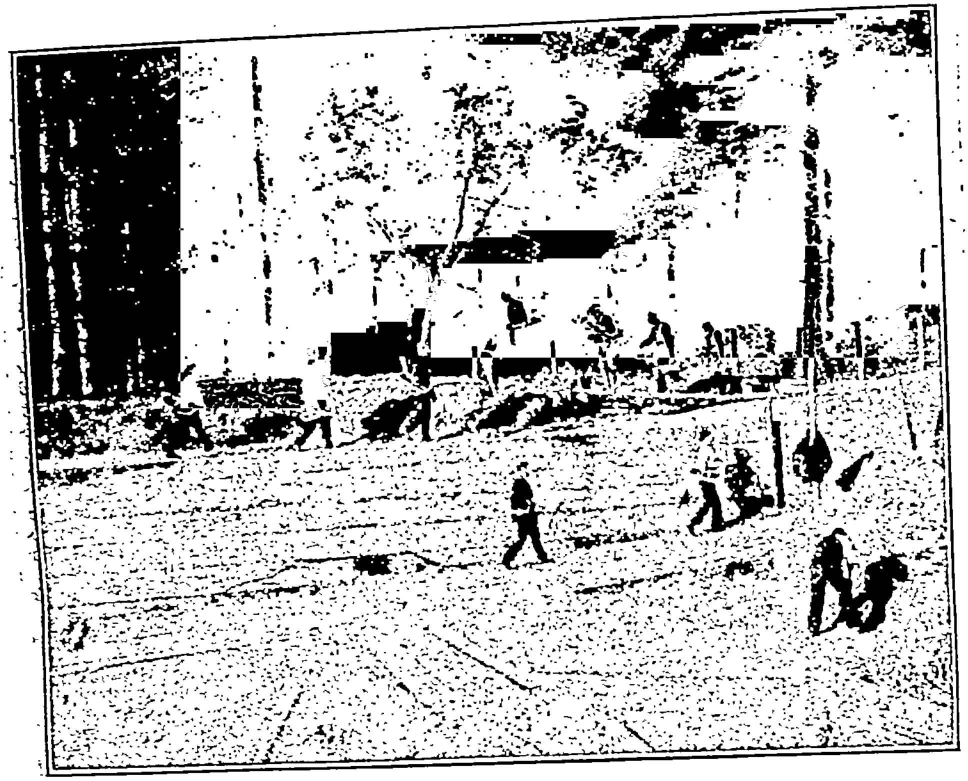
CASE 2 (Chart 7, B).—The patient was a male, aged 39 years, a carrier. Diagnosis, chronic pulmonary tuberculosis. Right lung, upper lobe, second stage early; lower lobe, first stage. Left lung, upper lobe, second stage early. Duration, two years. Onset, insidious (hæmoptysis +). Sputum, tubercle bacilli present. The patient is doing well on light work. The temperature is normal. Still expectoration with tubercle bacilli.

CASE 3 (Chart 8, A).—The patient was a male, aged 24 years, a general labourer. Diagnosis, chronic pulmonary tuberculosis. Extent, right upper lobe, excavation; left upper lobe, infiltration. Duration, three years. Onset, hæmoptysis. Sputum, tubercle bacilli present.

CASE 4 (Chart 8, B).—The patient was a male, aged 22 years, a blacksmith. Diagnosis, chronic pulmonary tuberculosis. Pleurisy left side. Infiltration of the left upper lobe. Duration, seven months. Onset, insidious (hæmoptysis +). Sputum, tubercle bacilli present.

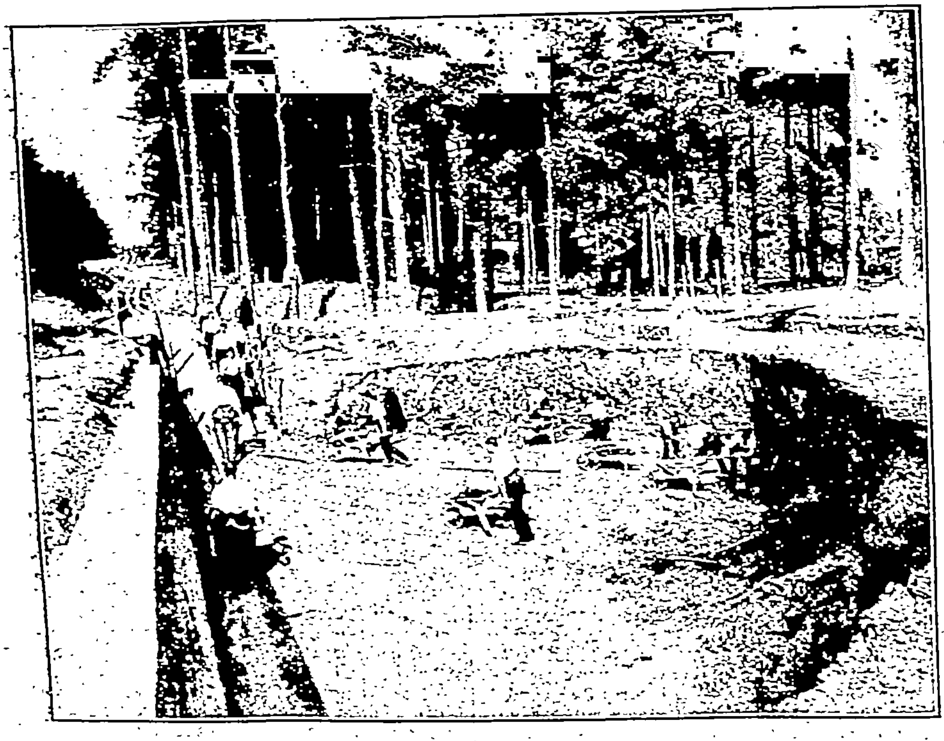
It was found that in 41 out of 43 cases the index was at some time of the day well above the normal, and, what is of even more importance, in no case did the exercise, even though severe, lower the index below the normal line—that is, the auto-inoculation was never so great as to produce a

FIG. 1.



Grade 1.—Basket work.

FIG. 2.

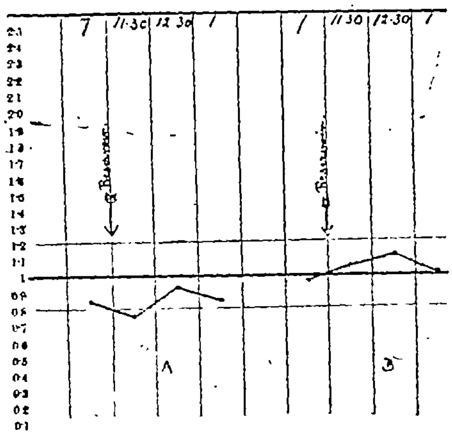


Grades 4 and 5.—Pickaxe and barrow work.

do hardest possible work. Temperature normal. Weight on discharge 10 stones 5 pounds. Lost expectoration and tubercle bacilli.

All these cases showed a return of the opsonic index to the normal, although the patient was doing the hardest of work. Therefore, the clinical opinion that the disease was arrested is confirmed by a precise scientific observation. These curves again negative the supposition that the high index noted in earlier stages might be due simply to increased general fitness of the body due to sanatorium life, since cases doing best of all and about to be discharged as showing "total arrest" gave an index no longer above the normal but within normal limits. The stimulus had been removed and the body was no longer called upon to elaborate protective substances; while if the high index in these cases had been caused solely by generally improved health it ought to have persisted so long as the robust health continued.

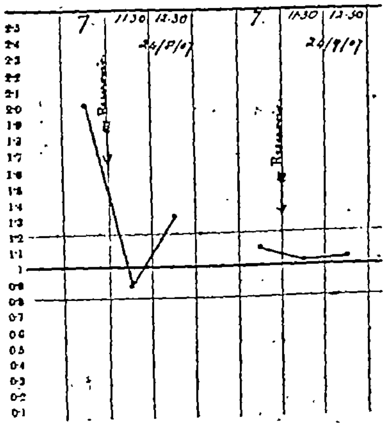
CHART 12.



Two cases may be added in which the progress from a high tuberculo-opsonic index produced by graduated artificially induced auto-inoculations to a normal index during the performance of the hardest work was actually observed.

CASE 1 (Chart 13).—The patient was a male, aged 26 years, a shop assistant. Diagnosis, chronic pulmonary tuberculosis. Extent, infiltration of the right upper lobe. Duration, three months. Onset, "influenza" and cough. Sputum, tubercle bacilli present. Highest known weight 10 stones 15 ounces. Able to do hardest work. The patient lost expectoration and tubercle bacilli. Temperature normal. Weight on discharge 10 stones 3 pounds.

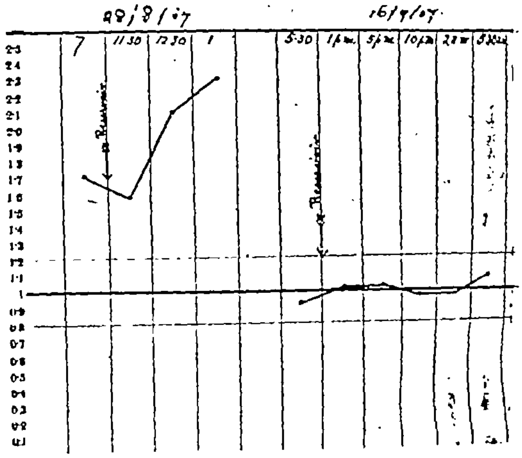
CHART 13.



CASE 2 (Chart 14).—The patient was a male, aged 32 years, a tin-worker. Diagnosis, chronic pulmonary tuberculosis. Extent: right upper lobe, infiltration; left upper lobe, infiltration. Duration, 11 months. Onset, pleurisy. Sputum, tubercle bacilli present.

(*d*) There are cases which give a normal index before and after the hardest exercise, and yet have not lost all expectoration or tubercle bacilli in the sputum. The patients were without fever, were apparently in robust health, were doing full navvy work, and showed physical signs of arrest, but in the early morning occasionally expectorated a little sputum which contained a few tubercle bacilli (two or three on a slide). (Cf. Dr. J. K. Fowler's case quoted in his book on "Diseases of the Lung," Fowler and Godlee, 1898, Ch. 34, p. 369).

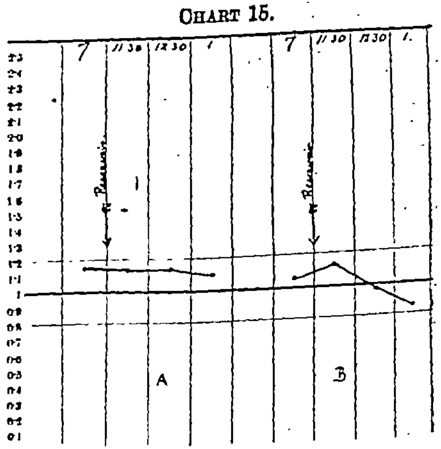
CHART 14.



CASE 1 (Chart 15, A).—The patient was a male, aged 39 years, a butler. Diagnosis, chronic pulmonary tuberculosis. Right lung: upper lobe, infiltration; lower lobe, infiltration. Left lung: upper lobe, infiltration. Duration, pleurisy four years before. Onset, cough six months. Sputum, tubercle bacilli present.

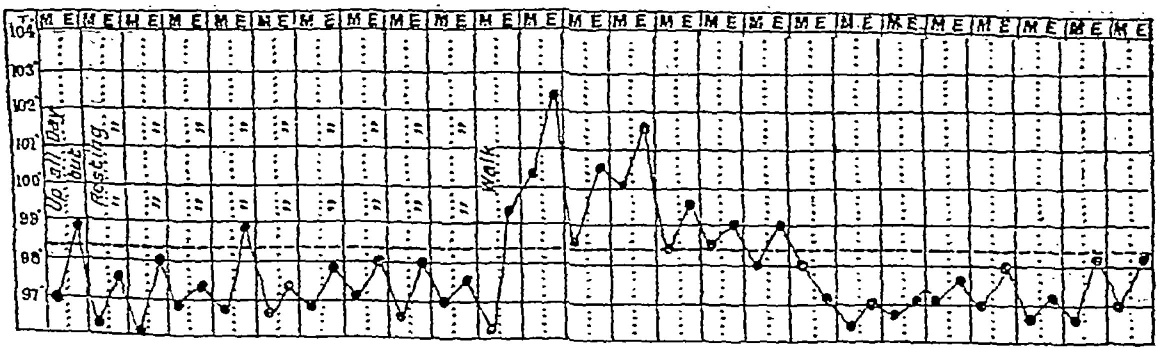
CASE 2 (Chart 15, B).—The patient was a man, aged 26 years, a compositor. Diagnosis, chronic pulmonary tuberculosis. Extent, infiltration of the left upper and lower lobes. Duration, 16 months. Onset, hæmoptysis. Sputum, tubercle bacilli present. Highest known weight, 7 stones 7 pounds. The patient was able to do hard work. Moist sounds in the lung disappeared. Temperature normal. Weight on discharge, 8 stones 2 pounds 12 ounces. Scanty expectoration in the early morning which still contained tubercle bacilli.

CHART 15.



The practical outcome of these investigations is this. The labour scheme so ably devised and carried out by Dr. Paterson has been submitted to a new scientific test by means of which its effect on the blood of the patients has been traced. The opsonic index has shown that the exercise has supplied the stimulus needed to induce artificial auto-inoculation, and that its systematic graduation has regulated this in point of time and amount. This coöperation with the natural efforts of the blood has enabled Dr. Paterson to send his patients back to their accustomed work, however hard it may be. But the investigation has done more than explain a successful mode of treatment. Dr. Paterson agrees with me that with the aid of the opsonic index he can regulate the stimulus with scientific accuracy and obtain his results more certainly and more rapidly. This, of course, involves work in the laboratory. But it also means a more rapid and a more certain discharge of the three or four lobes with fibrosis—a temperature of 99° has not the same significance, but it is still regarded as a danger signal and the patient is specially watched. A temperature of 99·6° in women appears to correspond with the temperature of 99° in men. It is necessary to emphasise the importance of the significance of a temperature of 99°. If this degree of fever is observed and the patient is ordered to rest for a few days no harm will result, but if it is disregarded and the patient continues to work he will, later, in addition to the headache, complain of pains in his joints and limbs, a condition very closely resembling influenza. Indeed, this result of over-exertion is often called influenza. Should the patient still continue to work or should he have against orders very much over-exerted himself the temperature will rise to 100° or over and pleurisy may develop. This complication seems to be the invariable result of excessive work or overlooking the danger signal—i.e., the temperature of 99°.

The following facts are significant. During the first year that the sanatorium was opened the patients were allowed to play games, such as croquet, quoits, &c., in the evenings and on Saturday afternoons, but it was soon found that many patients in this way took too much exercise. Their improvement was not satisfactory, as they were apt to get too keen over the games and to forget that they were under treatment. *A rule was therefore made that patients were not to play any* games, such as croquet, until they had reached the stage of basket work. Much better results followed its adoption. The reason is obvious: a patient walking his prescribed four miles a day is having sufficient exercise, but if he plays a game of croquet in addition he has too much. It was therefore established, and it is a fact of the utmost importance, that the hours of recreation must be regulated with just as much care as the hours of work. The accompanying chart shows the effect produced by an act of indiscretion upon the temperature of a patient who should have been resting all day. It occurred upon a certain summer evening when, as he considered himself to be free from control, not having realised that he was always under treatment, he went for a short walk of about half a mile. Playing the piano or singing must be regarded as exercise, as I have known a musical patient after an hour at the piano experience a rise of temperature to 99°, with headache and general malaise.



After the sanatorium had been opened about 18 months and further experience had been gained I came to the conclusion that the patients who had a slight rise of temperature (99°) as a result of over-work, and for whom in consequence rest for a few days had been prescribed, were not infrequently not only none the worse for this sequence of events but rather the better. Some patients even appeared to date the commencement of their improvement from the period of rest following over-work. It was accordingly decided to be unnecessary to put these patients back to the earliest grade of work and they were permitted, after a few days' walking exercise, to recommence work in the grade reached when they suffered from over-exertion. This practice has been continued ever since with satisfactory results but it is impossible to lay too much emphasis on the fact that such patients require to be watched with especial care as regards loss of appetite, the presence of *headache*, or of a rise of temperature. In the course of my earlier experience I observed cases of another type—i.e., patients who from the indications given by the temperature, appetite, and demeanour, ought to have been doing well but who remained in a stationary condition, and were in fact only "marking time." It was doubtful whether such patients should be given harder work or more rest. They were considerably under the normal weight and their general state did not suggest a capacity to undergo an increase of labour. After careful consideration it was determined to try the effect of harder work with a view to improving the appetite. I am glad to state that all such patients have shown progressive improvement on being given work of a higher grade.

The diet is liberal and consists of the ordinary food which the working-classes provide for themselves when they are in a position to afford it. The patients have three meals in the day. Breakfast consists of bacon, &c.; dinner consists of meat and suet or milk puddings; and supper consists of soup, oat cakes, Cornish pasties, or cheese, &c. For the first 16 months the patients used to have three pints of milk and an egg every day; now they only have milk in their tea, coffee, and puddings, and they are not given an egg every day, but they do just as well on this as on the more stereotyped and conventional form of diet and do not become excessively corpulent. Of course, patients who are very emaciated have milk if it is thought necessary, but as a routine milk is not used except as it would be in their own homes. The standard aimed at as regards nutrition is to raise the patient's weight to a few pounds above his highest known weight or to a few pounds above the normal weight for his height. Patients who tend to become excessively fat have their diet reduced in quantity.

Medicines such as cod-liver oil, malt, &c., are not used. Practically the only drugs prescribed are aperients.

The following work which has already been accomplished will show the scope and variety of the tasks which the patients have performed. About 900 tons of mould, sand, and gravel have been carried in baskets an average distance of 200 yards. The whole establishment has been kept in firewood; it has not been necessary to obtain any from outside sources. The boots of the patients and staff have been kept in repair. The patients' block of buildings has been painted. The whole of the grounds has been kept in order. In addition to these occupations the patients have been engaged in mixing and laying 1000 tons of concrete and in excavating and moving to a distance of 300 feet 5000 tons of sand in the construction of a reservoir. The reservoir is 108 feet long, 54 feet wide, and 12 feet deep; and the walls are 4 feet thick at the base and 1½ feet at the top. In addition 3½ acres of land have been trenched, cleared, and brought into cultivation.

In order to ascertain the results of the system of graduated labour, all patients on their discharge have been requested to keep the administration informed as to their progress.

In considering the following results of the treatment of pulmonary tuberculosis by graduated labour it is to be distinctly understood that I have only quoted the cases of patients who went through all the grades and eventually performed the highest work. Furthermore, all these individuals were patients who were discharged during the years 1905 and 1906, so that the statistics refer to patients who have been at work for from one to two and a half years. Of the abovementioned patients the number discharged during 1905 and 1906 was 164. Of these 119 had tubercle bacilli in their sputum; four had physical signs and gave a tuberculin reaction; one had definite signs, but the sputum was not examined; 31 had definite physical signs, definite histories and definite symptoms of pulmonary tuberculosis but no tubercle bacilli were found in their sputum when it was examined at the sanatorium; and nine had histories and symptoms of pulmonary tuberculosis but no physical signs and no bacilli were found in the sputum, nor were they bodies represent a stage in the life cycle of the protozoan organisms described by Dr. Henry Wade and myself as occurring in certain carcinomatous tumours. We had previously observed such rods in the old silver-gold preparations but never in large numbers, and we were unable to attach any significance to them. In sections prepared by the improved ammonia-silver process and decolourised by cyanide these rod-shaped bodies tend to retain the black deposit for a short period subsequent to their development; at a later stage they are much more readily bleached by the cyanide. These preparations reveal in the protoplasm of many of the epithelial cells, especially in carcinatoma of the breast, more or less numerous spherical or oval bodies which were described in previous papers, and from these bodies the rods can be seen to originate. In palladium methyl violet preparations these globular bodies can also be recognised, often appearing distinctly nucleated, and various stages in their transformation into rods can easily be observed. The evidence of the histological preparations upon this point is confirmed by that derived from an agar culture from a secondarily infected gland in a case of malignant adenoma of the intestine, described by Dr. Wade and myself. This culture contains in the substance of the agar numerous spherical bodies with the staining reactions of those demonstrable in the protoplasm of some carcinoma cells, and the study of preparations of this culture stained by the methyl violet method has revealed the fact that these spheres become transformed into rod-like bodies identical with those that can be seen in the tissues. In a future paper I hope to deal fully with the subject of the life cycle of these protozoan organisms. If these rods represent merely a single phase in a complicated life cycle, it should be easy to understand how in many carcinomatous tumours they can be found only in small numbers whilst in other tumours of the same kind they are abundant. It seems to me probable from evidence collected that not one species of protozoan organism but several closely allied species are the pathogenic agents in the production of carcinomatous tumours. It at least appears that the forms found in carcinoma of the breast present certain characters which distinguish them from those that may be observed in squamous epitheliomata and in intestinal tumours, although the life cycles are essentially the same.

I have endeavoured to ascertain what becomes of the rods, but as yet only a few facts have come to light. At first it seemed probable that these bodies are motile forms which escape from the cell in which they have originated and which, after travelling some distance, infect other cells, but this hypothesis on being tested has failed to obtain any confirmation. The evidence, indeed, very strongly supports the view that the rods, instead of tending to escape from the cell, seek to penetrate the nuclear membrane and that they undergo a further evolution within the substance of the nucleus. Not only may the rods frequently be seen to abut upon the nuclear membrane, but they may sometimes be observed to have partially penetrated it, either by movement or by means of end-growth. The occurrence of characteristic rods wholly within a nucleus is quite common and occasionally several may be seen in one nucleus.

In conclusion, I would say that if pathologists will apply the palladium methyl violet method to a few properly fixed and somewhat recently obtained carcinomata of the breast and squamous epitheliomata, I am confident that they will quickly be able to confirm and to extend these observations which I have here briefly recorded. I have to express my indebtedness to Mr. F. M. Caird, Mr. David Wallace, and Dr. M. B. Hannay for most of the tissues used in these investigations.

APPENDIX.

The palladium methyl violet method.—The reagents required are saturated solution of palladium chloride in 1 per cent. citric acid in water, 1 per cent. solution of methyl violet 6 B or 5 B, saturated solution of iodine in 2·5 per cent. potassium iodide, equal parts of turpentine and benzole, equal parts of pure anhydrous aniline oil and benzole, benzole and benzole balsam. The tissues should be fixed in 5 per cent. formalin in ¾ per cent. salt solution (and preserved in the same fluid or in alcohol), or for 24 hours in Heidenhain's sublimate solution, with subsequent removal of the mercury by means of iodine in the usual way. Cut thin sections by the dextrine freezing method. Place the sections overnight in the palladium solution. Wash them in three changes of water and then place them for from 10 to 20 minutes in the methyl violet stain. Wash the sections shortly in water and transfer them to the iodine solution, in which they should remain for from 10 to 20 minutes. Next transfer the sections to a bowl of water. In this they may be left for an hour or longer without suffering harm. Steel needles must not be used in these operations. Take a section up from the water upon a perfectly clean slide. Carefully remove water from around it by means of a towel. Next lay the slide upon the table and with a piece of smooth blotting or filter paper (folded double) blot the section in the same manner as one dries a sheet of wet manuscript. Immediately afterwards, without allowing it to dry completely in air, pour over the section some drops of a mixture of equal parts of turpentine and benzole. Renew this turpentine-benzole after a few seconds and then place the slide upon the heater (described below), where it must remain at a temperature of about 60° C. until completely dehydrated. If the turpentine-benzole tends to evaporate off the section add more by means of a pipette. When dehydration is complete the previously black and opaque tissue assumes a dark blue and faintly translucent appearance. Generally from 15 to 20 minutes are required. When the section seems dehydrated remove the slide from the heater, allow it to cool, and then pour off the turpentine-benzole. Decolourise with aniline-benzole. Renew this two or three times. Avoid breathing on the slide as the smallest trace of moisture in the aniline-benzole will cause complete decolourisation of the section. When the dye ceases to come away wash the section in several changes of pure benzole and mount in balsam in benzole. It is essential that the section should be completely dehydrated on the heater. Any spot in which moisture has been allowed to remain will be decolourised by the aniline-benzole. A heating apparatus of a very simple form is sufficient for the purposes of this method. I use a small spirit lamp placed below a tripod stand, on the top of which there is a thin metal plate, and upon this again two small iron bars laid parallel to each other and at such a distance as just to allow the two ends of a microscopic slide to rest upon them. By such an arrangement heat is transmitted only by the two ends of the slide and the turpentine benzole is driven to the centre. Tissues that have been in alcohol or in formalin for over two years do not, as a rule, stain deeply enough, and must then be regarded as unsuitable for the application of this method.

ON THE RELATIONSHIP OF CANCER CELLS TO THE DEVELOPMENT OF CANCER.

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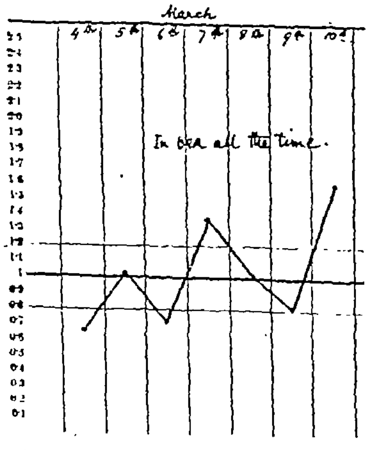
UNIVERSITY OF LIVERPOOL; AND HONORARY LECTURER
IN CYTOLOGY IN THE LIVERPOOL SCHOOL OF
TROPICAL MEDICINE.

IN the present communication we wish to record some observations made in the Cancer Research Laboratories, University of Liverpool. The observations in question relate to the propagation of cancer in mice. The tumours utilised are derived from a growth originating sporadically in a mouse, and most generously placed at the disposal of the Liverpool Cancer Research Committee by Professor Ehrlich of Berlin. The tumours upon which these observations have been made are of exceptional virulence. They are graftable from one mouse to another—that is to say, if small fragments of the growth be removed from an animal these fragments will grow when placed under the skin of a healthy individual. So far as can be ascertained from purely cytological examination of the process, the new tumour in inoculated mice appears to proceed directly from the cells belonging to the original tumour which have been mechanically transferred. The grafted tumour, in fact, apparently arises from the implanted cells, and not through any alteration of the tissues of the new host which surround the graft.

For purposes of investigation portions of these tumours were removed from mice and subjected for periods of from constituents of the experiment were satisfactory. In the case of the normal serum, an attempt was always made to obtain an average count of one bacillus per cell—i.e., an average of about 100 bacilli in 100 cells. In all experiments 100 polymorphonuclear cells were counted. The films were stained as follows: 1. Fixed in a saturated solution of hydrargyrum perchloridum, one quarter of a minute. 2. Stained with Ziehl's carbol-fuchsin, warm, one minute. 3. Decolourised with sulphuric acid 2½ per cent. 4. The red cells were decolourised with acetic acid, 4 per cent. 5. Counterstained with aqueous methylene blue, 1 per cent. With a view to eliminating as far as possible the personal element and to prevent the possibility of a biased mind influencing the results all experiments were made with unknown bloods. That is to say, after the bloods to be examined had been drawn each blood-tube, bearing the name of the patient, was handed over to the assistant who rubbed out the names and replaced them with numbers, in any order he liked, and kept this key to the bloods himself. The indices were then worked out by experiment before seeing the key, and afterwards the curves exhibited in this paper were constructed. *Thus in no cases during the experiment was it known which blood was being examined.* It was found in practice that when examining day after day a number of such unknown bloods, several samples of the blood of a single healthy individual mixed with other bloods showed indices which varied rather over one decimal place on either side of unity. Further, it has been determined by Bulloch and others that the bloods of presumably healthy individuals present opsonic indices varying between 0·8 and 1·2 on either side of unity. It was therefore decided to regard all indices within these limits as normal.

Before considering the effect of exercise upon the opsonic index in pulmonary tuberculosis it must be mentioned that in active disease spontaneous auto-inoculations are continually taking place even though the patient be at rest. Such patients, as Wright has expressed it, are living in "a succession of negative and positive phases." Chart 1 is an example of this. Further, it must be remembered that the degree of auto-inoculation is in proportion to the activity of the disease. There are cases, indeed, in which auto-inoculations cease when the patient is at rest but reappear after any movements sufficient to affect the focus of infection. In all charts which follow the first index was taken before the patient had got out of bed in the morning, the second was taken immediately after exercise, and the third and fourth during a subsequent rest of from one and a half to two hours' duration. Chart 2A graphically represents the effect of exercise on the opsonic index in cases of early pulmonary tuberculosis, Chart 2B the absence of variation in healthy persons.

CHART 1.



Wright points out when comparing the respective advantages of artificially induced auto-inoculations and inoculations of bacterial vaccines as means of treatment in bacterial infections that if the former method is adopted unmeasured doses of a living culture are being used, and therefore the method can never be entirely dissociated from risk. Now at the Brompton Hospital Sanatorium at Frimley during the past two and a half years the patients during their stay have been treated by gradually increasing amounts of work, the last grade being full navvy work, almost as severe as it is possible for even a healthy individual to accomplish. In spite of the greatest difficulties Dr. M. S. Paterson, the medical superintendent, has evolved a scheme of very carefully graduated work-exercise, beginning with gentle walking and ending with concrete-making, excavation work, &c. This has been accomplished with tuberculous patients, many of them showing extensive signs of disease in the chest, with expectoration containing tubercle bacilli, but without fever. The treatment has been remarkably successful. It has only been possible to accomplish this (1) by instituting the most careful graduation of the exercise; and (2) by close observation of the temperature chart, work being at once stopped when fever appears. It follows from what has gone before that the work-exercise scheme at Frimley must be associated with auto-inoculation and at

CHART 2A.

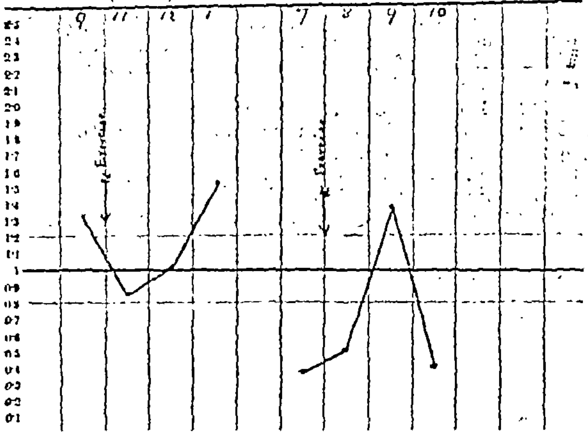


CHART 2B.

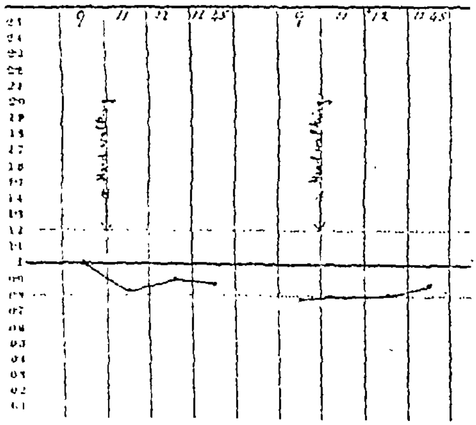
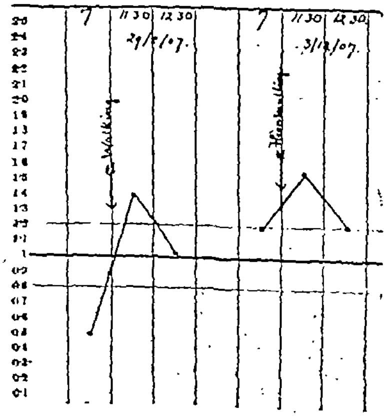


CHART 3.



such an action; nor is this disproved by the recent and important experiments of Payr. He transplants one lobe from the neck of a dog into its spleen; by a later operation he excises the lobe remaining in the neck—this produces no ill-effect; and by a third operation he removes the spleen with the transplanted thyroid lobe in it—this is followed by the death of the dog. By the aid of the experience gained in these experiments Payr performed an important operation on the human subject. He had under his care a cretinous child, aged six and a half years. The child had been treated by thyroid feeding almost without result. Payr excised part of the thyroid of the child's mother and planted it in the spleen of the child, with the result that the child was greatly improved.

Notwithstanding the foregoing objections it may well be that the enlarged thyroid of Graves's disease does yield an excessive secretion, that this is injurious to the economy, and that these ill-effects may be relieved by the administration of the milk of thyroidless goats, a treatment suggested and practised by Lanz. To this treatment it may be objected that even if the blood serum of the goat contains an antidote this would not pass into the milk, which is a secretion and not a transudate. In this connexion it may be pointed out that if after total thyroidectomy in the dog the removed lobes are simply dropped back into the wound before it is closed the symptoms resulting will be altered; the dog will die, but it will live a few days longer than it otherwise would and it will not have the tremors, paralysis, and convulsions which usually follow the operation, but will die from asthenia. This difference is presumably caused by the absorption of the replaced lobes.

Following these lines I removed from three cats the thyroid gland and fed the cats on ordinary cow's milk. Two of these cats died with the usual symptoms, tremors and paralysis, in four and five days; the third died from asthenia in 15 days. In three other cats the same operation was performed and they were fed subsequently on the milk of a thyroidectomised goat. None of the three had tremors or paralysis; they died from asthenia in 9, 12, and 14 days. The fact that not one of these three cats had the usual symptoms certainly suggests that the goat's milk contained some special constituent.

In a disease like Graves's, in which many of the cases greatly improve under any reasonable treatment, it is not easy to say with confidence that any particular remedy has done good. However, there are several cases on record in which the milk treatment of Lanz seems almost certainly to have been of benefit. Thus Lanz himself gives one case so severe that from his previous experience he expected the patient to die who yet made a good recovery. Other satisfactory cases have been recorded on the continent and one in America.

The first case at the Prince of Wales's Hospital treated in this way was that of a young woman, aged 23 years, under the care of Dr. R. Murray Leslie, to whom I am indebted for permission to refer to the case. The patient was first admitted in August, 1906. She came with a history of having had a month or two previously an attack of rheumatic fever. On admission she was suffering from palpitation, with a pulse of 120, slight prominence of the eyes, and a soft pulsating goitre which gave a blowing sound on auscultation. She improved under rest and medical treatment and went out on Oct. 22nd. Her weight at this time was 7 stones 5 pounds. After her return home she became worse and was readmitted to the hospital on Jan. 3rd, 1907. Her weight was now 6 stones 10 pounds. She had marked exophthalmos so severe that she could not completely close her eyes. The thyroid gland was greatly enlarged with a loud systolic murmur over it; there was also a systolic murmur at the heart's apex. The pulse was 120. There were marked tremors of the hands. The patient was at first placed on the same treatment as she had done well on before. After a few days she was ordered rodagen, which she took for one month without any benefit. Her weight was now 6 stones 9 pounds. She was then put back on her former medicine and also had some applications of the x rays to the goitre. She did not improve, but lost flesh considerably, her weight on March 26th being 5 stones 12 pounds. She was now given the milk of a thyroidectomised goat, taking for some time the whole of the milk which the goat gave. The patient now gradually and markedly improved. Her weight steadily went up; on May 7th it was 6 stones 11 pounds and on June 18th (shortly before she left) it was 7 stones 1½ pounds. Besides this she felt, and obviously was, much better and stronger; the goitre and exophthalmos were somewhat less and the pulse-rate was about 105.

The second case was not in the hospital but occurred in the practice of a medical friend. The patient, a married woman, aged 48 years, was first seen in April, 1907. She complained of palpitation, of feeling weak, and of loss of flesh. Her weight, formerly 11 stones, was now 9 stones. The eyeballs were prominent and there was slight thyroid enlargement. The pulse was 120. She was treated with bromide, belladonna, digitalis, and arsenic without any good result. On June 18th she was kept in bed and Leiter's tubes were applied to the goitre. The pulse was 120. On July 9th she began to take milk from thyroidectomised goats. She gradually improved. On the 26th she began to get up. On August 17th the pulse was 84. On Oct. 17th she had continued to improve, her weight was 8 stones 4½ pounds, and the pulse was 80. She was still taking a small quantity of the milk (the yield of the goats was at this time diminishing). On Dec. 14th her weight was 8 stones 12 pounds and the pulse was 84. She ate and slept well. There was very little palpitation. She could do a little light household work. While taking the milk the only medicine given was bicarbonate of sodium and gentian.

A third case was also under the private care of a friend. The patient was a woman, aged 28 years. About nine years ago she developed unilateral proptosis without any other symptom. She had had two severe attacks of influenza, the last two years ago. After the second attack she had a cerebral seizure, falling and becoming momentarily unconscious. This was followed for a time by convulsive movements of the left arm, which were worse during sleep; this slowly passed off. About a year ago the patient one night felt a pain in her throat and on putting her hand up to her neck found a swelling which proved to be a goitre. After this the second eye became also prominent. Besides this she had slight choking attacks at night and was very restless in her sleep. She was treated for several weeks with drachm doses of rodagen twice a day; this did not produce the slightest improvement. On July 25th she commenced taking about one and a half pints of the milk of a thyroidectomised goat a day. There has been no material change in the pulse-rate, which has usually been under 100, or in the weight, which has been fairly steady at about 8 stones 12 pounds. But there has been considerable improvement in her general condition, as shown by her subjective sensations and the observations of her friends; also the attacks of palpitation to which she was subject have become less frequent. The exophthalmos, which was throughout slight, has not altered.

There is no great difficulty in carrying out this treatment, especially in the country. Goats take ether well; the thyroid gland in them consists of two separate lobes lying one on each side of the trachea; there is no isthmus. As far as my experience goes it is best to choose an animal two or three years old and to operate about three or four weeks after kidding. Goats as a rule have their young in the spring.

That others may be induced to try this treatment this year is my reason for what I fear may seem to be a premature publication of results.

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Devonshire-place, W.

A CASE OF ACUTE SUPPURATION IN A THYROID ADENOMA DUE TO THE BACILLUS TYPHOSUS.

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THE patient, an Italian, aged 26 years, was admitted to the Italian Hospital on April 13th, 1907. His illness dated from four days previously. His pulse-rate was 116, the respirations were 36 per minute, and there were signs in the chest of acute pneumonia. On the 21st, the twelfth day of illness, the temperature came down to normal but the negative phase and therefore never in excess. It was observed during these investigations that in some bloods examined tuberculo agglutinins appeared in association with the immune tuberculo-opsonins. This must be taken as another evidence of an immunising response on the part of the organism. When the difficulties of such a method of treatment and the danger of the weapon employed are taken into consideration it will be readily understood that every now and then, in spite of the most careful supervision, an excessive auto-inoculation must take place. Such an over-dose is readily recognised clinically. A patient previously doing well on the grade of work prescribed for him and with no abnormality of temperature suddenly complains of feeling tired, of loss of appetite and of headache, and the temperature chart registers an elevation to 99° or 100° F. These are precisely the symptoms which are found during the negative phase after an excessive dose of bacterial vaccine. Owing to the extreme care and judgment exercised by Dr. Paterson in the selection of suitable work for the patients and to the rigid supervision carried out, not only during work hours but throughout the day, these over-doses are very infrequent at Frimley. During my stay of one month at the sanatorium only two transient instances of such over-dosage occurred, and in both cases the opportunities were taken to examine the bloods (Charts 9 and 10). In both cases then the febrile rise and other symptoms coincided with a negative phase; and while in both cases a positive phase appeared afterwards, in the first the recovery was simultaneous with the decline of the fever. It should be noted that this patient was kept in bed, while the other was allowed to do modified work during his pyrexia.

CHART 8.

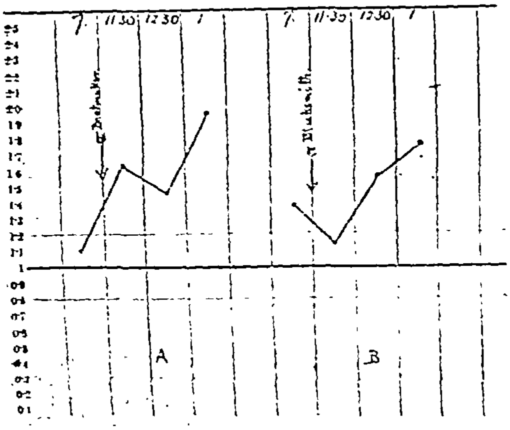
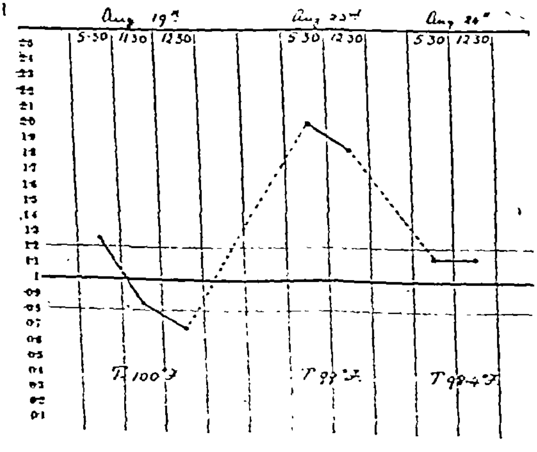
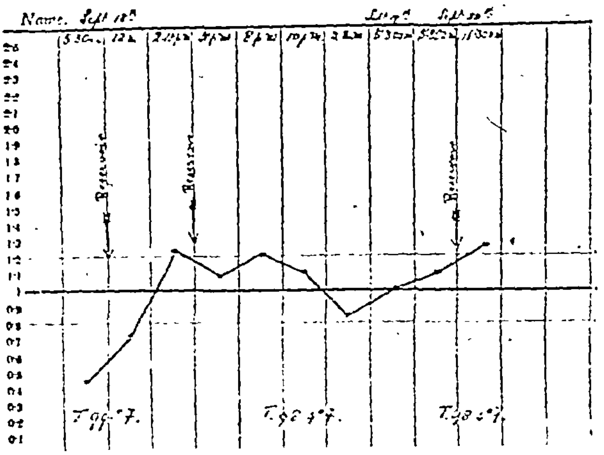


CHART 9.



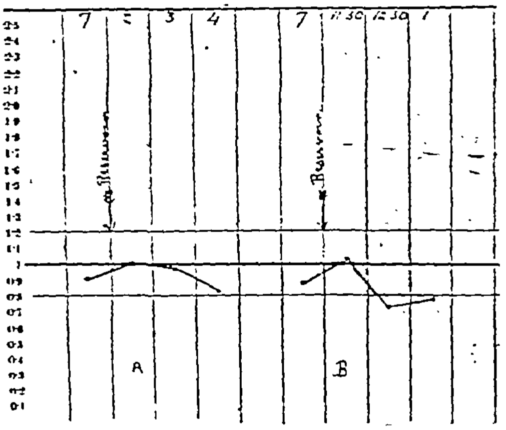
(c) If a focus of infection becomes arrested auto-inoculations from this focus cease. In Wright's words: "Where an artificial inoculation can no longer be induced in a focus which previously could be influenced we are entitled to conclude that the focus of infection is extinct." Therefore, some of the early cases of pulmonary tuberculosis, many of whom had lost expectoration and tubercle bacilli, who were doing the hardest possible work without rise of temperature or discomfort, might be expected to afford evidence in their blood that their focus of infection was no longer aglow but arrested. The following results were obtained from patients constructing a water reservoir (full navvy work).

CHART 10.



CASE 1 (Chart 11, A).—The patient was a male, aged 24 years, a brass finisher. Diagnosis, chronic pulmonary tuberculosis. Infiltration and fibrosis of the right upper lobe. Duration, 18 months. Mode of onset, hæmoptysis. Sputum, tubercle bacilli present. Highest known weight, 12 stones 2 pounds. The patient was able to do full work; lost sputum and tubercle bacilli. The temperature was normal. The weight on discharge was 12 stones 10 pounds.

CHART 11.

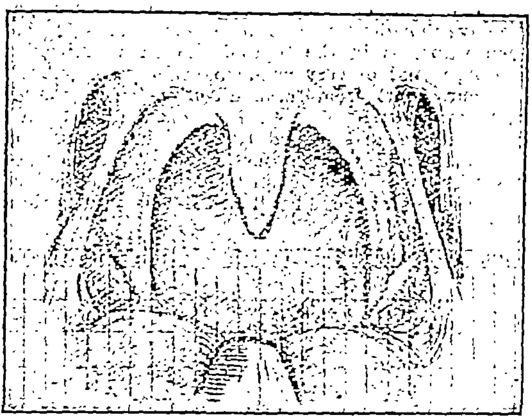


CASE 2 (Chart 11, B).—The patient was a male, aged 23 years, a warehouse salesman. Diagnosis, early pulmonary tuberculosis. Extent, infiltration of the left upper lobe. Duration, three months. Highest known weight, 9 stones 10 pounds. Onset, insidious (hæmoptysis +). Sputum, tubercle bacilli present. The patient was able to do hardest work. Temperature normal. Weight on discharge 9 stones 12 pounds. He lost expectoration and tubercle bacilli, though slight cough persisted.

CASE 3 (Chart 12, A).—The patient was a male, aged 26 years, clerk. Diagnosis, chronic pulmonary tuberculosis. Extent, right upper lobe, infiltration; left upper lobe, infiltration. Duration, nine months. Onset, hæmoptysis. Sputum, tubercle bacilli present. The patient was able to do hardest work. Temperature occasionally 99° F. Weight on discharge, 10 stones 12 pounds. Lost cough, expectoration, and tubercle bacilli.

CASE 4 (Chart 12, B).—The patient was a male, aged 25 years, an iron-moulder. Diagnosis, chronic pulmonary tuberculosis. Extent, infiltration and fibrosis of the right upper lobe. Duration, 12 months. Onset, pleurisy (nine years ago). Sputum, tubercle bacilli present. Highest known weight, 9 stones 12 pounds. The patient was able to fenestra on each side, while the palato-pharyngeus forms the inner boundary of a third web of mucous membrane.

The patient, a male, aged 18½ years, had never suffered from sore-throat since he was two years old, at which time he had scarlet fever with a "bad throat." When I saw him there were no symptoms whatever, and the voice did not appear to be modified in any way. There was no other defect observable in the throat, nose, eye, or ear.



A possible explanation of these fenestrations is that the condition of the anterior faucial pillar was similar to that shown in the posterior pillar until scarlatinal angina caused the thin web of mucous membrane to ulcerate, leaving the strands of palato-glossus muscle seen in later life.

The illustration has been drawn with great care and I think that it very accurately represents the existing conditions. A similar case was illustrated by Fullerton,[1] who refers to other recorded instances.

Description of the illustration.—The anterior pillars of the fauces which contracted well on stimulation and on phonation are seen to be strands of muscle fibre passing down to join the tongue and are covered with normal mucous membrane, forming the inner boundary of a fenestra on either side.

The posterior pillars show indication of a separate bundle of muscle united to the lateral pharyngeal walls by thin mucous membrane. The tonsils are small but lie between the anterior and posterior pillars, and small remains of the plica tonsillaris are present. A small mass of adenoid tissue lies behind the left posterior faucial pillar.

Bristol.

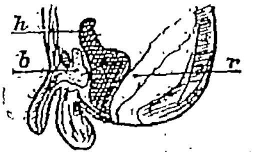
NOTE ON A CASE OF HYDATID CYST IN THE PELVIC CAVITY.

By P. Clennell Fenwick, M.B. Lond., F.R.C.S. Edin.,

HONORARY SURGEON TO CHRISTCHURCH HOSPITAL, NEW ZEALAND.

HYDATID disease is so frequently seen in this colony that little notice is taken of its occurrence in the lung, liver, or brain. I have recently had a case of a cyst almost filling the pelvic cavity and causing partial retention of urine which may be of interest to surgeons who specialise in urinary disease.

The patient, a man, aged 27 years, was admitted into Christchurch Hospital complaining of pain in the lower part of the abdomen and difficulty in passing urine. He stated that for the last seven years he had had attacks of pain in the right iliac fossa, but during the last three weeks the pain had occurred all over the abdomen. The pain ran down into the right testicle and was severe enough to make him perspire profusely. Micturition was normal except when he had held urine for longer than usual, and then he found that he could not begin the act. The urine was normal. Per rectum a large hard swelling was felt extending up the rectum on the anterior aspect. The swelling was adherent to the rectum. Anteriorly there was a large firm swelling of the size of an orange situated to the left of the middle line reaching from the pubes to within one inch of the umbilicus. It was fixed and did not fluctuate.



h, Hydatid. *b*, Bladder. *r*, Rectum.

I opened the abdomen in the middle line below the umbilicus and immediately exposed the tumour. The apex was a small knob of the size of a walnut. On examining further the mass could be traced downward into the pelvis and was found closely adherent to the rectum. There was no adhesion to the bladder. I passed a needle into the apex of the tumour and drew off hydatid fluid. The tumour was then opened and a great quantity of large and small cysts were evacuated. When filled with fluid from the douche the empty sac held 250 grammes. I drained the sac and fixed it to the abdominal wall.

The patient has had no difficulty in micturition and has now left the hospital in good health.

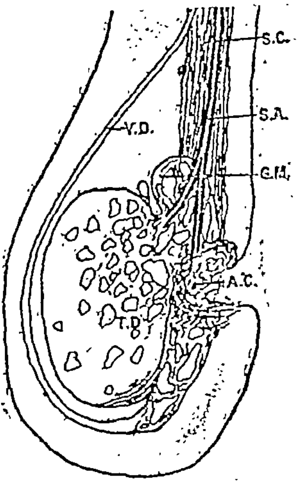
Christchurch, N.Z.

NOTE ON A CASE OF TUBERCULOSIS OF THE TESTIS ILLUSTRATING AN UNUSUAL ABNORMALITY OF THE VAS DEFERENS.

By Russell J. Howard, M.S. Lond., F.R.C.S. Eng.,

SURGEON TO OUT-PATIENTS, ROYAL WATERLOO HOSPITAL; ASSISTANT DEMONSTRATOR OF ANATOMY, LONDON HOSPITAL MEDICAL COLLEGE.

RETROVERSION of the testis, a condition in which the epididymis lies anteriorly and the body of the testis with the tunica vaginalis posteriorly, is a not unusual abnormality. It occurs probably in 1 in 20 of all testes and is always to be considered in the diagnosis of testicular disease and in operations upon the genital gland. If this condition be present, the testicle, in a case of vaginal hydrocele, will lie in the front of the fluid and directly under the place usually selected for tapping. Unless the exact position of the testis has been ascertained by the translucent test the trocar may be plunged directly into the gland. In tuberculous epididymitis the hard nodular swelling of epididymitis is found in front of the soft elastic body of the testis and the diagnosis of the disease is obscured unless the condition of retroversion is recognised. In the majority of cases of retroversion of the testis the vas deferens passes down in the tissues of the cord to enter the globus minor of the epididymis in the usual way, and will be the most anterior structure in the scrotum. In the case to be described the testis was retroverted with the epididymis in front, but the vas passed down *behind* the body of the testis and curled round its lower edge. The spermatic cord and the spermatic artery were lying in their usual position in relation to the epididymis and body. About two inches above the globus major the vas left the cord and passed over the *back* of the body of the retroverted testis accompanied only by the artery of the vas and a small plexus of veins. At the lower pole of the testis the vas passed *forwards* to end the globus minor of the epididymis.



S.C., Spermatic cord. S.A., Spermatic artery. G.M., Globus major. V.D., Vas deferens. A.C., Abscess cavity communicating with tuberculous deposits which may be seen throughout the body of the testis.

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[1] Brit. Med. Jour., May 4th, 1895.

patient, which is the main object of the sanatorium, and as a consequence of this the power to treat a larger number of patients. I may be permitted to conclude by expressing my thanks to the staff of the Brompton Hospital for their permission to publish the cases under their care and for their continuous encouragement and useful advice during the whole of my work.

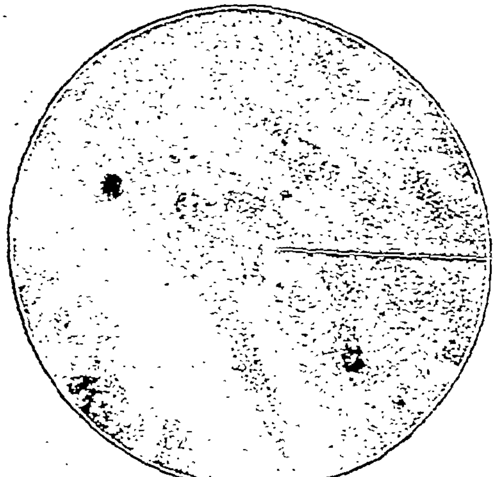
Brompton Consumption Hospital, Fulham-road, S.W.

NOTE ON THE PRESENCE AND SIGNIFICANCE OF CERTAIN ROD-SHAPED BODIES IN THE CELLS OF CARCINOMATOUS TUMOURS.

BY W. FORD ROBERTSON, M.D. EDIN.,
PATHOLOGIST TO THE SCOTTISH ASYLUMS.

IN the course of investigations, of which some of the results have already been described,[1] I had occasion to stain sections of a carcinoma of the breast by the palladium methyl violet method, a staining process that has long been employed for nervous tissues in the laboratory of the Scottish asylums. The preparations obtained, besides serving for the purpose intended, revealed in the protoplasm of very many of the epithelial cells one or more rod-shaped bodies somewhat resembling tubercle bacilli. I have since applied the method to 36 tumours of various kinds and have found that similar rod-shaped bodies are constantly present in certain forms of carcinoma. I have observed them in all of ten carcinomata of the breast, in all of ten squamous epitheliomata, in both of two malignant adenomata of the sigmoid flexure, in a secondary cancer of the liver, in a cancer of the prostate, in a secondary cancerous growth in the dura mater, and in a tumour of the choroid composed of large epithelial cells. I have been unable to detect them in five adenomata of the breast, an adenoma of the cervix uteri, a papilloma, a uterine fibroid, a glioma of the brain, and a spindle-celled sarcoma, as well as in normal squamous epithelium, a mammary gland from a case of puerperal insanity, in a case of chronic mastitis, and in brain tissue.

FIG. 1.

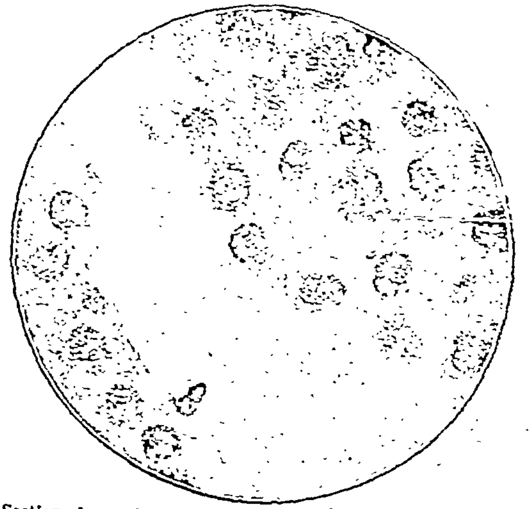


Section of a carcinoma of the breast showing three rods in protoplasm of epithelial cells. Palladium methyl violet method. × 800. The white line indicates the group of rods.

Whilst the most typical form of these bodies is that of a straight or slightly curved rod, closely resembling the tubercle bacillus (about 3μ in length and $0{\cdot}3\mu$ in thickness), much smaller and also much larger forms may frequently be observed in sections in which the bodies in question happen to be numerous. The smaller and medium-sized varieties usually stain evenly of a reddish-violet tint but the larger forms are generally distinctly granular in appearance and may sometimes present one or more pale or colourless transverse bars. The edges are always smooth. The ends are generally blunt and there is no evidence of the presence of flagella. These rods are not stained by Gram's method. In sections stained by the Ziehl-Neelsen method for tubercle bacilli they are invisible. In sections stained with carbol thionin or methylene blue only some of the larger forms can be detected as faintly stained bodies, generally lying in a ground work of the same tint. The rods are most commonly to be seen in the protoplasm of the epithelial cells and they are to be found in largest numbers in the most rapidly growing parts of the tumour (Fig. 1). In the most successful preparations they appear as reddish-violet bodies lying in a pale yellow protoplasm. They are also very commonly, though less frequently, to be observed in the nuclei of the epithelial cells. Regarding their occurrence outside these cells little can be said, because the special staining method also colours the elastic fibres which are generally abundant in these tumours and which, especially if fragmented, cannot be distinguished absolutely from rods similar to those that occur in the protoplasm of the cells. In some special preparations in which elastic fibres have not complicated the picture the rods have appeared to be almost exclusively intracellular.

In five carcinomata of the breast I have found these intracellular rods to be present in very large numbers. In some preparations a hundred or more may readily be counted in a single field under an oil immersion lens. Single epithelial cells may occasionally be observed with from 20 to 30, or even a larger number, lying in their protoplasm (Fig. 2). In five other carcinomata of the breast in which these rods have been detected they appear to be present in comparatively small numbers. I have found them to be numerous in only three squamous epitheliomata; in seven other tumours of this kind in which they have been clearly recognised they occur only occasionally. They have likewise been observed only in small numbers in the other carcinomatous tumours in which they have been detected.

FIG. 2.



Section of a carcinoma of the breast showing numerous rods in the protoplasm of an epithelial cell. Palladium methyl violet method. × 800. The white line indicates the group of rods.

So far as I have been able to ascertain attention has not previously been directed to these peculiar bodies, either by those who have described parasites in carcinomatous tumours or by others. The evidence which can be adduced in support of the view that they are parasitic in nature is, I think, conclusive. They present features which prove them to be growing organisms and they have been cultivated in an artificial medium. The possibility of their being bacilli can be excluded at once. It can be shown that they arise from comparatively large rounded bodies which are certainly not bacterial organisms. It is further to be noted that they have not the characters of the spirochæta microgyrata which has been described as occurring in carcinomata of the mouse.

My observations lead me to conclude that these rod-shaped injection of pilocarpine. Emptying the uterus caused the blood to flow to the portal system and thus lessened the danger of cerebral hæmorrhage. He did not understand the object of the saline injection.—Dr. FAIRBAIRN, in reply, said no attempt had been made to *make an exhaustive collection of cases of apoplexy* as the cause of death in eclampsia, and the cases collected were those of hæmorrhage into the pons or base of the brain without unilateral symptoms to suggest apoplexy. Large cerebral hæmorrhages were not frequent in eclampsia, as was shown by the statistics quoted in the paper. The cases recorded were undoubtedly rare but the possibility of a deeply comatose and cyanosed eclamptic patient having also a cerebral hæmorrhage ought not to be lost sight of, especially in giving a prognosis.

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[1] THE LANCET, August 10th, 1907, p. 358.

The following specimens were shown :—

Dr. J. P. HEDLEY : (1) Hydrosalpinx with Torsion of the Pedicle ; and (2) Double Hæmorrhagic Cysts of the Ovaries.

Mr. HAROLD S. SINGTON : Tumour of the Fœtal Head.

Dr. A. H. N. LEWERS : Cancer of the Cervix (advanced) ; hysterectomy by Wertheim's method.

MEDICAL SOCIETY OF LONDON.

Graduated Labour in Pulmonary Tuberculosis.—The Opsonic Index in Tuberculous Patients engaged in Physical Exercise.

A MEETING of this society was held on Jan. 13th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Dr. M. S. PATERSON read a paper on Graduated Labour in Pulmonary Tuberculosis, which is printed at p. 216 of this issue of THE LANCET.

Dr. A. C. INMAN read a paper on the Effect of Exercise on the Opsonic Index of Patients suffering from Pulmonary Tuberculosis ; this also is printed in this issue of THE LANCET (p. 220).

The PRESIDENT said that the two papers which they had just heard marked an epoch in the treatment of pulmonary tuberculosis. He contrasted the work done at the Hospital for Consumption and Diseases of the Chest at Brompton 15 to 20 years ago with the work demonstrated by the two papers read that evening, and pointed out the difference between the groping in the dark then and the light which was now shed on pulmonary tuberculosis.

Sir A. E. WRIGHT, whilst admitting the possibility of the auto-inoculation method being useful, observed that by employing tuberculin they could begin with minimum doses and increase the amount as required, thus insuring more control than in auto-inoculation.

Dr. C. THEODORE WILLIAMS mentioned that when Frimley Sanatorium was opened there was no idea of starting graduated exercises which were begun by Dr. Paterson.

Dr. R. MAGUIRE said that the auto-inoculation treatment must not be applied to every case of pulmonary tuberculosis. Success depended on the careful selection of fit cases for that treatment at the sanatorium ; if the method were to be carried out indiscriminately it would soon be found to fail when compared with artificial inoculation.

Dr. F. J. POYNTON emphasised the importance of recognising that there was more in the sanatorium treatment at Frimley than mere auto inoculation. He did not think that the patients whom they had heard about that evening would have done so well as they did on the tuberculin treatment.

Dr. PATERSON, in reply, dwelt on the necessity of discharging patients from the sanatorium ready to return to their usual work without fear of relapse.

Dr. INMAN, in his reply, said that the advantages of sanatorium life were of inestimable value in the treatment of pulmonary tuberculosis. He did not think that the injection of tuberculin would ever replace artificially induced auto-inoculation.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—Appendicitis.—The Optic Nerve in Cases of Intracranial Tumour.

A MEETING of this society was held on Jan. 15th, Dr. JAMES RITCHIE, the President, being in the chair.

Dr. ROBERT A. FLEMING showed a case of Spastic Diplegia of Infantile Origin in a man aged 45 years. The tendon reflexes were greatly exaggerated, as was also Baginsky's sign. Athetoid movements were present, chiefly in the left arm which was paralysed. Nearly all the muscles were hypertrophied, including those of the neck ; when he spoke there was a marked spasm of the platysma myoides. The patient's intellectual power was good ; there was no family history of nervous disease, but one brother stammered greatly ; the athetoid movements and spasticity had been present as long as the patient could remember. The lesion must have been either a meningo-encephalitis or a meningeal hæmorrhage.

Mr. J. W. DOWDEN showed a man after operation for Perforated Duodenal Ulcer as illustrating the good results of early complete suture of the abdominal wounds. The ulcer was situated towards the gastric end of the duodenum ; it was excised by a longitudinal incision, the cavity of the abdomen was washed out with saline solution, and drainage openings were made at the lower part of the abdomen. On account of the giving way of the sutures the bowels prolapsed two days later ; they were replaced and all the abdominal openings were then securely sutured and healed by first intention.

Mr. F. M. CAIRD showed a man after Removal of Half of the Tongue. The operation was done under cocaine, the tongue being snipped out by scissors. No gag was necessary and the man walked back to bed. A few hours after the operation he could articulate perfectly and the wound healed much more satisfactorily than in cases done under a general anæsthetic. All the glands in the front of the neck were subsequently dissected out, and though each was microscopically examined no trace of malignant disease was found in them.

Dr. EDWIN BRAMWELL showed a boy suffering from Poliencephalomyelitis. He had been healthy until three months ago when he felt sick, vomited, and had pain at the back of the neck. On the following day he could not move his head. The movements of the arms and legs were normal, showing that the spinal cord was unaffected, but his head was held stiffly and this was not due to rigidity of the muscles but to excessive weakness of the deep cervical muscles as well as the sternomastoid and trapezius muscles, which were much wasted and exhibited the reaction of degeneration. A general improvement was taking place and the prognosis was favourable.

Mr. H. ALEXIS THOMSON showed a case after Osteoplastic Amputation *through the Middle of the Leg*, in which a portion of the tibia was retained in the anterior flap and brought into contact with the sawn section.

Dr. D. CHALMERS WATSON showed two cases of Chronic Pancreatitis. He said that the disease was much more common than was supposed. One of the patients had been treated for catarrhal jaundice in August, 1906 ; on account of the pain a neoplasm *at the head of the gall-bladder* was diagnosed and an operation was performed. He was now pale, sallow, and emaciated and subject to severe paroxysmal attacks of ague-like severity every six weeks. The second patient had suffered for ten years with indigestion, jaundice, and emaciation.

Mr. DOWDEN read a communication entitled "Deductions from 100 Consecutive Operations for Appendicitis." He confined his statements almost entirely to acute attacks. He said that the appendix was dependent on a single artery as a rule for its blood-supply and was consequently unable to cope satisfactorily with the urgent demands for blood caused by severe inflammation. In his series of 100 operations 82 were acute cases (52 males and 30 females), while the so-called "interval operation" was performed on 14 males and four females. Recurrent attacks were noted in 37 cases. Among the 82 acute cases there were 16 deaths, while among the 18 "interval cases" there were no deaths. A classification of the acute cases according to age showed that 16 cases with six deaths were under 16 years of age ; 50 cases with 9 deaths were from 16 to 30 years of age ; and 16 cases, with one death, were over 30 years. On the first day of the illness there were 11 operations performed with no death ; on the second day there were 16 operations with two deaths ; on the third day there were 18 operations with seven deaths ; and at later periods there were 37 operations with seven deaths. The symptoms were often treated as those of acute indigestion. It could not be *sufficiently emphasised* that every attack of so-called acute or subacute indigestion called for a careful local examination, including, if in doubt, a rectal examination. The presence of pain to the left of, and

20 minutes to half an hour to the action of liquid air. They were then at once introduced into healthy mice beneath the skin, the presumption being that in these circumstances the tumour cells would be destroyed by the action of the liquid air, and consequently that they would multiply no further. However, among the inoculations made with the frozen material it was found that in some cases new tumours were produced. Further, in a number of mice wherein tumours of the same strain were already growing similar inoculations were made in a remote part of the body; in some of these also the same positive result was obtained. From these observations it is rendered *clear that exposure to* liquid air at a temperature of about – 195° does not necessarily destroy the potentiality of the substance of a mouse tumour to produce fresh tumours of the same kind in mice into which such frozen tumour substance has been grafted.

These facts in themselves are somewhat surprising, and they immediately raise a number of questions which it will be desirable to have elucidated in the interests of research concerning the nature of cancer. *In the first place, it is* rendered clear that exposure to liquid air for a certain period of time does not destroy the principle upon which the vitality of mouse cancer depends. If, as may be the case, the cells composing the mass of the tumour, and constituting the grafts, are killed by exposure to liquid air, then the development of mouse cancer after such exposure indicates not merely that the growth of similar tumours is independent of the integrity of the "cancer cells," but also that the new tissues are not necessarily formed from the implanted cells at all, and may arise from the cells of the new host in response to some stimulus introduced along with the frozen material, and quite independent of the integrity of the so-called "cancer cells."

This matter is at present engaging our attention, but the *fact* that the capacity for originating new growths is not necessarily destroyed in the substance of tumours after exposure to liquid air, certainly suggests that the production of new tumours in the hosts into which the frozen cancer tissue has been introduced may possibly not be dependent upon the introduction of *the "cancer cells"* at all, but upon the action of a virus which is independent of these cells, and retains its activity after being subjected to the temperature of liquid air. It is well known that a number of bacteria are not killed by this temperature. The fact that cancer can be originated in mice by implantation of portions of frozen tumours may indicate that there exists some such cause as an organised irritant or parasite acting as an agent in the production of cancer. *On* the other hand, however, it is not yet certain that the cells from the tumour introduced into a new individual are killed by half an hour's exposure to the temperature of liquid air, particularly as the seeds of some plants and *trypanosomes* are said to survive this temperature.

NOTE UPON THE EFFECT OF LIQUID AIR UPON THE GRAFTABLE CANCER OF MICE.

BY J. E. SALVIN-MOORE, A.R.C.S., F.L.S., F.Z.S.,
PROFESSOR OF EXPERIMENTAL AND PATHOLOGICAL CYTOLOGY AND DIRECTOR OF THE CANCER RESEARCH LABORATORIES, UNIVERSITY OF LIVERPOOL;

AND

J. O. WAKELIN BARRATT, D.Sc., M.D. LOND., F.R.C.S. ENG.

IN the present communication we wish to record some observations made upon the graftable tumours of mice. The tumours under observation were obtained for the Liverpool Cancer Research Laboratories, through the kindness of Professor Bang of Copenhagen, and were received originally from Professor Jensen. For purposes of certain experiments not yet completed fragments of the tumour in question were placed in liquid air for from 20 minutes to half an hour and after thawing were placed under the skin of fresh mice in the ordinary way. It was presumed that by exposure to the temperature of liquid air the tumour cells would be immediately killed. However, in a number of such grafts after a period of from ten to 20 days fresh tumours appeared at the site of the inoculations.

These observations appear to be of interest in themselves; but more especially so because they lead up to a number of important questions. It seems to be probable from what *has been observed in relation to* healthy skin that exposure to the temperature in liquid air rapidly kills the cells composing it. It may, of course, be that cancer cells differ in their capacity to resist such a temperature, but at the same time since some bacteria and other organisms are known not to be killed by the temperature in question it is clearly suggested that there may be an organism in or among the cancer cells able to withstand the treatment to which they have been *subjected and afterwards consequently capable of setting up* the formation of a tumour derived from the tissues of a new host. These are, however, matters which are engaging our attention and at present it is undesirable to say more concerning them.

TREATMENT OF GRAVES'S DISEASE WITH THE MILK OF THYROIDLESS GOATS.

BY WALTER EDMUNDS, M.A., M.C. CANTAB.; F.R.C.S. ENG.;
SURGEON TO THE PRINCE OF WALES'S HOSPITAL, TOTTENHAM.

SINCE the discovery of the nature of myxœdema it has been thought that the symptoms of Graves's disease are due to an excessive secretion from the enlarged thyroid gland. Further, it has been thought that a remedy might be found in the serum or milk of thyroidless animals, the idea being that to counteract the thyroid secretion the normal body secretes an antithyroidin, and that in thyroidless animals this antithyroidin would be in excess and available to act as an antidote to the excess of thyroid secretion in Graves's disease.

There are, however, some difficulties in the way of this theory. The severity of the symptoms of Graves's disease is by no means always in proportion to the size of the goitre, nor is this always one of the first symptoms; indeed, from the history of the cases it would seem that they often start from some mental strain. Another difficulty arises from the fact that myxœdema and Graves's disease sometimes coexist. Babinski mentions two such cases and Dr. Samuel West has recently recorded a very clear case occurring under his care at St. Bartholomew's Hospital.

A third difficulty arises from the symptoms produced by the excision of the thyroid varying in different animals. In dogs and cats the operation produces severe nervous symptoms, tremors, paralysis, and convulsions, quickly followed by death. In goats, on the other hand, as a rule no ill effects follow. I have recently performed the operation on ten goats. One of them was young and not fully grown; the effect of the operation was that it ceased to grow and became in fact a cretin. The other nine goats were fully grown and in seven of them the operation produced no effect; in the other two there came on after some months a swelling of the face, due no doubt to myxœdema; this was treated with thyroid tabloids and disappeared but both animals died. A small percentage of the dogs submitted to complete thyroidectomy escape the acute symptoms; they then remain well; they do not later develop myxœdema nor does this occur in those dogs in which nearly the whole of the thyroid gland is removed and one or more parathyroids are left. Thus dogs do not have myxœdema and goats do not have the acute nervous symptoms which occur in dogs and which are attributed by Gley and others to the removal of the parathyroid glands. Monkeys, however, which are nearer to man than either dogs or goats, may have aparathyroidea or myxœdema or both. As a rule, it seems that monkeys when submitted to thyroidectomy die from the nerve symptoms; those, however, which survive or escape this may have, and some do have, myxœdema.

Thus, even if it is admitted that the symptoms of Graves's disease are due to the thyroid secretion, the question may not be merely one of too much or too little, but we may have to distinguish between the secretion from the thyroid proper and that from the parathyroids.

A fourth, and last, objection to the theory is that it leaves out of account the possibility of any action of the central nervous system on the secretion of the gland. Exner, and later myself, have shown reason for thinking that there is and it grew high up and into the innominate vein. It projected into the right auricle of the heart and filled it up, and projected into the ventricle.

Dr. HENRY C. EARL exhibited a specimen of Extensive Lympho-sarcoma in the Upper Parts of the Thorax but lying more in front of the structures than surrounding them. It grew down on to the pericardium and the heart was covered all over with a thick layer of tumour. It extended to the left pleura and from it into the lung. There were also several globular secondary growths in the liver of the same structure.

Dr. WILLIAM BOXWELL exhibited a specimen of Aortic Aneurysm taken from a man, aged 33 years. At the necropsy the aorta was found to be the seat of a saccular aneurysm of the size of a duck's egg. The innominate artery was involved in the aneurysm, while the left carotid and subclavian opened directly into the sac. The aneurysm lay directly under the right sterno-clavicular articulation and caused a partial dislocation of the joint. The sac was crossed in front by the left innominate vein, which was incorporated in its wall and nearly obliterated, its function having been taken on by an enlarged left superior intercostal. Both recurrent nerves must have been subjected to considerable pressure, as were also the trachea and œsophagus.

Dr. BOXWELL also showed specimens obtained from two cases of Poisoning by Crude Phenol. The first patient was a girl, aged 15 years, who swallowed four ounces of the poison. She was dead when brought to hospital and the necropsy was made about 24 hours afterwards, no attempt having been made to counteract the effects. The stomach was of a leathery consistence; the serous surface was dull and of a bright cherry-red colour. The same appearances were noticeable on the contiguous surface of the spleen. The mucosa of the stomach and œsophagus was hard and brittle, dull greyish-white in colour, with whiter points resembling incrustations, as if roughly painted with white lead. There was no evidence of this necrosis on the tongue or fauces, although in the latter an œdematous condition of the mucous membrane was very remarkable. The second patient was a child, aged 12 months. The amount of the poison swallowed could not be accurately ascertained. The child was still alive when removed to the hospital. About four ounces of whisky were administered within a few minutes of the dose of phenol, followed by a copious irrigation of whisky and water. There was no other antidote used. The amount of coagulation necrosis was not great, the stomach bearing a marked contrast to that of the previous case. The condition of the pharynx and œsophagus in the two cases was much the same. Some details of a third case were also given, where a woman, aged 27 years, had swallowed eight ounces of crude phenol. She also was treated with whisky, whisky and water, and glycerine and water given through a stomach-tube. A considerable quantity of brown fluid smelling strongly of carbolic acid was syphoned off with the initial dose of whisky and as a result of the treatment the woman was doing well. It was a remarkable fact that within a few minutes of the administration of whisky she recovered consciousness and within an hour was vomiting naturally.

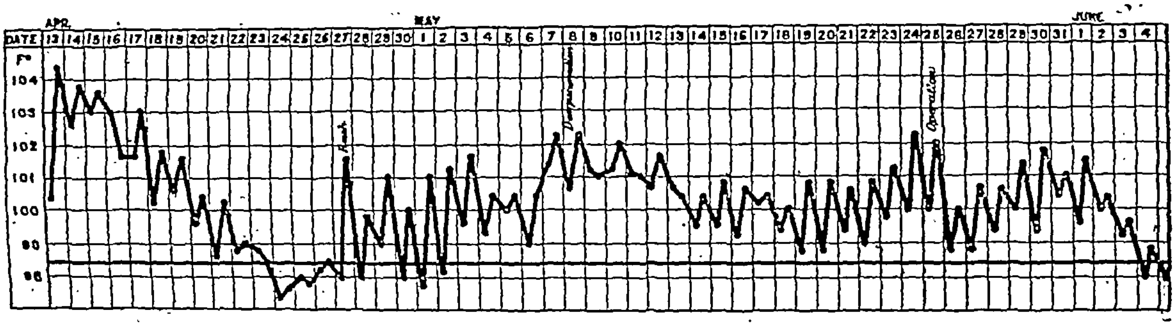
The SECRETARY exhibited an old museum specimen showing a Round Worm doubled up in the trachea and larynx of a child.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held on Jan. 8th, Dr. A. Dumville Roe, the President, being in the chair.—Mr. Charles Ryall opened a discussion on the Diagnosis and Treatment of Hæmorrhage from the Mouth, Nose, and Stomach. Dealing chiefly with hæmorrhage from the stomach Mr. Ryall spoke of the importance of accurate diagnosis and of keeping in mind the possibility of carcinoma supervening on what appears to be a simple chronic inflammatory condition. He referred in detail to the condition known as gastrostaxis and to the hæmorrhage in cirrhosis of the liver and from the œsophagus. Treatment of severe hæmorrhage resolved itself into the use of morphine and rest. Drugs were of little use except in less severe cases; ice, which should be ground, was useful, and the ice-bag when used should not be allowed to produce pressure on the abdomen. Gastro-enterostomy was frequently successful in removing the more prominent troubles in suitable cases. Mr. Ryall having briefly referred to bleeding from the nose and mouth, the discussion was continued by the President.—Mr. Mark Robinson inquired what was the reason that the presence of blood in the stomach induced vomiting.—Mr. J. Gay spoke of hæmatemesis in hysteria, and referring to epistaxis wondered if plugging the posterior nares was not less frequently required nowadays. He had found that in a large number of cases the hæmorrhage came from a septal vessel just within the nares where it could be easily controlled.—Mr. E. F. White thought that drugs were useless in severe cases. He had administered adrenal with little local effect and had seen toxic symptoms arise from over-absorption. He had had experience of hæmorrhage from the dilated veins of the œsophagus and noted that in duodenal ulcer the course was commonly more rapidly downhill than in any form of gastric ulcer.—Dr. M. G. Biggs agreed that a large number of cases of epistaxis were due to the rupture of a septal artery. He had had experience of gastrostaxis which was more alarming to the medical attendant than to the patient who was used to it. He inquired whether the view of the Leeds school that all gastric ulcers should be excised when discovered as a precaution against subsequent carcinoma was widely held and practised.—Mr. Aitken recorded two cases of gastrostaxis and advocated an absolute starvation in all cases of gastric ulcer. He had found calcium chloride of little use unless it was given in teaspoonful doses of the dry salt; in that form much benefit appeared to be obtained.—Dr. W. G. Dickinson mentioned two cases of sudden death from gastric hæmorrhage, and Dr. R. Carswell, Dr. C. E. McDade, and Mr. E. J. Pritchard joined in the discussion which was closed by Mr. Ryall.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Jan. 17th, when Dr. W. Langdon Brown, the President, showed the following cases:—1. A man, aged 29 years, with Congenital Heart Disease, who had well-marked clubbed fingers, hæmoptysis, and a systolic apical murmur. The condition was probably one of patent septum ventriculorum. 2. Two children, brother and sister, with Congenital Defects The boy, aged three years, had congenital heart disease. He had marked cyanosis, clubbed fingers, and a systolic apical murmur due to an imperfect septum. The girl, aged nine months, had her left hand like a flapper, absence of nearly the whole of the radius and of the thumb. 3. A man, aged 59 years, with Melanotic Sarcoma of the Lung. Four years ago he had his right eye removed for "cancer." Six months ago he had five and a half pints of blood-stained fluid removed from a left-sided pleural effusion. There was bulging of the left side of the chest posteriorly in the lower half. There were markedly enlarged veins over the upper chest and the lower abdomen on the left side, the blood flowing away from the bulging area. There were several small nodules over the abdomen and the chest, and a shotty nodule above the left clavicle was excised and found to be melanotic sarcoma.—The President also showed the Heart of a man, aged 39 years, who had died from well-marked Stokes-Adams Syndrome.—Dr. L. U. Young showed a Fibroma of the size of a large orange which he had removed from the left labium majus of a healthy, muscular woman, aged 21 years, and which had existed for from four to five years.—Dr. D. Ross demonstrated a well-nourished lad, aged 18 years, who was a typical Ruminant. From 15 to 20 minutes after a meal, at intervals of about four minutes, the food returned by mouthfuls, to be remasticated and again swallowed. It occurred mostly when he ate hurriedly and was unattended by nausea, retching, or discomfort. Farinaceous foods and those containing cellulose almost invariably regurgitated. He described the second mastication as giving rise to a pleasant sensation. The condition was probably a motor gastric reflex neurosis.—Dr. Ross also showed a man, aged 47 years, who had undergone Gastro-enterostomy for Cancer of the Wall of the Stomach and who had very much improved since the operation.

EDINBURGH ROYAL MEDICAL SOCIETY.—At a meeting of this society held on Jan. 10th Professor Robert Muir (Glasgow) gave a demonstration on Repair, Hypertrophy, and Tumour Growth in the Liver. His results were taken from human livers which had come into his hands and hence were of more value than experimental results. In a case of 14 days' old rupture of the liver there was clearly seen evidence of proliferation of the epithelium of the bile ducts to form new liver cells and also of hypertrophy and proliferation of the uninjured liver cells to increase their functional power. Cells undergoing this proliferative change were found larger, less granular, and often multinucleated. The result of such changes was irregularity in shape and size.

general condition of the patient did not improve. There was great prostration and frequent vomiting, the vomit consisting first of thin yellow and later of dark green material. The tongue and mouth were in a very foul condition. This state lasted for six days. On the 27th the temperature again rose to 101·6° F. and the pulse to 136 per minute. A generalised erythematous rash, accompanied by severe sore-throat, appeared and persisted for three and a half days. A diagnosis of scarlet fever was made and the patient was isolated. He had some diarrhœa but there was nothing noteworthy in the stools. From the 27th to May 3rd the temperature was intermittent. Nothing abnormal was detected in the chest and a gradual improvement in the general condition followed, the vomiting ceasing and the tongue becoming clear. The urine had constantly contained albumin. On the 8th desquamation began and during the next fortnight the temperature remained considerably elevated (see chart).



About May 20th or 21st the patient first complained of pain in the neck and a tender swelling was discovered in the region of the right lobe of the thyroid. The patient then told us that he had known of the existence of a swelling in this situation for some years but that it had not caused any symptoms. By the 24th the tumour had rapidly increased in size and was exceedingly tender. It moved up and down on swallowing but did not cause any dyspnœa or dysphagia. The swelling occupied the greater part of the right lobe of the thyroid; it was globular in shape, very elastic, but not definitely fluctuating. The left lobe was normal and the trachea was displaced to the left side of the mid-line. The temperature, which had continued to be intermittent, rose on the evening of the 24th to 102·2°. A diagnosis of suppuration in a thyroid adenoma was made.

On May 25th a transverse incision was made over the lower part of the swelling. The infrahyoid muscles were found to be œdematous and adherent to the swelling; they were divided and then peeled off its surface. An attempt was made to enucleate the tumour, but in doing so it was ruptured and two ounces of pus were evacuated. A couple of drainage-tubes were placed in the cavity, one of them being brought out at the posterior border of the sterno-mastoid through a separate incision and the other one through the middle of the incision, which was only partially closed by two or three stitches, the rest being packed with gauze. The tubes were left out on the 29th. By June 17th the incision had quite healed, and all pain, swelling, and tenderness had disappeared. For a week after the operation, in spite of the local condition being quite satisfactory and of there being no evidence of insufficient drainage, the temperature remained constantly above normal. The pulse-rate was about 100, and the respirations were 24 per minute. On June 4th the temperature came down to normal permanently and convalescence was thereafter uninterrupted.

Films made from the pus at the time of the operation showed that the cells were nearly all polynuclears, and very few organisms were seen. Cultures, however, gave a copious and pure growth of a non-Gram-staining motile bacillus, which on further chemical examination gave the fermentation and other reactions of the typhoid bacillus in a typical manner. The bacilli were readily clumped by a human and animal typhoid serum in high dilutions. The patient's own serum with a 1 in 50 dilution gave a positive Widal's reaction on two separate occasions at a week's interval. There can be no doubt that this was a case of suppuration in a thyroid adenoma due to the typhoid bacillus.

The interesting point is, from what source did the organisms reach the gland? As already described, the illness was by no means of the ordinary typhoid type, and after the bacilli had been found we carefully examined the abdomen for enlargement of the spleen but failed to detect it or any other abnormal condition suggesting typhoid fever. The stools did not at any time have the characters of those of a typhoid patient. Moreover, the patient made such a rapid recovery that he was able to leave the hospital on June 22nd. We questioned him as to his having had typhoid fever in the past, but we were unable to satisfy ourselves on this point.

We have thought this case to be worth publishing because an acute abscess in the thyroid, though a well-recognised condition, is not of very common occurrence, and when it does occur, apart from traumatism, such as puncturing a cyst, is most often observed in connexion with an acute febrile disease and generally at a late stage of the illness. Typhoid fever is one of the commoner of such diseases to be followed by an acute thyroiditis and usually the abscess is a late complication. In this patient the signs developed at the end of the sixth week from the beginning of the illness. As soon as suppuration has occurred the pus should be evacuated, or if the abscess has developed in an encapsuled tumour enucleation should, if possible, be performed. If left, the pus is very likely to penetrate the gland capsule, leading to diffuse cellulitis of the neck and mediastinum or to burst into the trachea or pharynx. Whichever of these events occurs the result is likely to be very disastrous. And free drainage must be provided at the time the pus is let out. The incision should not be closely sutured; if a transverse incision is made the scar is very little noticeable. In this patient it is a thin curved line.

We are indebted to Dr. W. d'Este Emery for kindly undertaking the pathological investigation.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTE ON A CASE OF FENESTRATION OF THE ANTERIOR PILLARS OF THE FAUCES.

BY P. WATSON WILLIAMS, M.D. LOND.,
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THE exact mode of origin of this peculiar condition is a disputed point. Some of the cases recorded were considered to be congenital, in others it is believed to be caused by ulceration due to scarlet fever. I consider that this case looks like a congenital defect on account of (1) the absence of any cicatrices or unevenness in the margins of the fenestræ; (2) the bilateral symmetry of the malformation; (3) the arrangement of the strands of mucous membrane and the muscle fibres, and that they obviously correspond to the anterior pillars of the fauces, as shown in the drawing; and (4) the fact that although the posterior faucial pillars do not show fenestration yet the palato-pharyngeus muscles are collected into a separate bundle of fibres on each side, with only a thin layer of mucous membrane in continuity with the lateral walls of the pharynx. Thus, in front the palato-glossus muscle forms a separate bundle, passing down to the tongue, and forms the inner boundary of a contained useful knowledge and even new facts. Too often the teaching was gilt, not golden. Since medicine has become more a science and less an art this sort of literature has begun to die out. We watch its death struggles with equanimity, though when some peculiarly aggressive flicker of vitality manifests itself we are inclined to wish that it would "get on with its dying." We may regret the deterioration of literary style and deplore the too frequent lapses of grammar and composition which characterise so many of the medical writings of to-day, but we may be proud of the fact that while these defects are only too patent the science of medicine forges ahead by leaps and bounds.

The volume before us combines some of the virtues of both the old and the new types. It is well printed on large pages, with wide margins, uncut edges, and a gilt top; it is sumptuously illustrated—quite an *édition de luxe*. It is true that most of the subject matter will be found in any good treatise on diseases of the eye but it is brought forward here in such a pleasant fashion that it may well prove attractive to the busy general practitioner, for whom, we presume, it is primarily intended. There are many things in it which will be of interest and value to the trained ophthalmologist, for he cannot but benefit by the ripe experience of a distinguished *confrère*. His attitude must necessarily be a critical one. He will regret the incompleteness of the book as a treatise on injuries of the eye. We cannot think that he will always agree with the author's methods and still less with his views on some points of ocular pathology. As examples of the first-named he may doubt the advisability of attempting to replace a prolapsed iris after an ordinary injury and of aiding this procedure by the instillation of eserine. Separating the conjunctiva all round the cornea, passing a purse-string suture through its free margin, and pulling this tight so as completely to cover the cornea, will only exceptionally be indicated, in his estimation, in the treatment of perforating wounds. He will probably prefer to introduce a glass ball rather than paraffin into Tenon's capsule as a modification of enucleation. The author's views on the theory of sympathetic ophthalmia savour of antiquity. "Numerous experiments have conclusively demonstrated that irritation of the ciliary nerves in one eye produces not only dilatation of the blood-vessels but also increased secretion of albumin into the aqueous humour of the other." Römer's recent extremely delicate experiments entirely, and in our opinion conclusively, negative this statement.

Dr. Ramsay describes the methods of determining the presence, and localising the situation, of intraocular foreign bodies. The large magnet which he uses is apparently the same as Volkmann's; he considers it preferable to Haab's. The chapter on ocular therapeutics is the one which will most attract the ophthalmologist, for it gives many hints of the author's predilections in drugs. He rightly lays stress on the general treatment of the patient, which is too often forgotten in the absorbing interest of the local condition. Various silver preparations, anæsthetics, mydriatrics, and so on, are passed in review and attention is drawn to the indications for subconjunctival injections. The formulæ in use at the Glasgow Ophthalmic Institution form an appendix to the work.

Special note must be taken of the coloured plates which adorn the book. The drawings of the eyes are extremely good but the artist has been unfortunate in his choice of a skin tint. The foreigner glancing through the book might conclude that Dr. Ramsay has an extensive practice amongst negroes. The outline drawings contain many inaccuracies. Two plates illustrate Dr. Thomas Reid's unorthodox histological views; it would have been well to point out that these views are not generally accepted by histologists.

In conclusion, we may express a doubt as to whether books of this kind are worth the trouble and expense which they entail. Do beautifully reproduced coloured drawings of common pathological external conditions serve any very useful purpose? We think not. Anyone will learn far more from careful examination of the patients and no one will be made much more competent to treat such cases by study of the drawings.

Plasma und Zelle. Erste Abteilung: Allgemeine Anatomie der lebendigen Masse. Bearbeitet von Professor Dr. MARTIN HEIDENHAIN in Tübingen. Erste Lieferung: Die Grundlagen der mikroskopischen Anatomie, die Kerne, die Centren und die Granulalehre. (*Plasma and Cell.* First Section: General Anatomy of Living Matter. Edited by Professor MARTIN HEIDENHAIN of Tübingen. First Part: The Elements of Microscopical Anatomy, the Nuclei, the Centrosomes, and the Granule Theory.) With 276 (in part coloured) illustrations in the text. Jena: Gustav Fischer. 1907. Pp. 506. Price M.20; to subscribers M.16.

THIS work of Professor Heidenhain, which constitutes the last part of Bardeleben's "Handbuch der Anatomie des Menschen," has appeared at a most opportune moment and supplies a work the need of which has been very greatly felt. The author, as it were, here "puts the finishing touches" to our knowledge as regards many points of vital interest in the study of this subject. The anatomical aspect of living matter is the chief point under consideration, but the author also, in a most comprehensive and interesting manner, touches upon the various branches of biology. No such complete treatise on this subject has hitherto been published and we strongly recommend the book to every medical man who is interested in the biological side of his profession. It cannot fail also to be of great benefit to biologists as a book of reference and we are confident that it will be received by them with all the enthusiasm which it deserves.

Professor Heidenhain, as usual, proves himself complete master of his subject. The general aspect which he puts forth in dealing with the different problems is a very pleasing one and comprises the biology of the cell in the full sense of the word. He gives a fairly comprehensive review of the historical development of our anatomical and biological knowledge of the cell in general. Here and there we find the author's own ideas put forth. In the question of the differentiation of living matter he considers that there is no constant connexion between the structure of the nucleus and the function of the protoplasm. Regarded from a general point of view, the nuclei of the tissue cells are markedly inactive. The work also contains much interesting and instructive information as regards the chemistry both of the nucleus and of the protoplasm. The methods of staining, and so on, are also considered but the author does not go into detail concerning this subject.

In several minor points we are able to agree with the ideas set forth by the author. For instance, we consider that the lining of the cell plays quite as important a rôle as the author seems to indicate. It is a noteworthy fact that, although he does not actually commit himself to any decided opinion, he yet does not appear to support the hypothesis of the individuality of the chromosomes. The important subject of spermatogenesis is a point upon which the author has enlarged and with which he has dealt in a comprehensive, interesting, and altogether satisfactory manner. In the fourth portion of the first part Professor Heidenhain deals fully with our knowledge of the granules. Altmann's theory that the granules are active parts of the protoplasm, granulation in gland cells, mitochondria, the vital staining of the granules, and so on, are points which are noted. In the last chapter the protomere theory—i.e., the composition of the plasma out of minute dividing particles—is gone into at some length.

In conclusion, we should like to draw attention to the complete bibliography which is given at the end of each chapter. The value and interest of the work are also much enhanced

The case was of interest on account of the unusual physical signs presented. The patient was 51 years of age, and had suffered from caries of the spine when he was 32 years old. Twelve weeks before he was admitted into the London Hospital (under the care of Mr. F. S. Eve) the left testis had become swollen and painful. Nine weeks after the swelling first appeared a soft red spot was discovered in the *front* of the scrotum which enlarged and eventually burst, discharging pus. On examination in hospital there was an abscess with a sinus in the anterior wall of the scrotum. Behind the abscess a hard nodular mass was felt which later was found to be the tuberculous epididymis and behind that a soft globular structure which was the body of the testis. The vas could be felt in the spermatic cord; it was not beaded. On examination by the rectum the left vesicula was found to be swollen and hard.

Orchidectomy was performed 12 weeks after the first symptoms and as much of the vas as possible was removed. The epididymis was quite destroyed by tuberculous deposits and many nodules of tubercle were scattered through the body of the testis. The abscess cavity opened into the globus major of the epididymis. The wound healed by the first intention.

I am indebted to Mr. Eve for kindly allowing me to publish the case.

Weymouth-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Enucleation of a Uterine Fibro-myoma during the Seventh Month of Pregnancy.—Hæmorrhage into the Pons Varolii as the Immediate Cause of Death in the Eclampsia of Pregnancy.—Exhibition of Specimens.

A MEETING of this section was held on Jan. 9th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. HERBERT WILLIAMSON read a short communication on a case of Enucleation, during the seventh month of pregnancy, of a Uterine Fibro-myoma weighing 17½ pounds, which was followed by premature labour two days later. The patient was a primigravida, aged 32 years. When four months pregnant she suffered from repeated attacks of acute abdominal pain and became emaciated with some fever, and the distension of the abdomen was so great that she was unable to lie down in bed. At the time of the operation the tumour, which could be felt distinct from the gravid uterus, was thought to be a malignant growth of the ovary, but it was found to be a uterine fibro-myoma undergoing necrotic degeneration. The area of attachment of the tumour to the uterus was rather narrow but required enucleation. A premature child was expelled three days later but the patient made an uninterrupted recovery.

Dr. NORMAN C. CARVER and Dr. JOHN S. FAIRBAIRN communicated a case of Hæmorrhage into the Pons Varolii as the Immediate Cause of Death in the Eclampsia of Pregnancy, with illustrative cases. The patient was a primigravida, aged 24 years, who, after exhibiting signs of impending eclampsia, was found unconscious and straightway admitted to hospital. In view of the history of the illness and the presence of œdema and a high degree of albuminuria the case was thought to be one of eclampsia, and as the patient was in a state of deep coma, with Cheyne-Stokes respiration, rapid dilatation of the cervix was done, followed by the extraction of a fœtus of between five and six months' development. The patient died a few hours later and at the necropsy death was found to be due to an extensive hæmorrhage into the pons Varolii. Dr. Carver and Dr. Fairbairn argued that although the immediate cause of death was a pontine hæmorrhage the case was primarily one of eclampsia, and in support of this quoted four recorded cases of a similar nature, in which an unsuspected cerebral hæmorrhage was found post mortem. Details of these cases were given and, from an analysis of the symptoms presented by them and the above case, attention was drawn to such features in them as might serve to arouse a suspicion of the occurrence of apoplexy in the course of an eclamptic attack. These were, briefly, deep coma and cyanosis, with marked respiratory disturbance, occurring in a young patient presenting the urinary and other signs of eclampsia, and they were especially suggestive when the attack was unaccompanied by the usual eclamptic convulsions.—The PRESIDENT thanked Dr. Carver and Dr. Fairbairn for the interesting paper. He had not met with a case of hæmorrhage into the pons Varolii in eclampsia but he could recall two cases of hæmorrhage into the substance of the brain, one observed at a post-mortem examination and the other in which hemiplegia occurred, from which the patient slowly recovered. He thought that apoplexy was a well-known cause of death in eclampsia, and was surprised that Dr. Carver and Dr. Fairbairn had not found more cases recorded, although they did not claim that their paper was exhaustive. In view of the possibility of the occurrence of cerebral hæmorrhage in eclampsia, the intravenous injection of a large quantity of saline fluid would appear to be not unattended with risk.—Dr. MACNAUGHTON-JONES recalled the fact that the "apoplectiform" was one of the old writers' divisions of eclampsia in which sanguineous and serous effusion occurred into the ventricles. The symptoms were such as described in this case. He dwelt on the importance of early anticipation of the eclampsia, especially through the ocular symptoms and signs which were often present, and in which an ophthalmoscopic examination afforded most valuable evidence of the approaching danger. One of the most valuable therapeutical means they possessed to control the increased blood pressure in these cases of threatening cerebral hæmorrhage he believed to be the employment of weak doses of pilocarpine which was also useful in checking the convulsions. If necessary, its full physiological action might be neutralised by $\frac{1}{150}$th of a grain of atropine. He had known eclampsia ending fatally to occur as early as the fourth month of pregnancy.—Mr. A. LIONEL HALL SMITH said he had seen three cases of cerebral hæmorrhage complicating eclampsia or toxæmia of pregnancy, in all of which the diagnosis was confirmed at the necropsy. In one of them the hæmorrhage occurred in association with eclamptic convulsions after delivery, but in the other two the patients were not in labour and had only reached about the thirtieth week of pregnancy.—Dr. AMAND J. M. ROUTH had not had an opportunity of seeing a post-mortem examination of any case dying from puerperal eclampsia where cerebral hæmorrhage had been found, but thought that Dr. Carver and Dr. Fairbairn had shown how often such hæmorrhage might supervene and be the immediate cause of death. He thought it unwise to increase arterial tension, as must have been done in the first case reported, when 10 ounces of blood were removed and 40 ounces of saline infusion injected. This may well have increased the tendency to hæmorrhage. He presumed that saline infusion in these cases was given to dilute the toxins at each given point and to increase the leucocytosis to combat the toxins; but it was doubtful if it should be given when it increased arterial pressure. He considered that the suggestion to give pilocarpine (at all events in the doses usually prescribed—viz., $\frac{1}{4}$th grain) was fraught with grave danger. He considered that it should never be given in cases where apoplectic symptoms were present or where there was coma, for he had seen patients under its influence suffocated by the enormous quantity of ropy mucus secreted by their salivary and broncho-pharyngeal glands. He was interested in the fact that epigastric pain had been mentioned as a precursor of eclampsia in some of these cases of albuminuria of pregnancy. He considered this sign, following ocular evidences of high arterial tension, increasing albuminuria, and diminishing excretion of urea, a valuable indication that eclampsia was impending and that steps should be taken to induce labour without needless delay.—Mr. D. C. RAYNER referred to a case of eclampsia under his care in which a fatal termination was due to cerebral hæmorrhage. The patient was in the eighth month of her third pregnancy when convulsions set in. They were frequent and seemed more marked on the right side. The pupils were also noticed to be unequal. The urine contained albumin and the patient was not in labour. Coma deepened and the patient died in a few hours. There was extensive hæmorrhage into the right corpus striatum and optic thalamus.—Dr. R. H. HODGSON said that he thought the lesson to be learnt from this instructive paper was, in al cases of eclampsia in pregnant women empty the uterus He had done so in six cases and in all the women recovered, five very rapidly, and one in whom some sligh convulsions continued for five days was quite well after one salts and their metabolism in the body has been extended and is a useful study of the subject. The consideration of beverages is also full and includes tables of the composition of the most important mineral waters and a useful summary of the effects of alcohol and of its uses in health and disease, in which the opinions of several authorities are quoted at some length. The effects of a number of factors upon foods and their use in diets are given, including the questions of the concentration, the preservation, and the cooking of foods, and of food adulteration and the varieties of food poisoning. The subject of the feeding of infants is very fully dealt with and this section is one of the best in the book. The diets adapted to special conditions are given, such as those for the aged and those advised during pregnancy. In this connexion the dietary recommended by Prochownick in pregnancy with pelvic contraction is given in detail. About half the book is devoted to the presentation of diet in disease; each disease is separately considered and various diets are suggested in many cases. This method is a convenient one, since, although it involves considerable repetition, it facilitates the use of the book as a work of reference. In most cases not only is the total quantity of food to be given indicated but also the times at which the meals are best taken and also the amount of fluid to be permitted. Where different diets are advised by several authorities these are clearly separated from one another and are discussed by the authors. Various forms of dietary used in institutions are given in detail with their heat values. A chapter is devoted to recipes for beverages and special articles of diet. The concluding section consists of lists of substances which may and may not be given in various diseases, constituting what the authors term "rapid reference diet lists."

The book is well printed, is easy of reference, and is a valuable presentation of the subject of which it treats.

LIBRARY TABLE.

An Introduction to Physiology. By WILLIAM TOWNSEND PORTER, M.D., Associate Professor of Physiology in the Harvard Medical School. London and Philadelphia: J. B. Lippincott Company. 1906. Pp. 587.—This work is drawn up to meet the requirements of the "concentration" system as practised in Harvard Medical School at Boston, a system which means that the student at the time shall study only one principal subject such as pathology or physiology. In Harvard the first half year in the medical school is devoted to anatomy and histology, and the second to physiology and biological chemistry. The traditional teaching of physiology is preceded by experiments and observations by the student himself. In the old method the stress is upon didactic teaching; in the new there is less didactic teaching but the stress is on observation. This book is very much like some of the works on practical physiology published in this country but there is much less chemical physiology. The scope of the work will be best understood by stating that it gives an account of fundamental and accessory experiments in some fields of physiology. These are general properties of living tissues, methods of electrical stimulation, graphic method, electrical, chemical, and mechanical stimulation of nerve and muscle, and irritability and conductivity. The second part deals with the "income of energy" under the following heads: fermentation, blood, and respiration; while Part III. treats of the "outgo of energy." It comprises the consideration of animal heat, electrometric phenomena of muscle and nerve, the change of form of a contracting muscle, the central nervous system, skin, general sensations, taste, eye and vision, mechanics of respiration, circulation of the blood, and innervation of the heart and blood-vessels. The directions are clear, definite, and precise, while 74 illustrations help the student in the setting up his apparatus and arranging his experiments. Students preparing for the higher examinations will find it most helpful. This is the second edition and in its "final form" it will constitute "A Laboratory Text-book of Physiology."

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—In the January number of this journal Dr. W. Allan Jamieson records some interesting observations on rarer varieties of bullous affections of the skin—anomalous herpes zoster, dermatitis herpetiformis, pemphigus foliaceus and vegetans, and lichen planus with bullous lesions. An address by Dr. G. A. Gibson on Arterial Pressure emphasises the value of instrumental measurement of blood pressure, examples of which are to be seen in acute pneumonia and in aortic disease, wherein it is a useful guide to prognosis. Dr. J. S. Fowler writes on the "energy-quotient" in infant feeding, and Dr. D. Chalmers Watson on chronic arthritis, in which disease he holds that sufficient attention has not been paid to other organs besides the joints. A presidential address delivered before the Edinburgh Royal Medical Society by Dr. David M. Barcroft on Some Clinical Accessories deals pleasantly with the discoveries of the method of percussion, of the stethoscope, and of the sphygmograph.

The Scottish Medical and Surgical Journal.—The first number of the new year opens with a presidential address by Dr. A. Rudolph Galloway to the Aberdeen Medico-Chirurgical Society on the subject of Sight-testing and the drawbacks and dangers inherent in the prescribing of spectacles by opticians. A paper by Dr. Alexander Goodall and Miss Isabel Mitchell on the Physiological Action of the Formates may be commended to the study of those who have been impressed by some recent writings in praise of these drugs as stimulants. These authors find that the sodium and potassium salts are toxic, while the calcium salt may perhaps be useful as a soluble salt of lime in place of the chloride or lactate but not on account of its acid radicle. The sixth instalment of Dr. A. Dingwall Fordyce's studies on infant feeding deals with artificial substitutes for breast milk and among other things advocates the use of scalded rather than sterilised cows' milk.

The Bristol Medico-Chirurgical Journal.—In the December issue Dr. Henry Waldo writes on Syphilis in the light of recent investigations on the spirochæta (treponema pallidum). He supports the intermittent method of administering mercury which is in favour on the Continent. Mr. Ernest W. Hey Groves writes on Spinal Anæsthesia which he believes to be useful in certain special emergencies but not as a routine method; and Dr. F. Percy Elliott continues his paper on the Value of Compression of the Aorta in Post-Partum Hæmorrhage. A case of Generalised Sarcoma recorded by Dr. F. G. Bushnell was remarkable for the alterations in the blood, which showed a high degree of lymphocytosis (large lymphocytes, 37 per cent.; small, 29 per cent.), the polymorphonuclear cells only reaching 13 per cent. Dr. William Cotton pleads for uniformity in radiography to enable different observers to compare notes with some degree of accuracy.

THE HOSPITAL SATURDAY FUND.—Sir Savile B. Crossley presided at a special meeting of the board of delegates of the Hospital Saturday Fund Association on Jan. 18th at the offices, Gray's Inn-road, W.C. On the recommendation of the distribution committee it was decided that the sum of £24,708 0*s*. 2*d*. should be awarded to the 209 participating medical charities—namely, 33 general hospitals, £8258 5*s*; 16 cottage hospitals, £323 15*s*.; 75 special hospitals, £8416 12*s*.; 29 dispensaries, £818 16*s*.; 24 convalescent homes, £1483 17*s*.; 19 nursing institutions, £420 15*s*.; and 13 miscellaneous (including ambulance, distribution, and surgical appliance committees), £4986 0*s*. 2*d*. The total receipts for 1907 amounted to £27,168, as compared with £26,460 in 1906, an increase of £708.

a little below, the umbilicus might delay a correct diagnosis and had to be borne in mind. In three cases the symptoms so closely simulated perforated gastric ulcer that the duodenum and stomach were explored first and later the appendix. One patient was admitted to hospital as suffering from suppurative arthritis of the hip-joint, while in reality it was a large appendicular abscess extending below Poupart's ligament. If in a first attack an early diagnosis were made and an early operation performed the appendix could be removed through an incision planned to avoid the possibility of a ventral hernia; the acute symptoms rapidly subsided and the patient could be allowed up within a fortnight with the assurance of no subsequent attack. In such cases the prognosis was extremely good; of 14 cases so treated all recovered. If an abscess had developed the prognosis was rendered much more grave. The early local dangers were peritonitis, multiple abscesses, and obstruction, while the early general dangers were pyæmia and septicæmia. Even if the appendix were removed other abscesses might arise as well as fæcal fistula. Many patients were permanently disabled, though their lives had been saved by operation. The proper treatment for this disease was the removal of the appendix at the earliest possible moment. If a surgeon could not be readily obtained morphine should never be administered, but the patient should be put on starvation treatment with enemata of saline fluid for the first 24 hours, with the local application of heat or cold. If a patient recovered from an attack, no matter how mild, he ought to be operated upon. The mortality in interval operations was very small, while if performed within 24 hours in acute cases it might be as low as 0·5 per cent.—Mr. J. M. COTTERILL said that if the case were seen in the country then an operation should be performed at once and at any stage, but in town it was different. An operation performed within 20 hours of the onset was almost absolutely safe; if, however, two or three days had elapsed then it was better to wait and to perform the interval operation.—Dr. J. O. AFFLECK said that he had never been converted to the view that appendicitis was a disease only to be considered by the surgeon. He had seen healthy appendices removed because the symptoms had indicated appendicitis. Operation involved a risk to life and in his opinion it was best not to lay down any hard-and-fast rule but to weigh every case on its own merits.—Mr. CAIRD said that in the wards with which he had been connected there had been 174 interval operations in seven years with no deaths. Even in such cases there was a danger, however, and he had grown bacillus coli communis and a diphtheroid organism from the gelatinous matter covering over an old perforated appendix.—Mr. H. J. STILES said that if he were called at night and found a fulminating case he would operate at *once* and in acute cases always within 48 hours. The difficult cases were those seen for the first time two or three days after the onset; in such the surgeon's own experience must be the guide. A point which helped in diagnosis was the presence of fine crepitation in the subcutaneous tissue of the right iliac fossa. Among 52 acute cases he had had six deaths, or 11·5 per cent., and among 150 interval cases in two years he had one death.—Dr. D. O. A. MCCALLUM, Dr. G. LOVELL GULLAND, the PRESIDENT, and others also took part in the discussion.

Dr. FLEMING gave a demonstration of the Changes in the Optic Nerve in cases of Intracranial Tumour. He said that the marked hypertrophy and proliferation of the neuroglial cells in the optic nerve in these cases were different in some respects from what was seen in the neuroglial cells in the brains of cases of general paralysis of the insane. There was nuclear mitosis, often two or more nuclei being seen in one cell, and the cytoplasm in some of the cells lacked definite outline, resembling a condensation of fibrillæ in the neighbourhood of the original cell body. The processes became much thicker and more easily traced for a considerable distance from the parent cell. These changes were best marked in the orbital portion of the optic nerve, being most obvious at the periphery of the nerve near the pial sheath but were also seen throughout the whole of the nerve. They were not nearly so obvious in the optic tracts, although they were very characteristic in the neighbourhood of the tumour or tumours in the brain. Dr. Fleming considered that the limitation of these pathological changes depended on the great development of neuroglia, normally, in the orbital part of the optic nerve in contrast to the small number of these cells in the optic commissure and tracts. He noted in several cases a complete break in the continuity of the neuroglial hypertrophy between the optic nerves and the brain tissue near the tumour. The neuroglial changes were most satisfactorily demonstrated in cases of optic neuritis which were advancing to consecutive atrophy. He showed incidentally how the neuroglial hypertrophy brought into prominence the existence of other elements in the neuroglia which Dr. W. Ford Robertson had designated mesoglial cells. These cells might possibly increase in number to some extent in optic neuritis, but they did not undergo any hypertrophy. The neuroglial cells in primary and secondary atrophy of the optic nerve showed no hypertrophy at all comparable to that found in optic neuritis due to intracranial tumour. In tuberculous meningitis no optic neuritis occurred unless there were coexistent tumours in the brain substance. In neuroretinitis of renal origin similar neuroglial changes were found and closely resembled those seen in intracranial tumour. Dr. Fleming argued in favour of a toxic origin for the neuroglial changes in optic neuritis due to intracranial tumour. He considered that the hypertrophy of neuroglial cells was primary, although by that statement he did not intend to convey the idea that it constituted the only primary lesion. The lymph channels in the orbital portion of the optic nerve were more numerous than in the remaining part of the visual tract and this, together with the greater number of neuroglial cells histologically, might account for the position of the most marked neuroglial hypertrophy and proliferation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on Jan. 10th, Dr. A. R. PARSONS, the President, being in the chair.

Dr. HENRY T. BEWLEY exhibited specimens of Septic Endocarditis obtained from a man born in 1885. In 1898 he had suffered from rheumatic fever, being laid up for six months, and during the following three years he had further attacks. He went into hospital in February, 1905, suffering from breathlessness and palpitation. He was found to have a hypertrophied heart, double aortic disease, and mitral regurgitation. He was again admitted to hospital on Oct. 19th, 1907, and died on Dec. 16th. His last illness had begun in the previous June with feverishness, occasional sweatings, and loss of strength. While in hospital his evening temperature rose to 101° and 102° F., and his morning temperature varied from normal to 100°. The condition of the heart was much the same as before and sometimes a presystolic thrill was felt. The diagnosis was septic endocarditis. At the necropsy the heart was found very much enlarged and the pericardium was found to be universally adherent—a condition of which there was no clinical sign whatever. The right cavities of the heart were comparately small, the left ventricle was enormous, and both the mitral and aortic valves were festooned with soft pink vegetations. The kidneys were enlarged, the spleen was very much enlarged, and there was an abscess in connexion with an infarct in the spleen. Dr. W. G. Harvey made an examination of one of the vegetations, which showed enormous numbers of cocci of the streptococcus type. The case was therefore one of endocarditis, with an organism of extremely mild virulence; the sepsis had lasted fully six months.

Dr. R. TRAVERS SMITH gave the main clinical facts of a case of Intra-thoracic Tumour. The patient, a man, aged 56 years, was admitted to hospital on April 23rd, 1907, and died in about six weeks. A few months before admission he received a heavy blow on his chest, but it could not be said how much that had to do with the growth in his thorax. An effusion in the patient's right pleural sac accumulated rapidly and on tapping it they found that it had the character of a passive effusion, with poverty of albumin and cellular elements. He had to be tapped several times. Cyanosis was then very remarkable and he began to breathe with a slight stridor. About a week before his death he became very œdematous in his lower extremities, and some fluid formed in the peritoneum. One day he complained of violent pain in his right axilla and died six or seven hours afterwards from respiratory embarrassment. The disease was found to be a lymphosarcoma involving all the structures in the thorax. The whole of the superior vena cava was absolutely filled with it,

THE LANCET.

LONDON: SATURDAY, JANUARY 25, 1908.

The Treatment of Pulmonary Tuberculosis by Graduated Labour.

THE open-air or sanatorium treatment of pulmonary tuberculosis has now become generally recognised as a valuable therapeutic measure. First carried out under a regular system by Dr. BREHMER at Göbersdorf in Silesia, subsequently many institutions were founded upon his model, while various modifications in detail have been made by different physicians as has been recorded from time to time in our columns. All the developments of the treatment have not been in the same direction, and different opinions have prevailed as to the ideal environment of the tuberculous patient in a sanatorium, but we are only considering now the question of exercise. While some authorities attached great importance to rest in the open air, Dr. BREHMER considered that exercise, especially hill-climbing, was essential to the obtaining of the full value of this treatment, and Dr. WALTHER at Nordrach showed that excellent results could be obtained by graduated walking exercise, especially when, in suitable cases, this exercise was being pushed to the extent of walking 20 miles a day. Following upon the observations of the German physicians numerous sanatoriums have been established in this country, the essential principle being that the patient should live as much as possible in the open air but a certain amount of exercise was considered advisable. The sanatorium treatment has now entered upon a new phase and a most important one. At a meeting of the Medical Society of London held on Jan. 13th Dr. MARCUS S. PATERSON, the medical superintendent of the Brompton Hospital Sanatorium at Frimley, read a paper on Graduated Labour in Pulmonary Tuberculosis, which was supplemented by another on the Effect of Exercise on the Opsonic Index of Patients suffering from Pulmonary Tuberculosis by Dr. A. C. INMAN, the superintendent of the laboratories of the Brompton Hospital. These two papers are published in full in our present issue and upon being read were described by Dr. J. KINGSTON FOWLER, President of the Medical Society, as marking an epoch in the treatment of pulmonary tuberculosis.

Dr. PATERSON had observed that many tuberculous patients who had followed their ordinary occupations up to the time of admission to the hospital were in a very fair condition of health. It therefore occurred to him that if some tuberculous patients, being in adverse circumstances and without medical guidance, could act thus without apparent injury they ought, under ideal conditions and with the work carefully graduated in accordance with their physical state, to be able to undertake useful labour. Acting on this idea he has elaborated a system of graduated labour which not only carried out the intention of rendering the patients fit to return to their ordinary occupations on leaving the sanatorium but has proved a most valuable therapeutic measure in the treatment of pulmonary tuberculosis. In his paper he describes in detail the various grades of labour through which the patients are made to pass, together with the precautions which had to be observed in order to protect them from the harm which might ensue if too much effort was attempted. He also mentions the symptoms which suggest that the patients have overtaxed their physical resources. Those physicians who wish successfully to carry out this method of treatment will do well to study carefully Dr. PATERSON'S remarks, for it is on the care that is devoted to detail and on the loyal coöperation of the patient that the result of the treatment will depend. The patients who were sent to the Frimley sanatorium for treatment had all been for some time at the parent institution at Brompton. They were all carefully selected as regards the extent of the disease, the state of the temperature chart (no markedly febrile cases being despatched to the sanatorium), and the evidences which they exhibited of satisfactory resistance to the progress of the disease. When they reached the sanatorium the treatment by exercise was at once commenced. Every patient was informed that he would be treated by prescribed rest and exercise and that as he did not himself know the amount of each required he must do exactly as he was told. Absolute obedience to the orders of the physician in charge of the case was seen to be essential. Dr. PATERSON brings out two points in particular in his valuable paper: First, that special heed must be paid to the word "graduated" in arranging the amount and kind of work to be done by each patient; and secondly, that the effect of that work on each patient as shown by the temperature chart and other signs must be carefully watched. He describes in considerable detail how the labour is graduated at Frimley, while he concludes that if the patient's temperature remains above 99°F. in the case of men or 99·6° in the case of women the patient should be confined to bed, work should be prohibited, and reading should be the only recreation permitted. These two points, reinforced as they are by a record of practical experience, go far to demonstrate graduated labour to be a valuable form of treatment in pulmonary tuberculosis.

Dr. INMAN'S observations on the effect of exercise on the opsonic index of patients suffering from pulmonary tuberculosis corroborate Dr. PATERSON'S clinical results in a remarkable manner. In his paper he gives a brief review of Sir ALMROTH WRIGHT'S investigations and the principles of immunity enunciated by that observer. It has been shown "that auto-inoculations follow upon all active and passive movements which affect a focus of infection and upon all vascular changes which activate the lymph-stream in such a focus." It is by the agency of such auto-inoculations that nature achieves curative effects in bacterial infections. Dr. INMAN carried out his researches at the Brompton Hospital sanatorium in a most thorough and praiseworthy manner. He very wisely eliminated the personal element so far as possible, while he safeguarded himself from the possibility of a biased mind by conducting all his observations with unknown specimens of blood. These were obtained from the patients under the necessary conditions, of the lobules, with displacement eccentrically of the central vein. These changes were demonstrated also from livers showing subacute yellow atrophy and cirrhosis. This proliferative change in cirrhosis often went further and gave rise to the malignant epitheliomata of the liver seen in cirrhotic livers. In such tumours all stages of cell growth were seen, from the proliferative changes found in rupture to the most irregular forms of cells, many having very many nuclei. These tumours were often multiple and seemingly of the same age, so that the influences determining tumour growth in one part of the liver must have been effectual in determining such growth at another part. Professor Muir, in summing up, showed how this was comparable to multiple epitheliomata after psoriasis.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A laboratory meeting of this society was held in the Pathological Department of the University on Jan. 15th at which the following specimens were shown. Dr. W. B. Anderton: Specimens recently added to the museum.—Dr. C. H. Melland: Microphotographs of the Blood in Various Conditions and Illustrations of the Methods of Staining Blood Films.—Dr. G. E. Loveday: Epithelial Odontomata.—Dr. F. Craven Moore: Specimens illustrating Morbid Conditions of the Stomach.—Dr. D. Orr and Dr. R. G. Rows: Specimens illustrating Morbid Lesions of the Central Nervous System, Natural and Experimental.—Miss Elsie M. Royle: Specimens from two cases of Leucocythæmia.—Dr. J. Lorrain Smith: Hæmolymph Glands.—Dr. Lorrain Smith and Dr. W. Mair: Specimens illustrating the Application of Weigert's Myelin Method of Staining.—Other specimens were shown by Dr. C. Powell White, Dr. N. J. H. Gavin, Mr. Wolstenholme, and Mr. Roberts.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—A meeting of this society was held on Jan. 17th, Sir Patrick Manson being in the chair.—Dr. W. Carnegie Brown, in an interesting biographical sketch of Professor Fritz Schaudinn, said that the great professor's life was lost as a direct result of his disastrous experiment of self-infection and it was more than probable that his health was undermined by his almost reckless industry, for Schaudinn would sit continuously for many days and nights following the life-cycles of a series of different organisms. Schaudinn won for himself in his short lifetime a reputation that in his own branch of science was altogether without parallel and he achieved this by his unwearying industry, by his marvellous facility of technique, by his phenomenal power of interpretation, and by his almost supernatural scientific "flair."—Dr. G. C. Low read a paper on the Unequal Distribution of Filariasis in the Tropics.

Reviews and Notices of Books.

Diseases of Women: A Clinical Guide to their Diagnosis and Treatment. By GEORGE ERNEST HERMAN, M.B. Lond., F.R.C.P. Lond., Consulting Obstetric Physician to the London Hospital. Third edition. With 265 Illustrations. London and Paris: Cassell and Co. 1907. Pp. 900. Price 25s.

THE more often we consult this work of Dr. Herman the more we are impressed with the excellence of the teaching it contains and the clearness of its style. Perhaps it does not appeal to the ordinary student so much as other books written more ostensibly for the purpose of enabling him to pass examinations, but as a safe guide to good treatment we know of no work on gynæcology in our language which is its equal. The third edition has now appeared and the author has revised carefully the whole work. He has made certain alterations and additions which tend to increase its value but it retains all the original features which distinguish it from most other text-books. The chief danger which besets the neophyte in the practice of gynæcology is the tendency to neglect the teachings of general medicine in his treatment of his patients. A careful reading of the first part of this book would go far to cure him of such a tendency but the best method of avoiding any such circumscribed view is to acquire a thorough grounding in general medicine before taking up a special branch. If such a course were pursued more frequently by intending specialists we should hear less of their narrow-mindedness as regards their particular "allotment of the body," as we have heard it called by a layman with little reverence for the present-day tendency to over-excessive specialisation.

In an endeavour to present a clear view of the exact nature of that important disease hysteria Dr. Herman has elaborated his account of this affection and has embodied in his chapter on the subject the modern conception of it as a disease characterised by definite physical signs. Written as this book is from the point of view of the clinician no mention was made in former editions of the pathological histology of the various diseases described. In view of the great importance of the recognition of cases of early carcinoma of the uterus by the aid of the microscope Dr. Herman has given a brief account of the appearances under the microscope of cancer of the uterus with some additional illustrations. And here perhaps we may be allowed to find some fault. Many of the illustrations are of interest from the historical aspect and some are exceedingly good in themselves, although they are badly reproduced and of old standing. On the other hand, many of the illustrations could readily be replaced by better ones, not only better examples of the different diseases which they are intended to illustrate, but also infinitely better examples from an artistic standpoint. We know Dr. Herman's appreciation and veneration for many of the masters of English gynæcology but we would venture to suggest that he should not allow his book to have its value diminished by the reproduction of so many poor and old drawings. The section dealing with the interesting disease of chorion-epithelioma has been considerably amplified and there are some most excellent illustrations in this case taken from the monograph of Dr. J. H. Teacher. The recent work of Dr. H. Williamson and Dr. W. H. Atlee on the Nature of Vascular Caruncles has also been incorporated in the chapter on Painful Micturition. We regret to see that in the chapter on Cancer of the Cervix the author still recommends bisection of the uterus in performing vaginal hysterectomy, a plan which we cannot but think faulty, in that it must increase the risk of implantation of the cancer cells.

The section on Abdominal Hysterectomy has been revised and brought up to date. We gather Dr. Herman thinks that for simple cases of fibroid tumours not involving the cervix subtotal hysterectomy is a sufficient and good operation, and that he would reserve pan-hysterectomy for growths which cannot for various reasons be treated by the former operation. We consider this is the common-sense view to take of the question; the mortality of the two operations at the present day is practically the same and the reasons which are brought forward by the adherents of the one or the other seem fairly equally balanced when regarded by the impartial observer.

This, in our opinion, is the best text-book of gynæcology in the English language. Written by a scientific physician from the clinical point of view its teaching is based on sound principles which have stood the test of practical experience.

Eye Injuries and Their Treatment. By A. MAITLAND RAMSAY, M.D. Glasg., Ophthalmic Surgeon, Glasgow Royal Infirmary; Professor of Ophthalmology, St. Mungo's College, &c. Glasgow: James Maclehose and Sons. 1907. Pp. 210. Price 18s. net.

IN bygone generations it was customary for the medical Chrysostoms of the day to publish their words of wisdom in the form of collected essays and clinical lectures. These were always ponderous and dignified, often *dogmatic*, as befitted *ex cathedrâ* statements; they were usually models of classical erudition and literary style, and sometimes they infant. In hospital practice an operation at this early age would almost certainly mean weaning but in private practice it need not do so. Should the child be weaned to allow of the performance of the operation it is essential that he or she should be allowed to become accustomed to the artificial food before being submitted to operation. In some cases it may be advisable to operate even before the fourth month, as when strangulation has occurred or has threatened, or when the hernia cannot be kept up by a truss. The operation itself has some peculiarities. The various tissues are more difficult to recognise than in the adult and the smallness of the structures also renders the operation difficult. To expose the deep inguinal ring the external oblique has to be divided for a short distance. When the sac is of the partial funicular form it is isolated and ligatured at the internal ring. When the sac is of the total funicular type it is divided where convenient and the upper portion is dealt with as already mentioned but no attempt is made to close the lower portion which is in connexion with the testis. In most cases the inguinal canal is closed by a couple of sutures which fasten the internal oblique to Poupart's ligament. The cut margins of the external oblique are united and the wound is closed. The results obtained have been good. No fatal case occurred; suppuration was present in six cases; in one of these the operation was done for strangulation and in several of the others there was some reason for the appearance of suppuration. It was not possible to see the after results in all cases but in those that could be traced the result was perfect, there being no recurrence in any case. We have devoted some space to a consideration of Mr. CLOGG'S article, for it embraces all the points of importance in a subject of widespread interest to the medical profession.

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The Medical Officer of the Local Government Board: a New Appointment.

THE announcement made at the end of last week that the post of Medical Officer of the Local Government Board had been relinquished by Mr. WILLIAM HENRY POWER and that Mr. JOHN BURNS had filled the vacancy by the appointment of Dr. ARTHUR NEWSHOLME has come somewhat unexpectedly. It was not generally realised that Mr. POWER had reached the age, 65 years, at which retirement from office follows under Civil Service rules; and his successor would have been looked for naturally among the many distinguished members of the medical staff of the Local Government Board. Dr. NEWSHOLME will bring to his new duties an ability and industry which are universally recognised and have been manifested in many fields of work, especially in his numerous contributions to vital statistics, the prevention of pulmonary tuberculosis, and domestic and educational hygiene. Many of these contributions have appeared in our pages, so that we know their value to the medical profession. He has presided over or organised with conspicuous success the work of many public health societies and congresses; he has edited *Public Health* and the *Journal of Hygiene*; for many years he has ably filled the office of medical officer of health of Brighton, and he has there trained many of the younger generation of health officers. The Government appointment, which he has been called upon to accept, may fairly be described as alike the highest and the most onerous of any in the public health service of the country and is as exacting as any Civil Service appointment of the first rank. We wish him success in his new vocation and are certain that he will find himself loyally served by those over whom he has been placed.

In his book "English Sanitary Institutions" Sir JOHN SIMON, the first man called to the office, has given an account of the beginning and subsequent progress of the service for which the Medical Officer of the Local Government Board is responsible. From these writings it is possible to form some estimate of the task which that officer has to undertake and of the difficulties with which he has to contend in striving for the advancement of sanitary science and of sound and well-considered methods of sanitary administration. Large conceptions of the part to be played by medical considerations, in the wider sense of the term, in the proper government of the country received little sympathy or practical encouragement from the Minister chiefly concerned with the early organisation of the Local Government Board. Even in comparatively simple matters of administration the initial constitution of that Board, with its multifarious detailed functions in connexion with Poor-law and other matters to which priority of attention was given, formed a dead weight against which SIMON decided that it was hopeless for him to strive—in fact, he has himself told us that he resigned because he considered himself defeated in his proper policy. In the leisure of after years, however, SIMON was able to bear testimony to the steady headway in many of the directions which he had advocated made by his successors, notably by Sir G. BUCHANAN, Sir R. THORNE-THORNE, and Mr. POWER. In part, no doubt, the increasing influence of successive medical officers has been a natural result of the way in which people have now come to demand measures to protect the public health and of the greater readiness of Ministers to see advantage in doing something, or in professing to do something, to meet this demand. But, on the other hand, the central administrative machine to which the chief medical adviser of the State is attached has continued year by year to take on new duties unconnected with public health and to add to its initial cumbrousness, while the reluctance of Ministers seriously to take up and to push through any bold or comprehensive scheme of public health administration or legislation which entails Parliamentary opposition has become more and more obvious in recent Parliaments. The Local Government Board and its medical department may properly be credited with much sanitary administrative work which is good so far as it goes, but it would be interesting to know how many schemes of constructive sanitary policy in matters both large and small, which have entailed endless inquiry and work by SIMON'S successors, could be unearthed from the Board's pigeon-holes.

It is more profitable to turn to that part of the work of the Medical Officer of the Local Government Board which is disclosed to the public in the series of annual volumes and special reports from the medical department. These volumes are systematically reviewed in our columns and are well known to all sanitarians. The Medical Officer has the duty of acting as expert adviser to certain other by the many elaborate illustrations with which it is provided and which have been exceedingly well reproduced. Many of them are from original drawings made by the author whose efficiency in this direction needs no further comment.

The Essential Similarity of Innocent and Malignant Tumours: a Study of Tumour Growth. By CHARLES W. CATHCART, M.A., M.B., C.M. Edin., F.R.C.S. Eng. and Edin., Surgeon, Royal Infirmary, Edinburgh; formerly Conservator of the Museum of the Royal College of Surgeons; Edinburgh. With 86 illustrations, for the most part photographic reproductions from specimens. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. Bristol: John Wright and Co. 1907. Pp. 79 and 38 plates. Price 9s. 6d. net.

THE medical student is taught dogmatically that a new growth is either innocent or malignant but when he has attained sufficient knowledge to be able usefully to think for himself he finds that in practice this sharp distinction cannot always be maintained. Of two tumours, resembling each other closely histologically, one may lead an entirely innocent course and the other may show signs of malignancy. Moreover, a new growth may for many years have enlarged but slowly and yet suddenly its rate of growth may increase and other malignant manifestations may appear. Mr. Cathcart has written this book to call attention to these important facts and he advances many proofs that innocence and malignancy are merely the marks of the extremes of a long series of growths and that all intermediate stages occur. He considers it of importance that the idea of the essential similarity of innocent and malignant growths should be recognised, for, as he says, no theory of the causation of tumour growth can be satisfactory which does not apply equally to innocent and to malignant tumours and that no search for a cure for cancer is likely to be successful (unless by chance) so long as the search is directed by the theory that cancer is a disease by itself. Further, he claims that no type of tumour can be considered with respect to operative treatment to be necessarily exempt from the taint of malignancy. We agree with Mr. Cathcart in much that he maintains, though he seems to us to be a little inclined to generalise beyond the strength of the facts. It is true that in many classes of tumours all gradations occur between the purely simple and the very malignant, yet in other classes the distinction is much more clearly marked. It is early yet to dogmatise as to the exact relations of tumours; when we are acquainted with their true etiology we shall then, and not till then, be in a position to say exactly what is the real reason why one tumour is malignant and another not. We may mention that we quite agree with what Mr. Cathcart says as to the local recurrence of a tumour as a sign of malignancy. Any form of tumour will recur if part has been left behind; and recurrence is more likely to occur in malignant growths merely because it is difficult in such growths to define the limits of the original tumour. The book is well worth reading, for it emphasises portions of the pathology of tumours to which too little attention is generally paid.

A Manual of Clinical Diagnosis. By CHARLES E. SIMON, B.A., M.D., formerly of the Resident Staff of Johns Hopkins Hospital; Professor of Clinical Pathology at the Baltimore Medical College; Clinical Microscopist to the Union Protestant Infirmary. Sixth Edition, thoroughly revised. Illustrated with 177 engravings and 24 plates in colours. London: Henry Kimpton. Glasgow: Alexander Stenhouse. 1907. Pp. 682. Price 21s.

THIS work forms a manual of clinical diagnosis by means of microscopic and chemical methods for students, hospital physicians, and practitioners. The fact that it has reached the sixth edition sufficiently demonstrates that the efforts of the author have met with the success which they deserve in supplying a text-book dealing with the most modern aids to diagnosis. A large amount of work has been accomplished in this line of research since the last edition was published, but Dr. Simon has dealt with it in a most praiseworthy manner and by dint of careful revision has incorporated the new material without greatly enlarging the size of the volume. He states in the preface that every page has undergone a radical review so that all the most modern microscopic and chemical processes likely to assist in diagnosis have been included. The chapter on the examination of the blood has been brought fully up to date. The methods of counting the blood cells are fully described and the various varieties of leucocytes together with the deductions to be derived from observation of them are carefully considered.

The section dealing with parasites in the blood is capitally worked out and a large amount of valuable information is presented. A full account is given of the malaria organism and its cycle of development is explained. The latest researches on trypanosomiasis are included, reference being made to the successful efforts of Novy and McNeal to cultivate the parasite in artificial media. A good description is given of the spirochæta pallida, together with the methods which may be employed to demonstrate it in material obtained from syphilitic lesions. A chapter on opsonins has been introduced. Full details are given regarding the technique, which is necessarily rather involved, and a careful study of the directions should enable the reader to carry out the necessary processes. Dr. Simon has treated this subject with due caution but we consider that he has fairly presented the knowledge already obtained as regards the opsonic index.

Two appendices have been added. The first describes the methods of preparation of culture media and the second indicates the outline of a course in clinical laboratory methods. The latter is especially intended for post-graduate study. The whole work is excellently illustrated, the coloured plates being particularly well executed. We can cordially recommend this manual to our readers as containing trustworthy information on laboratory methods of diagnosis.

Diet in Health and Disease. By JULIUS FRIEDENWALD, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and JOHN RUHRÄH, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second edition, thoroughly revised and enlarged. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 728. Price 18s. net.

THE second edition of this useful book has been improved by a few additions and minor changes but in its main features it is unaltered. The authors have evidently reviewed the literature of the subject with great care and have presented in a readable form various alternative diets adapted to many conditions. Where they give the recommendations of other authorities they usually quote extensively from the original papers. A valuable feature is that in cases where a definite diet is advised the heat values in calories are usually appended, or such data are given in tables as to allow those values to be calculated easily.

In our review of the previous edition we pointed out that the account given of the chemistry and physiology of digestion was a somewhat scanty one and in many ways hardly up to date. Although some alterations have been made it is still hardly worthy of the rest of the work. The various classes of food substances are considered in some detail and very full tables of their analysis are given; their digestibility and use as foods are also carefully described. The important work of Chittenden in regard to protein metabolism is quoted and its applications are discussed. The section dealing with medical work by the public. He dwelt also upon the remedies which might be applied to conditions which all must deplore and laid his chief stress upon a higher standard of medical education and examination, to be controlled by the State, and upon a recognition of the fact that medical services, which were formerly rendered chiefly or exclusively to individuals suffering from disease or accident, will for the future in constantly increasing proportion be rendered to the public for the prevention of illness rather than for its cure. He called attention to the example set by Harvard University in refusing its medical qualifications to students who had not graduated in Arts and set aside the question of any individual grievances thence arising as being absolutely unimportant when compared with the consequent elevation of the medical calling. It would, he declared, be an iniquity to keep a whole profession in suffering by widening the portals for one or two, otherwise able, who happen to lack aptitude for drawing, for spelling, or for Greek, or who have been misguided in their early education; and he is evidently of opinion that the necessary standards can only be maintained and the necessary restrictions enforced by taking the business of examination out of the hands of competing corporations and by committing it to the State. We cannot leave the pamphlet without calling attention to the *curiosa felicitas* of its concluding sentence. Dr. Ewart says of Thomas Young, one of the great worthies of the school of St. George's, that he "counted the waves of ether and made the Pharaohs speak."

THE ADMINISTRATION OF THE INFANT LIFE PROTECTION ACT.

AT the time of the enactment of the amended Infant Life Protection Bill of 1897, which came into operation in the following year, we wrote[1]: "Excellent as its provisions are, their value is materially diminished by defects in the Act which must very seriously diminish its utility. One of these consists in the exclusion of single nurse children from the Act, the other is the exemption of children for whose maintenance a sum exceeding £20 has been paid. The effect of these omissions is obvious. .... The unregistered crèche if broken up into its constituent units may still continue to flourish unobserved by the eye of authority. Nurse children, as is well known, are usually illegitimate. They are, as a rule, not desired by their parents. If they should be committed to the keeping of unscrupulous persons one by one, the law is no longer responsible for their safety, which must therefore be at best an unknown quantity." The opinion which we thus strongly expressed has not lacked support, as is shown by the fact that a further Amendment Bill has been introduced and obstructed in the House of Commons in each year since 1901. Meanwhile evidence of the urgency of the amendments continues to accumulate. Such a piece of evidence is before us in the shape of the tenth annual report of Miss Frances Zanetti who is inspector under the Act to the Chorlton union. She had made visits to various cases in which a single child was being reared by foster-parents for a small weekly payment. This she had little difficulty in doing where the child was being properly looked after, although the foster-parents knew that she had no legal right of entry. Where her visits were unwelcome she invariably found that there was something suspicious about the case. Two of the cases which she visited under the Act were sufficiently serious to be reported to the National Society for the Prevention of Cruelty to Children. One of these was of a terrible nature—that of a wasted baby who was found to be the fourth illegitimate child of a mother, 22 years old, who had been taken home intoxicated the night before the baby was born, and since its removal to hospital had been sent to prison for six months for prostitution. It seems a moot point whether an asylum for the insane would not be a more suitable place for this poor creature. Miss Zanetti gives an analysis of 21 cases which she visited under the Act, in which 54 children were being tended by foster-parents for sums ranging from about 3*s.* to 7*s.* weekly. Besides these she visited 43 cases which did not come within the provisions of the Act. We hope that many more inspectors take so liberal a view of their duties but it ought not to be left to the good-will of these officers and the consent of the foster-parents for "one child" cases to be visited. It is satisfactory to record that a deputation to the Home Office of the Poor Law Unions' Association has been informed by Mr. Herbert Samuel, M.P., that the amendment of the Infant Life Protection Act is to be included in the "Children's Bill" which is to be introduced next session. In a matter of common humanity, such as this is undoubtedly, we trust that it will be found possible to bury the party hatchet for the short space of time that would be required to pass it into the statute book. The sacrifice of Bills framed in the urgent interest of national hygiene to the idol of party feuds takes place with monotonous regularity—we need only instance the smothering of the Pure Milk Bill of 1907—but when it is a matter of the safeguarding of young children against cruelty and what may almost amount to slow murder by neglect we fancy most politicians would seek to alter the law if they were thoroughly aware of the evils which its present imperfect state tacitly allows.

TEMPORARY GASTROSTOMY IN THE TREATMENT OF PERFORATION OF THE STOMACH AND DUODENUM.

IN the *Northumberland and Durham Medical Journal* for December last Mr. W. G. Richardson has described an ingenious modification of the treatment of perforation of the stomach or duodenum in cases usually considered hopeless. If perforation of a gastric or duodenal ulcer occurs the peritoneal cavity is generally flooded with the contents of the stomach and death will follow if the patient is not relieved by operation. When the patient has recovered from the shock there is, as Mr. Richardson points out, a good prospect of recovery if an operation be performed within from six to nine hours, but after nine hours the prospect is almost hopeless. In the latter class of cases the patients are nearly dead when seen by the surgeon. The usual treatment is to open the abdomen, suture the perforation, and thoroughly wash out and close the abdomen. Sometimes drainage-tubes are placed in the flanks and pelvis. After the operation thirst is insatiable and is allayed by giving sips of water, generally warm. Nutriment is supplied in the form of enemata. Four years ago Mr. Richardson adopted the following method. If the perforation is on the anterior surface of the stomach he passes a large indiarubber catheter through it and secures the catheter in position by a surrounding purse-string suture. The catheter is passed carefully into the cardiac portion of the stomach—a point of great importance, as otherwise the stomach cannot be emptied. The operation is completed in the ordinary manner, with the exception that the stomach is sewn to the incision in the middle line as in a case of gastrostomy. Before the patient leaves the table his stomach is washed out with hot bicarbonate of sodium solution by placing a funnel in the end of the catheter and pouring in the solution. When nearly a pint has been introduced the funnel is lowered over the patient's side and the fluid siphons out. This is repeated until the fluid returns quite clear. After being put to bed the patient begins to cry out for water and is allowed to take it in large quantities. Mr. Richardson gives cold water because it is this alone for

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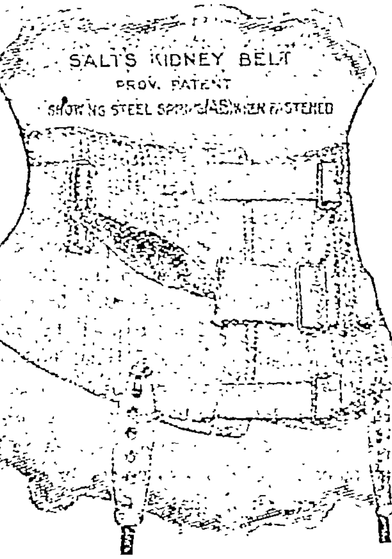
[1] THE LANCET, Sept. 11th, 1897, p. 675.

New Inventions.

A TRUSS BELT FOR MOBILE OR FLOATING KIDNEY.

IN a paper on Mobile Kidney published in THE LANCET of August 3rd, 1907, p. 283, Mr. E. Stanmore Bishop said that his experience of the use of trusses, belts, or corsets in this condition was not altogether favourable but he mentioned the appliance manufactured for that purpose by Salt and Co. of Birmingham as being perhaps among the best. This firm has now sent us one of its truss belts for mobile kidney in which there is an alteration from the earlier patterns. The belt is made of a stout grey fabric, completely encircles the waist, and, as shown in the illustration, is fastened with three buckles. Inside there is a pocket containing a removeable indiarubber air-pad for the purpose of making pressure where required. The recent alteration already referred to consists in the addition of a specially constructed steel spring device fixed immediately over the air-pad, by which it is claimed that a more regular and correct pressure is obtainable than with earlier patterns of the appliance.


SALT'S KIDNEY BELT
PROV. PATENT
SHOWING STEEL SPRING [illegible] WHEN FASTENED

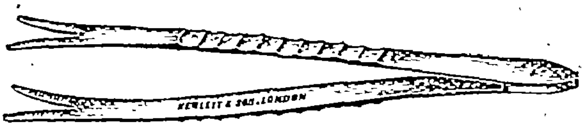
A NEW MERCURY INTERRUPTER FOR X RAY WORK.

FOR the greater part of the work done with an induction coil as a source of energy it is felt by most of those engaged in this line of investigation that some form of break employing mercury is probably the best to use. First came those in which a wire or blade was made to dip in and out of a vessel containing mercury. These were a great improvement on the platinum break and so long as workers were content to use voltages not exceeding 24 very good results were obtained with the coils then in use. Owing to the almost universal desire to use the current from the street mains directly for coils and also to their higher and increasing voltage interrupters of new design became necessary and these were all constructed upon a common principle—viz., a jet of mercury impinging upon a metal blade. In some the jet itself revolves and in others the jet is stationary while the blade or blades revolve around but close to it—all this taking place under the surface of a liquid dielectric, such as alcohol or petroleum, or in an atmosphere of hydrogen or coal gas. Except in the latter case there was, of course, great churning up of mercury and liquid dielectric which militated against good contact between jet and blade, and this was still further interfered with as time went on by the emulsification of the mercury which always took place sooner or later. For these reasons the output of a coil working with a mercury jet break is always more or less limited, which limit becomes lower and lower as the mercury becomes emulsified and dirty.

The Sanitas Electrical Company of 61, New Cavendish-street, W., has lately brought out a mercury break which possesses many advantages. It is driven by an electric motor which is placed at the bottom of the instrument with its shaft in an upright position. Upon the end of this shaft is mounted a hollow iron container—of about the size and shape of a small ginger jar—which revolves with it. This container, being of larger diameter at the middle than elsewhere and having a certain quantity of mercury and petroleum placed therein it follows that if it be rapidly rotated the mercury, &c., will rise so as to occupy the largest diameter of the jar, the mercury as the heavier liquid lying against the wall of the jar as a continuous band. Inside the container on a level with its equator is mounted a disc of fibre revolving freely on a vertical axis, which can be moved nearer or further from the wall of the container, and having two or more metal segments. This disc is so adjusted that its periphery is slightly imbedded in the mercurial band and contact is made and broken as the metal segments of the disc enter and leave the mercury, the disc being driven around by the mercury itself. The face of the metal contact piece is broad and contact is positive owing to the metal being plunged into the mercury, and as the speed is necessarily high the "break" is sudden and complete. Apparently there is little or no tendency for the mercury to become either dirty or emulsified. The contents of one interrupter which we examined after several hours' use were found to be perfectly clean. In practical use the output of the coil is under the most perfect control and can be varied from a short thin spark to a long and almost continuous ribbon resembling that obtained with an electrolytic interrupter but with a smaller consumption of current. Whether it will take the place of the electrolytic break is not yet certain but there is no doubt that this new form is a great advance on the other mercury breaks hitherto available.

BI-PRONGED FORCEPS.

MR. S. Gerald Gomes, F.R.C.S. Edin., of Tokio, Japan, writes: "I have designed for use with Reverdin's needle a pair of bi-pronged forceps which have proved very successful. For several years I have used Reverdin's needle and other simpler patterns and felt the want of a better means than the two hands of an assistant to carry the suture down to the slot in these needles, especially in deep and awkwardly placed wounds in the abdomen. After some experience with the forceps I find that the above-mentioned difficulties are obviated by its use. Moreover, it can also be effectively used in place of the ordinary dissecting forceps and wherever the usual pattern forceps are required. The instrument has been made for me by Messrs. C. J. Hewlett and Son, 35-42, Charlotte-street, London, E.C."



UNIVERSITY OF OXFORD: RADCLIFFE TRAVELLING FELLOWSHIP, 1908.—An examination for a Fellowship of the annual value of £200, and tenable for three years, will be held during the present term, commencing on Tuesday, Feb. 25th. Candidates must have passed all the examinations required by the University for the degree of Bachelor of Arts and for the degree of Bachelor of Medicine. They must not have exceeded four years from the time of passing the last examination required for the degree of Bachelor of Medicine. The successful candidate must before election declare that he intends to devote himself during the period of his tenure of the Fellowship to the study of Medical Science and to travel abroad with a view to that study. The Regius Professor of Medicine and the examiners, two months before the expiration of the second year after the election of each Fellow, present a report on the work done by him to the electors who may, if they think the report unsatisfactory, declare the Fellowship forfeited. The examination will occupy four days. Papers will be set in physiology, pathology, and preventive medicine, and a subject will be proposed for an essay. There will also be a practical examination in pathology. Any candidate desiring to offer in addition a special branch of either medicine or surgery must send notice of this to the Regius Professor of Medicine. All intending candidates should send their names, addresses, qualifications, &c., to the "Regius Professor of Medicine, University Museum," on or before Saturday, Feb. 8th.

medical work by the public. He dwelt also upon the remedies which might be applied to conditions which all must deplore and laid his chief stress upon a higher standard of medical education and examination, to be controlled by the State, and upon a recognition of the fact that medical services, which were formerly rendered chiefly or exclusively to individuals suffering from disease or accident; will for the future in constantly increasing proportion be rendered to the public for the prevention of illness rather than for its cure. He called attention to the example set by Harvard University in refusing its medical qualifications to students who had not graduated in Arts and set aside the question of any individual grievances thence arising as being absolutely unimportant when compared with the consequent elevation of the medical calling. It would, he declared, be an iniquity to keep a whole profession in suffering by widening the portals for one or two, otherwise able, who happen to lack aptitude for drawing, for spelling, or for Greek, or who have been misguided in their early education; and he is evidently of opinion that the necessary standards can only be maintained and the necessary restrictions enforced by taking the business of examination out of the hands of competing corporations and by committing it to the State. We cannot leave the pamphlet without calling attention to the *curiosa felicitas* of its concluding sentence. Dr. Ewart says of Thomas Young, one of the great worthies of the school of St. George's, that he "counted the waves of ether and made the Pharaohs speak."

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[1] THE LANCET, Sept. 11th, 1897, p. 675.

Inguinal Hernia in Children.

IN the September number of the *Practitioner* appeared a paper by Mr. H. S. CLOGG containing an account of inguinal hernia in children and as it was based on 126 cases which had been submitted to operation the conclusions drawn are likely to be of interest and value. Mr. CLOGG has never met with what is called direct inguinal hernia in a child and all statistics show that it is intensely rare before puberty, so that it may be taken that inguinal hernia in a child means an oblique hernia. In regard to the question as to the relative frequency of the congenital and acquired forms of inguinal hernia in children the answer is definite. For the production of an acquired hernia some weakness of the abdominal wall is essential but in children there is practically always a ready formed sac supplied by the unobliterated processus vaginalis. Nearly all cases of inguinal hernia in children are of the congenital variety and this is so quite apart from the age of the child, for the sac is congenital even though it may not have been occupied by bowel until shortly before examination. The classification of congenital inguinal hernia which Mr. CLOGG prefers is undoubtedly the best; it divides these herniæ into the total funicular herniæ, in which the whole of the funicular process or processus vaginalis is patent, and those in which the funicular process is partly closed; these are partial funicular herniæ. Of Mr. CLOGG'S 126 cases 115 were in males and of these only 11 were cases of total funicular herniæ, that is, about 10 per cent.

The diagnosis of inguinal hernia in the child seldom presents any difficulty. A swelling in the groin, reducible on pressure, growing tense when the child cries, and often disappearing during sleep, can hardly be anything but a hernia, though occasionally a collection of fluid in a patent processus vaginalis with a very small opening at the internal ring may be mistaken for a hernia. There is another error in diagnosis which may prove of some importance. It is often thought that the only scrotal swelling which is translucent is a hydrocele but in young children where there is no large amount of fat and the bowel wall is thin an inguinal hernia may be translucent and thus it may be mistaken for a hydrocele. If on the strength of this mistaken diagnosis the swelling should be punctured with a trocar and cannula the result would probably be disastrous. The correct diagnosis having been made the question of the most suitable treatment has to be decided. There is a very widespread opinion that circumcision is of some value in the treatment of inguinal hernia in children. We quite agree with Mr. CLOGG that it cannot have the slightest effect in curing a hernia, though a tight phimosis may have assisted in the original descent of the bowel. As to trusses, it is doubtful how often a real "cure" of a hernia is brought about by a truss. The fact that a hernia has not been noticed for some months or years is no evidence that it has been really "cured"; for a perfect cure there must be an absolute obliteration of the sac. Now, the use of a truss may occasionally in very young children lead to the completion of the closure of the processus vaginalis when the closure has only been delayed, but when several months have passed since birth the probability of the obliteration of the sac by means of the pressure of a truss is very small indeed. Even in young infants when a truss is employed, should the bowel only come down once the benefit of the use of the truss for weeks may be destroyed and all chance of a real cure of the hernia be removed. Even when the employment of a truss does result in the permanent disappearance of the hernia with complete obliteration of the sac it is probable, as Mr. CLOGG suggests, that the truss takes no active part in the closure of the sac but merely permits that closure by preventing the descent of the bowel. For the past three years he has abandoned the use of a truss for inguinal hernia in children except in special cases, and even when he uses a truss he always warns the parents "that the truss will not cure the rupture." He holds that if a hernia has been seen after the first few weeks of life the only cure is by operation.

If, then, an operation is essential for all but the very early cases the question arises, At what age should it be done? Mr. CLOGG'S answer is that the earlier these cases are operated upon the better; he maintains that infants after the third or fourth month bear the operation well and make a very satisfactory recovery from it, and this is the age at which he recommends it unless it entails weaning of the

Skoda and Oppolzer, both great men, are placed in a certain antithesis to one another: the former as a great thinker and pioneer, the latter as a fascinating personality and a successful practitioner; the one teaching the student to observe and to think, the other to apply his knowledge practically. Oppolzer's clinic was a favourite resort for the students; he seems to have been a highly instructive teacher. A great impressionist, he observed rapidly and arranged his facts with the utmost certainty. He was, moreover, extremely fertile in suggestions for treatment. Professor Benedikt describes also his experiences at the wars, and his subsequent appointment at Vienna, his work upon electro-therapeutics, upon the medico-legal relations of insanity, and upon ophthalmology and diseases of the nervous system. He travelled in Italy, Sicily, France, Turkey, Russia, Scandinavia, Holland, Spain, and Great Britain, and of all the places he visited he has much of interest to relate. Of Great Britain he seems to retain most pleasant memories and he confesses that his preconceived notions of our country and ourselves he had to modify after his visits. Our great national collections filled him with wonder and admiration. For our various monuments and fountains in public places he has much praise and he mentions in particular the Albert Memorial in London, the Walter Scott monument in Edinburgh, that of O'Connell in Dublin, and the Knox statue in Glasgow. He acquits us of the hypocrisy with which continental nations are fond of accusing us. He commends the English manner of writing scientific papers and confesses to having taken Faraday as his model. He thinks that English scientific men can differ with less rancour than those of some other nations and that they are more inclined to wait for evidence before embracing novelties. Professor Benedikt's book is written in an easy, chatty style and makes most interesting reading. He is evidently a man of strong opinions, but sincere and earnest, and can point to a life of good and active work.

THE BARNSLEY DISASTER.

A HEARTRENDING catastrophe occurred on Jan. 11th at Barnsley, resulting in the death of 16 young children. The Public Hall, Barnsley, had been rented by the World's Kinematograph Company for a series of entertainments and a special matinée had been arranged for Saturday, Jan. 11th, at very low rates of admission, the charge for a gallery ticket being only *1d.* Apparently over 1000 persons, nearly all children, applied for admission to the gallery, the seating accommodation of which is 400 adults. When some 433 children had been admitted and children were still mounting the stairs some one apparently at the top of the stairs turned the children back and they were given the idea that they would be admitted to the pit. The children thus trying to descend the stairs got jammed with those trying to come up, some of them fell, and in a few moments there was a heap of struggling children. As a result 16 were killed and some 30 others more or less seriously injured. At the inquest, which was concluded on Jan. 17th, the jury found that the children were suffocated through negligence in not providing sufficient staff to regulate the children on the staircase, this resulting in a stampede of children on their being turned back. The foreman added that the jury did not think the negligence criminal or that the construction of the staircase was in any way answerable. There is no need to insist upon the horror which such a disaster inspires. It is a comfort to know that the construction of the staircase does not seem to have been faulty and the blame, if blame can be attributed to anyone, must lie first with those who seem to have allowed their children to go without proper escort, and secondly with the authorities of the entertainment in not seeing that there were sufficient persons to regulate the entry of would-be sightseers. Of the 16 children who were killed 10 were under seven years of age, the eldest was only 11 years old, and the youngest was four. Apparently most of the children who went to the show were in charge of other children aged as a rule about 12 or 13 years, and at least two of the children who were killed were in charge of other children aged 12 years. We are quite aware of the difficulty which the working classes experience in looking after their houses and their children too. Mere babies may be seen any day of the week wandering about the London streets and in and out of the traffic, and it is a perpetual marvel that there are not more lives lost than there are. But if the sad occurrence upon which we write will bring home the responsibilities to those who have the charge of children the 16 little Barnsley victims will not have yielded their lives in vain.

DISSEMINATION OF ENTERIC FEVER DUE TO A "TYPHOID CARRIER."

FOR several months medical authorities have been puzzled by outbreaks of enteric fever in a large institution on the outskirts of Bristol—the Brentry Home for Inebriates. 28 cases have arisen and the circumstances have been so peculiar that the medical officer of health of Bristol, Dr. D. S. Davies, suspected that the cause of the infection must be an unsuspected "bacillus carrier" capable of conveying infection to others though not suffering from the disease. His view has been justified by investigation, the source of the repeated attacks at Brentry having been traced to a woman in the institution who has not recently suffered from enteric fever but who has shown herself an effective disseminator of the typhoid bacillus. To the Bristol health committee recently Dr. Davies made a special report on the case. It is as follows:—

> In consequence of a continuing outbreak of enteric fever at this institution, which led to 28 cases and two deaths between September, 1906, and November, 1907, and as the infection was being introduced into the Bristol district, and part of the institution is within the city, I took up the investigation of the cause in November, as every effort on ordinary lines up to that time had failed to account for, or to stop, the spread of the disease. As I advised the chairman on Nov. 13th, the circumstances, judged from quite recent pathological work in Germany, seemed to me to point to the existence of a "carrier" case of chronic typhoid who was intermittently but unconsciously infecting the food or milk. Acting in conjunction with the Home Office medical inspector, I instituted a special pathological inquiry into the condition of certain inmates, and late in December the inquiry proved that one of those to whom the circumstantial evidence had pointed was undoubtedly a typhoid "carrier." This case had been tentatively isolated on Nov. 13th and I ventured to predict that no further cases would occur beyond the next incubation period. The last case was on Nov. 24th, and from then till now the institution has remained free. This new chapter in the history of typhoid infection is of immense importance, as we now have the key to many of these intermittent or dropping outbreaks which have hitherto defied explanation. Beyond the German cases, one in New York and one in Scotland, I am unaware of any other successful investigation of typhoid outbreaks on this line of research.

Mr. O. Wintle, the chairman of the health committee, congratulated Dr. Davies on his success in making this important discovery, and Dr. Davies, in reply, said that the matter was engaging the attention of a special department of the Local Government Board. The discovery that a certain proportion of those who have suffered from enteric fever may continue to harbour bacilli and to discharge them intermittently from the body long after the actual convalescence is one of great importance in regard to the spread of the disease, since it has now been definitely proved that such cases may be the unsuspected sources of widespread infection. The recognition and adequate treatment of such persons, to whom the name of "typhoid carriers" has been applied, is obviously a matter of great practical importance. A considerable amount of research has been carried out on this subject in Strasburg under the auspices of the German Imperial Board of Health by Kayser,[1] to whom is due the departments of State, notably in connexion with foreign and colonial affairs. The department supervises, by inspections at English ports and otherwise, the system of dealing with exotic diseases, such as cholera and plague, and the work done has brought much credit to British administration abroad and has enabled British representatives to take an important position in successive international sanitary conferences. It is hardly necessary to refer to the results of special inquiries made by the department year by year into conditions of disease prevalence throughout the country; the Medical Officer's publications may be said to have contained many, if not most, of the principal contributions which have been made to the modern science of preventive medicine in England. The work published in these reports under the heading of "auxiliary scientific investigations" comprises bacteriological, physical, and chemical inquiries of a very high order, usually on subjects requiring prolonged research of the sort which would hardly be attempted by anyone in the absence of the facilities given by the department. Present knowledge of, among other things, the bacteriology of scarlet fever and streptococcal infections, of the production of lead poisoning by moorland water-supplies, of the bacteriology of polluted soil, and of the penetration of disinfectant gases, for example, is largely based on these investigations. Many other examples could, of course, be given from the publications of the Medical Department of the Local Government Board and all would show the high standard of scientific and administrative work of the department, which during the last eight years has been fully maintained by Mr. POWER in his capacity of medical officer. It is now nearly 30 years since Mr. POWER, as an inspector of the Board, began the brilliant series of investigations regarding the spread of different infectious diseases which have since become classic. Long before his appointment to the principal post he had already undertaken the direction of the "field work" and auxiliary scientific investigations of his department. His judgment and sound scientific insight have been always freely put at the disposal of all who wished to consult him. His late chief, Sir R. THORNE-THORNE, described him as the "greatest living epidemiologist" and we know no one likely to dispute the title. At the end of his official activities and of the administrative career of the strong man who has "done his work and held his peace," Mr. POWER can look back on services to science and to the State which it is given to few men in any country to achieve.

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[1] Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xxv., Heft 1, 1907.

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TUCKER v. WAKLEY AND ANOTHER.

THE action brought by Mr. AUGUSTUS Q. TUCKER against THE LANCET resulted in damages of £1000 being given to the plaintiff. A stay of execution was granted. Many matters of the first importance affecting as much the public as the medical profession were touched upon in the course of the four days' trial, and we shall probably consider it our duty to publish a full report of the case.

BRISTOL ROYAL INFIRMARY.—It has been proposed to endow a bed in the Bristol Royal Infirmary to the memory of the late Mr. C. J. King, a well-known Bristol merchant. The sum required is £1200 and of this amount £929 have been already received.

Annotations.

"Ne quid nimis."

THE ADMISSION OF WOMEN TO THE EXAMINATIONS OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE proceedings at the Extraordinary Comitia of the Royal College of Physicians of London held on Friday last, Jan. 17th, have taken the advocates for the admission of women to the examinations of the English Colleges one step nearer their aim, but the whole question is still in considerable confusion. We need not go into the back history of the matter; it is sufficient to state that the present position is as follows. Petitions have been presented from the London School of Medicine for Women to both Colleges asking that women may be admitted to the examinations of the Colleges. The Council of the Royal College of Surgeons of England agreed to admit women to the examinations for the Membership only, the Fellowship being reserved for men; but the Council undertook before coming to a final decision to submit the matter to the Fellows and Members of the College, as was only right, seeing how drastic a change in constitution was contemplated. We presume that in the case of a distinct expression of opinion from the constituency the governing body of the College will alter its view, but pending the result of the plebiscite the Royal College of Surgeons of England is willing to give its Membership to women. The Comitia of the Royal College of Physicians of London, which is, of course, a far larger body and more representative of corporate views than the Council of the Royal College of Surgeons of England, has now made its reply to the petition of the London School of Medicine for Women. The Comitia has passed a resolution to admit women to all the examinations of its College, but the effect of this resolution is considerably minimised by the adoption of the rider of the registrar, Dr. E. Liveing, that it is not intended that any action should be taken under the resolution inconsistent with that agreement between the Royal College of Physicians of London and the Royal College of Surgeons of England by which the Licence of the former and the Membership of the latter are only granted conjointly. It would seem, then, that if the vote of the Fellows and Members of the Royal College of Surgeons of England should be against the admission of women to the examination for the Membership of that College women might still be prevented from being examined for the Licence of the Royal College of Physicians of London; they might, however, be able to sit for the Membership of that College. We conclude as we began—the whole question is in considerable confusion.

"RES MEDICA, RES PUBLICA."

THOSE of our readers who remember the interesting and suggestive address delivered at St. George's Hospital in October last by Dr. William Ewart will welcome its publication in pamphlet form by Messrs. Baillière, Tindall, and Cox. Dr. Ewart completely emancipated himself from timeworn first of October topics and addressed himself to a consideration of some of the most pressing of the economic evils against which the medical profession, as a whole, is called upon to contend. Of some of these evils and of the roots from which they spring he submitted a graphic description to his hearers, and he discussed in some detail the most serious of the causes which interfere with the due recognition and the due remuneration of thoroughly unsound one; what was good enough for our fathers is not good enough for us in matters of hygiene, seeing how much fuller is our knowledge of the importance of little things than was theirs, and in this instance apparently a Government department seeks to deprive its employees of a hygienic advantage which even their fathers enjoyed.

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THE following telegram from the Acting Governor of the Gold Coast was received at the Colonial Office on Jan. 15th: "Total number of deaths from plague up to midnight, 14th January, fifteen. Thirteen natives in Contagious Diseases Hospital and Isolation Camps, one death reported this morning. Garland (Deputy Principal Medical Officer) believes progress of plague effectively checked. Sufficient number of medical officers here. In order to get into closer touch with natives have authorised temporary employment of Papafio, retired medical officer, Bruce, native medical practitioner, also Fisch, German doctor of some scientific attainments. There are now six doctors available at Accra. Large number of dead rats has been observed, Accra; every endeavour has been made from the beginning to exterminate rodents." The Secretary of State for the Colonies has appointed Dr. W. J. R. Simpson, professor of hygiene at King's College, London, and lecturer in tropical hygiene at the London School of Tropical Medicine, to proceed to the Gold Coast to assist in combating the present outbreak of bubonic plague at Accra. He left for the Gold Coast by the steamship *Mendi* on Jan. 18th and was accompanied by Dr. J. A. Haran of the medical service of the East Africa Protectorate, who has been selected on account of his experience in dealing with plague in that dependency. Dr. Simpson's mission to Accra shows that the Government wishes to leave nothing undone that can possibly be of service to our Gold Coast Dependency but implies no want of confidence in the ability of the medical staff now on the spot. Dr. Simpson will probably also visit other towns in West Africa with a view to advising in regard to questions of sanitation. Since his departure two official telegrams have been received at the Colonial Office showing that on Jan. 20th six, and on Jan. 21st two, deaths occurred from bubonic plague. On the latter date the return shows 48 cases isolated.

UNCERTIFIED CAUSES OF DEATH IN 1907.

ALTHOUGH successive Governments have failed to take any action for giving effect to the recommendations made in the report issued by Sir Walter Foster's Committee in 1892 on the Certification of Causes of Death the number and proportion of uncertified deaths in England and Wales have since then constantly declined under the influence of the attention given to the subject in the reports of the Registrar-General and of the local medical officers of health. In the last issued annual report of the Registrar-General (1905) it was shown that the proportion of uncertified deaths steadily declined from 1·81 per cent. in 1900 to 1·62 in 1905; his quarterly returns for 1906 showed a further decline to 1·53, and during the first three quarters of 1907 the percentage of uncertified causes of death did not exceed 1·44. The quarterly and weekly returns for 1907, moreover, enable us to consider and to compare the varying proportions of uncertified deaths in the 76 large English towns dealt with in those returns during 1907. The mean percentage of uncertified deaths in these 76 towns was 1·1 in 1904 and in 1905, 1·0 in 1906, and further declined to 0·9 in 1907. The mean proportion of uncertified deaths has thus been considerably lower in these 76 towns than the mean rate in the whole of England and Wales in each of the last four years, and it is satisfactory to note that the proportions continue to decline in the large towns as well as in the whole of England and Wales. It is, however, still more important that attention should be called to the wide variations in the reduced proportions of uncertified deaths still prevailing among these 76 towns. During 1907 all the causes of deaths registered in Croydon, Tottenham, Southampton, Wigan, Hornsey, Devonport, Ipswich, and Great Yarmouth were duly certified, and all but one of the causes of death registered during the year were duly certified in West Ham, Brighton, Walthamstow, Plymouth, and Bournemouth. In London the proportion of uncertified deaths last year did not exceed, as we recently pointed out, 1 per 1000 deaths registered, whereas the proportion had been equal to 2 per 1000 in each of the three preceding years. In many other of the 76 towns, however, there is still a marked excess of uncertified deaths, showing a want of appreciation of the importance of the due certification of all causes of death either by a registered medical practitioner who has been in attendance during the last illness of the deceased or by a coroner after inquest. The proportion of uncertified deaths during last year was equal to 2·7 per cent. of the deaths registered in Liverpool and in Bootle, to 2·8 per cent. in Sunderland and in Burton-on-Trent, 2·9 in Preston, 3·3 in Birmingham, 3·5 in St. Helens, 4·4 in Gateshead, 4·5 in Warrington, and 5·1 in South Shields. It would be useful as well as interesting to have some explanation of the fact that while it has been found possible to secure the due certification of all causes of death in the eight above-mentioned towns, and of all but 1 per 1000 in very many other towns, the proportion of uncertified deaths last year should have exceeded 27 per 1000 in the towns referred to above, ranging up to 51 per 1000 in South Shields. It is beyond question that even under the present legislative arrangements due coöperation between sanitary authorities, medical officers of health, and coroners would undoubtedly reduce the number of uncertified deaths to an inconsiderable minimum.

"IONIC MEDICATION."

IN addition to the discovery of new methods of treatment in medicine and surgery it is interesting to note how modern scientific ideas bring about the revival of an old method which, probably for the want of a better knowledge, had been allowed to fall into disuse. An instance of this is the local introduction of drugs through the unbroken skin with the aid of the electric current. This is generally known as cataphoresis, and the method is nearly as old as our knowledge of the electrolytic process itself. At one time it was employed to a considerable extent both at home and abroad, but it was not until Professor Leduc of Nantes brought his encyclopædic knowledge of electrolysis to bear on the subject that it received a more scientific foundation and a fresh lease of life. In the electrolysis of a normal saline solution there is a migration of ions; the basic (sodium) ions travel from the anode to the cathode, while the acid (chlorine) ions move from the cathode to the anode. This process is not stopped by the intervention of animal membrane or skin. As being more in harmony with modern ideas the method is sometimes spoken of as "ionic medication." As our knowledge and experience increase there is every probability that this principle will be employed in a gradually increasing degree. It has been found very useful, for instance, in the stiffness following a severe sprain of the ankle-joint: a pad wet with a watery solution of iodine was placed over the part and covered with a metal plate connected to the positive pole. Cases of trigeminal and supra-orbital neuralgia have been relieved by the similar use of quinine or salicylic acid after all other methods had failed. Local anæsthesia can be produced with a solution of cocaine. Small and superficial rodent ulcers are easily cured by anyone who has had a little experience. Here a solution of zinc chloride is used and the zinc ions are which the patient craves. If so much water is taken that the stomach becomes distended the catheter forms a perfect safety valve through which the stomach can be emptied at once. Thus the most urgent symptom following the operation can be relieved with safety and what is evidently a want of nature supplied. With regard to food, Mr. Richardson considers nutrient enemata as a poor substitute for food absorbed by the proper organs. When the ulcer is closed in the ordinary manner the surgeon dare not feed the patient by the mouth because after the operation its functions, like those of any injured organ, are impaired and it can only partially digest food. Thus food, if given, would accumulate, ferment, and do great harm unless removed by a stomach-pump—a dangerous operation in the circumstances. Therefore nutrient enemata have to be relied upon. By making use of the ulcer as a gastrostomy opening Mr. Richardson claims that the danger of feeding by the stomach is removed and at the same time an amount of nourishment is given, which could not be given by the rectum. He feeds the patient by the mouth every four hours with beef-tea and milk. Thus the pleasure and stimulation arising from the act of swallowing are preserved. Before each feeding the stomach is washed out with a solution of bicarbonate of sodium, so that what remains of the previous meal is removed. Moreover, the patient is not disturbed as when enemata are given but, on the contrary, is afforded great comfort. The washing out with bicarbonate of sodium is so comforting that the patients often ask the nurse to repeat it. After four or five days, when the patient is seen to be on the road to recovery, the catheter is withdrawn. The opening closes immediately, no leakage takes place, and no hernia follows. Mr. Richardson's experience of this method is encouraging but not yet sufficient to furnish statistics as to its advantages.

AN ORGANIC SERUM FOR THE TREATMENT OF SYPHILIS.

THE official bulletin of the Society of Biology of Paris in its account of the proceedings of a meeting held on Dec. 21st, 1907, gives a paper by Professor Hallopeau, physician to the Hospital of St. Louis and a Member of the Academy of Medicine. The paper dealt with the results obtained in syphilitic patients under the care of Professor Hallopeau by the use of an organic serum prepared by Dr. Quéry who in a paper read before the society on March 9th last gave as his conclusion that the pathogenic agent of syphilis was a bacillus which reproduces itself by spores and of which the spirillum of Schaudinn is an involutionary form. Confirmatory evidence of the truth of this theory has since been obtained by Leuriaux and Geest, Bertarelli and Volpino, Benda, Krzyzstalowicz, and Siedlecki. The isolation of the bacillus in question has enabled Dr. Quéry to prepare an organic antisyphilitic serum which is prepared and used after the same method as the well-known antidiphtheritic serum. Professor Hallopeau mentioned that 20 cases had been treated with the serum and that a progressive improvement had been observed in every one of them. To use his own words: "The ameliorations observed should not be laid to the account of the normal evolution of the disease, for I have noted them as taking place from the very beginning of the secondary symptoms and they therefore indicate a definite action of the serum upon the evolution of the disease. As to whether the ameliorations will be lasting, my studies in the question are at present too recent to give a definite answer." Dr. Quéry in a note which he has sent to us allows that at present the word "cure" should not be employed with regard to the action of the serum upon syphilis, but he has had under his personal notice certain patients who were treated four years ago and in whom there has been no apparent relapse. Professor Hallopeau concludes his paper by saying that the serum should be used in association with atoxyl or mercury and iodide of potassium. There is no incompatibility between the treatments and it is necessary to make use of every available weapon against such a resourceful enemy as syphilis.

AN AUSTRIAN PROFESSOR'S REMINISCENCES.

Professor Moritz Benedikt of Vienna has published his reminiscences in a lengthy but interesting volume.[1] Born in 1835 in Eisenstadt in Odenburg, now known by its Hungarian name of Kis-Márton, his childhood was passed under the feudal and autocratic *régime* which then ruled in Austria, his boyhood during the stirring times of the revolution, while during his student career at Vienna the university of that city owned some of the greatest names in its history. A man of wide interests, not confined to purely professional subjects but embracing literature, art, politics, and music, he has been also through two military campaigns, those of 1859 and 1866, and has travelled widely in most of the European countries, and having in the course of his long and active life met many notable personalities on more or less intimate terms he has a great many interesting reminiscences to record. His descriptions of his early school days and of his later studies at the gymnasium or high school afford noteworthy pictures of the educational methods of the first half of the nineteenth century in Austria. During the time when he was at the gymnasium at Vienna, between 1845 and 1853, the revolution occurred, and he has various anecdotes of those troubled times to relate. Apparently of studious habits from early in his life, he studied languages assiduously and acquired a considerable knowledge of the literature of Greece, England, and France, as well as of the writings of German poets and historians. Of the Greeks he liked best Homer, Sophocles, Euripides, and Demosthenes. In English he read widely. He states that Shakespeare was his poetical and psychological bible, and in his anxiety to read his works in the original he bought a copy of "Macbeth" after taking a few English lessons and looked out over 300 words in the dictionary, writing their meaning beside the text in shorthand. By reading this play through several times he so increased his vocabulary that he was able to read the other plays without any conspicuous difficulty. He naturally had a great affection for Goethe and Schiller and writes most appreciatively of Grillparzer and Kleist. Heine he regards as the greatest lyrist since the Psalmist. A most pleasing section of Professor Benedikt's book is that devoted to his years as a student at the University of Vienna. His brief character sketches of some of the distinguished professors under whom he studied serve to bring before us very clearly some of the men who helped to give Vienna its great reputation as a medical centre. Among these we may mention Hyrtl, Brücke, Rokitansky, Skoda, Arlt, and Oppolzer. He also came into relation with Semmelweis, whose tragic story he refers to in feeling terms, and was intimate with Hebra and Karl Ludwig. Hyrtl possessed remarkable abilities as a lecturer and in the preparation of anatomical specimens. Benedikt describes him as an artist in all that he undertook. He was very popular among his students but not among his professorial colleagues. Brücke is represented as a man of somewhat cynical, unattractive personality whose lectures were often beyond the scope of his audience. In spite of these characteristics and of his severity at examinations, he seems to have acquired the respect of his students. Of Rokitansky, Benedikt writes with enthusiasm and extols his pioneer work in pathology. He was not a great lecturer but was a most thorough and illuminating worker.

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[1] Aus Meinem Leben Erinnerungen und Erörterungen, von Dr. Moritz Benedikt. Vienna: Ernst Stulpnagel. 1906.

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THE following telegram from the Acting Governor of the Gold Coast was received at the Colonial Office on Jan. 15th: "Total number of deaths from plague up to midnight, 14th January, fifteen. Thirteen natives in Contagious Diseases Hospital and Isolation Camps, one death reported this morning. Garland (Deputy Principal Medical Officer) believes progress of plague effectively checked. Sufficient number of medical officers here. In order to get into closer touch with natives have authorised temporary employment of Papafio, retired medical officer, Bruce, native medical practitioner, also Fisch, German doctor of some scientific attainments. There are now six doctors available at Accra. Large number of dead rats has been observed, Accra; every endeavour has been made from the beginning to exterminate rodents." The Secretary of State for the Colonies has appointed Dr. W. J. R. Simpson, professor of hygiene at King's College, London, and lecturer in tropical hygiene at the London School of Tropical Medicine, to proceed to the Gold Coast to assist in combating the present outbreak of bubonic plague at Accra. He left for the Gold Coast by the steamship *Mendi* on Jan. 18th and was accompanied by Dr. J. A. Haran of the medical service of the East Africa Protectorate, who has been selected on account of his experience in dealing with plague in that dependency. Dr. Simpson's mission to Accra shows that the Government wishes to leave nothing undone that can possibly be of service to our Gold Coast Dependency but implies no want of confidence in the ability of the medical staff now on the spot. Dr. Simpson will probably also visit other towns in West Africa with a view to advising in regard to questions of sanitation. Since his departure two official telegrams have been received at the Colonial Office showing that on Jan. 20th six, and on Jan. 21st two, deaths occurred from bubonic plague. On the latter date the return shows 48 cases isolated.

UNCERTIFIED CAUSES OF DEATH IN 1907.

ALTHOUGH successive Governments have failed to take any action for giving effect to the recommendations made in the report issued by Sir Walter Foster's Committee in 1892 on the Certification of Causes of Death the number and proportion of uncertified deaths in England and Wales have since then constantly declined under the influence of the attention given to the subject in the reports of the Registrar-General and of the local medical officers of health. In the last issued annual report of the Registrar-General (1905) it was shown that the proportion of uncertified deaths steadily declined from 1·81 per cent. in 1900 to 1·62 in 1905; his quarterly returns for 1906 showed a further decline to 1·53, and during the first three quarters of 1907 the percentage of uncertified causes of death did not exceed 1·44. The quarterly and weekly returns for 1907, moreover, enable us to consider and to compare the varying proportions of uncertified deaths in the 76 large English towns dealt with in those returns during 1907. The mean percentage of uncertified deaths in these 76 towns was 1·1 in 1904 and in 1905, 1·0 in 1906, and further declined to 0·9 in 1907. The mean proportion of uncertified deaths has thus been considerably lower in these 76 towns than the mean rate in the whole of England and Wales in each of the last four years, and it is satisfactory to note that the proportions continue to decline in the large towns as well as in the whole of England and Wales. It is, however, still more important that attention should be called to the wide variations in the reduced proportions of uncertified deaths still prevailing among these 76 towns. During 1907 all the causes of deaths registered in Croydon, Tottenham, Southampton, Wigan, Hornsey, Devonport, Ipswich, and Great Yarmouth were duly certified, and all but one of the causes of death registered during the year were duly certified in West Ham, Brighton, Walthamstow, Plymouth, and Bournemouth. In London the proportion of uncertified deaths last year did not exceed, as we recently pointed out, 1 per 1000 deaths registered, whereas the proportion had been equal to 2 per 1000 in each of the three preceding years. In many other of the 76 towns, however, there is still a marked excess of uncertified deaths, showing a want of appreciation of the importance of the due certification of all causes of death either by a registered medical practitioner who has been in attendance during the last illness of the deceased or by a coroner after inquest. The proportion of uncertified deaths during last year was equal to 2·7 per cent. of the deaths registered in Liverpool and in Bootle, to 2·8 per cent. in Sunderland and in Burton-on-Trent, 2·9 in Preston, 3·3 in Birmingham, 3·5 in St. Helens, 4·4 in Gateshead, 4·5 in Warrington, and 5·1 in South Shields. It would be useful as well as interesting to have some explanation of the fact that while it has been found possible to secure the due certification of all causes of death in the eight above-mentioned towns, and of all but 1 per 1000 in very many other towns, the proportion of uncertified deaths last year should have exceeded 27 per 1000 in the towns referred to above, ranging up to 51 per 1000 in South Shields. It is beyond question that even under the present legislative arrangements due coöperation between sanitary authorities, medical officers of health, and coroners would undoubtedly reduce the number of uncertified deaths to an inconsiderable minimum.

"IONIC MEDICATION."

IN addition to the discovery of new methods of treatment in medicine and surgery it is interesting to note how modern scientific ideas bring about the revival of an old method which, probably for the want of a better knowledge, had been allowed to fall into disuse. An instance of this is the local introduction of drugs through the unbroken skin with the aid of the electric current. This is generally known as cataphoresis, and the method is nearly as old as our knowledge of the electrolytic process itself. At one time it was employed to a considerable extent both at home and abroad, but it was not until Professor Leduc of Nantes brought his encyclopædic knowledge of electrolysis to bear on the subject that it received a more scientific foundation and a fresh lease of life. In the electrolysis of a normal saline solution there is a migration of ions; the basic (sodium) ions travel from the anode to the cathode, while the acid (chlorine) ions move from the cathode to the anode. This process is not stopped by the intervention of animal membrane or skin. As being more in harmony with modern ideas the method is sometimes spoken of as "ionic medication." As our knowledge and experience increase there is every probability that this principle will be employed in a gradually increasing degree. It has been found very useful, for instance, in the stiffness following a severe sprain of the ankle-joint: a pad wet with a watery solution of iodine was placed over the part and covered with a metal plate connected to the positive pole. Cases of trigeminal and supra-orbital neuralgia have been relieved by the similar use of quinine or salicylic acid after all other methods had failed. Local anæsthesia can be produced with a solution of cocaine. Small and superficial rodent ulcers are easily cured by anyone who has had a little experience. Here a solution of zinc chloride is used and the zinc ions are which the patient craves. If so much water is taken that the stomach becomes distended the catheter forms a perfect safety valve through which the stomach can be emptied at once. Thus the most urgent symptom following the operation can be relieved with safety and what is evidently a want of nature supplied. With regard to food, Mr. Richardson considers nutrient enemata as a poor substitute for food absorbed by the proper organs. When the ulcer is closed in the ordinary manner the surgeon dare not feed the patient by the mouth because after the operation its functions, like those of any injured organ, are impaired and it can only partially digest food. Thus food, if given, would accumulate, ferment, and do great harm unless removed by a stomach-pump—a dangerous operation in the circumstances. Therefore nutrient enemata have to be relied upon. By making use of the ulcer as a gastrostomy opening Mr. Richardson claims that the danger of feeding by the stomach is removed and at the same time an amount of nourishment is given, which could not be given by the rectum. He feeds the patient by the mouth every four hours with beef-tea and milk. Thus the pleasure and stimulation arising from the act of swallowing are preserved. Before each feeding the stomach is washed out with a solution of bicarbonate of sodium, so that what remains of the previous meal is removed. Moreover, the patient is not disturbed as when enemata are given but, on the contrary, is afforded great comfort. The washing out with bicarbonate of sodium is so comforting that the patients often ask the nurse to repeat it. After four or five days, when the patient is seen to be on the road to recovery, the catheter is withdrawn. The opening closes immediately, no leakage takes place, and no hernia follows. Mr. Richardson's experience of this method is encouraging but not yet sufficient to furnish statistics as to its advantages.

AN ORGANIC SERUM FOR THE TREATMENT OF SYPHILIS.

THE official bulletin of the Society of Biology of Paris in its account of the proceedings of a meeting held on Dec. 21st, 1907, gives a paper by Professor Hallopeau, physician to the Hospital of St. Louis and a Member of the Academy of Medicine. The paper dealt with the results obtained in syphilitic patients under the care of Professor Hallopeau by the use of an organic serum prepared by Dr. Quéry who in a paper read before the society on March 9th last gave as his conclusion that the pathogenic agent of syphilis was a bacillus which reproduces itself by spores and of which the spirillum of Schaudinn is an involutionary form. Confirmatory evidence of the truth of this theory has since been obtained by Leuriaux and Geest, Bertarelli and Volpino, Benda, Krzyzstalowicz, and Siedlecki. The isolation of the bacillus in question has enabled Dr. Quéry to prepare an organic antisyphilitic serum which is prepared and used after the same method as the well-known antidiphtheritic serum. Professor Hallopeau mentioned that 20 cases had been treated with the serum and that a progressive improvement had been observed in every one of them. To use his own words: "The ameliorations observed should not be laid to the account of the normal evolution of the disease, for I have noted them as taking place from the very beginning of the secondary symptoms and they therefore indicate a definite action of the serum upon the evolution of the disease. As to whether the ameliorations will be lasting, my studies in the question are at present too recent to give a definite answer." Dr. Quéry in a note which he has sent to us allows that at present the word "cure" should not be employed with regard to the action of the serum upon syphilis, but he has had under his personal notice certain patients who were treated four years ago and in whom there has been no apparent relapse. Professor Hallopeau concludes his paper by saying that the serum should be used in association with atoxyl or mercury and iodide of potassium. There is no incompatibility between the treatments and it is necessary to make use of every available weapon against such a resourceful enemy as syphilis.

AN AUSTRIAN PROFESSOR'S REMINISCENCES.

Professor Moritz Benedikt of Vienna has published his reminiscences in a lengthy but interesting volume.[1] Born in 1835 in Eisenstadt in Odenburg, now known by its Hungarian name of Kis-Márton, his childhood was passed under the feudal and autocratic *régime* which then ruled in Austria, his boyhood during the stirring times of the revolution, while during his student career at Vienna the university of that city owned some of the greatest names in its history. A man of wide interests, not confined to purely professional subjects but embracing literature, art, politics, and music, he has been also through two military campaigns, those of 1859 and 1866, and has travelled widely in most of the European countries, and having in the course of his long and active life met many notable personalities on more or less intimate terms he has a great many interesting reminiscences to record. His descriptions of his early school days and of his later studies at the gymnasium or high school afford noteworthy pictures of the educational methods of the first half of the nineteenth century in Austria. During the time when he was at the gymnasium at Vienna, between 1845 and 1853, the revolution occurred, and he has various anecdotes of those troubled times to relate. Apparently of studious habits from early in his life, he studied languages assiduously and acquired a considerable knowledge of the literature of Greece, England, and France, as well as of the writings of German poets and historians. Of the Greeks he liked best Homer, Sophocles, Euripides, and Demosthenes. In English he read widely. He states that Shakespeare was his poetical and psychological bible, and in his anxiety to read his works in the original he bought a copy of "Macbeth" after taking a few English lessons and looked out over 300 words in the dictionary, writing their meaning beside the text in shorthand. By reading this play through several times he so increased his vocabulary that he was able to read the other plays without any conspicuous difficulty. He naturally had a great affection for Goethe and Schiller and writes most appreciatively of Grillparzer and Kleist. Heine he regards as the greatest lyrist since the Psalmist. A most pleasing section of Professor Benedikt's book is that devoted to his years as a student at the University of Vienna. His brief character sketches of some of the distinguished professors under whom he studied serve to bring before us very clearly some of the men who helped to give Vienna its great reputation as a medical centre. Among these we may mention Hyrtl, Brücke, Rokitansky, Skoda, Arlt, and Oppolzer. He also came into relation with Semmelweis, whose tragic story he refers to in feeling terms, and was intimate with Hebra and Karl Ludwig. Hyrtl possessed remarkable abilities as a lecturer and in the preparation of anatomical specimens. Benedikt describes him as an artist in all that he undertook. He was very popular among his students but not among his professorial colleagues. Brücke is represented as a man of somewhat cynical, unattractive personality whose lectures were often beyond the scope of his audience. In spite of these characteristics and of his severity at examinations, he seems to have acquired the respect of his students. Of Rokitansky, Benedikt writes with enthusiasm and extols his pioneer work in pathology. He was not a great lecturer but was a most thorough and illuminating worker.

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[1] Aus Meinem Leben Erinnerungen und Erörterungen, von Dr. Moritz Benedikt. Vienna: Ernst Stulpnägel. 1906.

ANNUAL REPORT FOR 1906 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

I.

Sir Shirley F. Murphy's fifteenth annual report on the health of the metropolis has recently been published by order of the London County Council. The volume occupies, with appendices, 180 folio pages of closely printed matter and is illustrated throughout with a series of appropriate diagrams. Whilst closely following, in its general features, the lines of its predecessors the present report contains a large amount of important matter which now appears for the first time. To this additional matter more especially we propose to refer in detail. Nevertheless, as this report is written primarily for the benefit of Londoners, we shall endeavour, as far as space permits, to notice any serious deviations from the normal records of mortality in the metropolis, relating as they do to a population closely approaching 5,000,000 in number.

The ordinary statistics of marriages, births, and deaths in the metropolis have already been published in the annual summary of the Registrar-General. It is, however, worthy of more than passing notice that the mortality of London both in 1906 and in the year immediately preceding was the lowest hitherto recorded. It was only 15·1 in each 1000 persons living and was below the average rate in the closing decade of the nineteenth century by more than 20 per cent. The London death-rate in 1906 tallies closely with that of England and Wales, the difference in the rates amounting to no more than a few tenths of a unit per 1000. It is common knowledge that the mortality of dwellers in the several districts of the metropolis varies enormously. By calculating the comparative mortality figure for each of the 29 metropolitan boroughs, which now correspond to the administrative sanitary areas, the county medical officer of health gives exact numerical expression to these variations. From a table in the report we see that in the quinquennial period ending with 1905, 11 of the metropolitan boroughs had a mortality in excess and 18 a mortality in defect of the average for the administrative county as a whole. The table further shows that in 1906 the mortality in the poor and populous district of Finsbury was at least double of that in the more highly favoured and less populous district of Hampstead. Carrying still further his analysis, Sir Shirley Murphy tells us that among the 21,000 tenants of the dwellings for the working classes recently provided by the County Council for the accommodation of persons displaced by the removal of house property for street or sanitary improvements, the rate of mortality did not exceed 13·7 per 1000, a rate which may be considered a low one for even the healthy districts of the country, and which is less by 1·4 per 1000 than the present average rate for the metropolis.

In the year 1906 London mortality from the principal epidemic diseases (except diarrhœa) was below the average for the preceding decennium. Small-pox was notified in only 31 cases, all of which recovered. Of the cases reported, nine occurred in Hackney, six each in Bethnal Green and Camberwell, and smaller numbers in other metropolitan boroughs. During the year the services of Mr. W. McC. Wanklyn, of the County Council's Public Health Department, were required to assist in the diagnosis of 35 cases of suspected small-pox. These included a group of four patients and another group of three patients, all of whom were found to be suffering from genuine small-pox; a group of five patients suffering from chicken-pox, and another group of five cases affected not with small-pox or chicken-pox but with contagious skin diseases.

Among the common infectious diseases of children neither measles nor whooping-cough is included in the schedule of the London Notification Act. Nevertheless, these diseases give considerable trouble to sanitary as well as education authorities by reason of the interference which they cause with the regularity of school attendance. The relation of overcrowding to the prevalence of measles is well shown in the present report, from which we learn that the mortality from this disease is more than twice as great in districts where over 27½ per cent. of the dwellings are overcrowded as it is in districts where the overcrowding does not exceed 7½ per cent. The question of the possible reduction in fatality that might be attained by the better nursing at home of cases of measles is discussed by the county medical officer as well as by certain of his colleagues. Sir Shirley Murphy refers with approval to the good services rendered in Woolwich by the district nursing institution there, an institution that would probably be instrumental in saving many of the lives which in present circumstances are sacrificed to measles if only the sanitary authorities possessed, and utilised, the power to contribute to the expenses of the association so as to enable it to employ a sufficient staff to cope with local requirements. The county medical officer also discusses the question of school closure as an expedient for dealing with excessive incidence of measles among children of tender age; but although in the year 1906 not fewer than 52 classrooms and 15 "departments" were closed on account of the prevalence of measles, this expedient does not appear to have produced the results which might have been hoped for; this is attributed to the fact that "there is no satisfactory system by which a teacher becomes aware of the cause of absence of a pupil." There appears to be some indication that parents nowadays regard measles as a more serious malady than was formerly the case and that as a consequence a larger proportion of the cases, in certain districts at any rate, come under medical care.

In the behaviour of scarlet fever during 1906 there is little abnormal to notice. Both the case-rate and the death-rate of the administrative county corresponded nearly to the average, although, as usual, the incidence of attacks from scarlet fever varied widely in the several metropolitan districts. Almost the same statement may be made concerning diphtheria, except that the prevalence, as well as the fatality, of this disease showed a greater defect from the average than was observed in the case of scarlet fever. But with regard to diphtheria Sir Shirley Murphy gives an interesting account of the occurrence of outbreaks among school children, in many of the cases the Klebs-Löffler bacillus being detected. This account, which will be read with interest by all medical men engaged in practical sanitation, is too long for reproduction here and scarcely admits of condensation.

As regards the bacteriological examination of "contacts" with cases of diphtheria very interesting particulars are given in the present report. In certain districts the local medical officers of health have been able to secure that no "contact" should be allowed to return to school after illness from diphtheria except after bacteriological examination of the fauces. In this connexion the London County Council has adopted an important report and resolution submitted to it by its Education Committee, from which the following is an extract:—

> Our attention has been drawn to the difficulties which have arisen in districts where diphtheria has been prevalent, consequent upon children who have been excluded from school being certified as free from disease by medical practitioners. With the view, therefore, to dealing more thoroughly with the disease, the various medical officers of health were asked to adopt the temporary arrangements being carried out in Greenwich in the event of there being an outbreak of diphtheria in their respective districts. These arrangements involve that any children excluded from school on account of diphtheria or sore-throat during the prevalence of the disease should not be re-admitted without a certificate from the medical officer of health that they are free from infection. ...... We are of opinion that it would greatly strengthen the hands of the various medical officers and do much to reduce the present risks of infection if authority were given for the refusal, during the presence of diphtheria in any district, of the readmission of children excluded from school as suffering from diphtheria or sore-throat until they have obtained a medical certificate of freedom from infection based on a bacteriological examination. We are informed that such certificates can be given, either by general practitioners or by medical officers of health, and wou'd be free from the dangerous errors of medical certificates given merely on the inspection of children.

The Education Committee, after carefully debating the subject, passed the following most important resolution, which, as we said before, was adopted by the County Council:—

> We recommend that the Education Committee be authorised to refuse, during the presence of diphtheria in any district, readmission to school of children excluded on account of diphtheria or sore-throat until such children shall have obtained a medical certificate of freedom from infection, based on a bacteriological examination.

In our opinion it is difficult to over-estimate the value of this far-seeing resolve on the part of the London County Council as the supreme educational authority. Probably no step could have been taken that would be more likely than this to check the spread of infection in elementary schools—that credit of drawing attention to these cases and their importance as centres of infection. He states that 93 per cent. of persons convalescent from enteric fever do not discharge typhoid bacilli in the stools after the fifteenth day from the time when the temperature has fallen to normal, and further that of the remainder many soon cease to harbour the bacilli, leaving about 3 per cent. of carriers. Klinger after examining the stools of a large number of cases of persons who had suffered from enteric fever found that only 1·7 per cent. became chronic "typhoid carriers," a smaller percentage than that found by Kayser but the result of a more extended examination. From the intermittent character of the discharge of bacilli by these "typhoid carriers" in the fæces it is suggested that it is in the gall-bladder that the organisms live and multiply. It is well known that bile is a good culture medium for them, that they are not infrequently found in gall-stones, and Dehler has treated cases of "typhoid carriers" by draining the gall-bladder, after which operation the bacilli disappeared in the course of a few months. That the bacilli may also remain in other situations for long periods is proved by the case recorded by Mr. L. S. Dudgeon and Dr. R. E. G. Gray[2] in which typhoid bacilli were recovered from bone lesions three and a half years after an attack of enteric fever. In an annotation[3] commenting upon the case we pointed out the necessity for dealing effectively with all the discharges from patients suffering from that disease. The question of the recognition of these cases is obviously one of importance and Kayser suggests that the stools and urine of convalescent cases of enteric fever should be examined at intervals of a fortnight and three weeks after the temperature has fallen, and if these examinations prove negative a third trial should be made after several months. If any one of the three gives a positive result the examination should be repeated at weekly intervals until three consecutive negative results are obtained. He also recommends that known "typhoid carriers" should be kept under bacteriological supervision. Even by such drastic methods it is not possible to be certain of discovering all the cases, and it is obvious that if such a rigorous control is to be kept over the patients who have suffered from enteric fever it is quite beyond the province of the ordinary practitioner and must come under the control of the health authorities. An equally difficult problem is offered in the treatment of these cases. Being apparently in perfect health they are not likely to submit to treatment by antiseptics or to the more drastic surgical procedure adopted by Dehler, even if these methods are found to be effective. At present all that can be done is to discover them and to prevent them from becoming sources of infection, as the instance above quoted shows.

THE TRAFFIC IN OLD HORSES.

THERE are certain offences against humanity and civilisation to which we are obliged periodically to refer and the brutalities incidental to the shipment of old and worn-out horses have been brought before our readers on many previous occasions. The latest case of this kind of which we have knowledge occupied the attention of Mr. Biron at Old-street police court on Jan. 16th when a man named Spratt *alias* Sharpe was charged with cruelty to a horse by leading it in a lame condition through the streets under the Cruelty to Animals Act. The horse was, as usual, destined to be shipped abroad. We pointed out in THE LANCET of April 11th, 1903, p. 1045, that this is the only Act which covers the particular offence, for the Order of the Board of Agriculture issued at the beginning of 1899 to deal with the matter only stated that it should be unlawful to convey from any port in the British Isles to any place outside them "any horse which, owing to age, infirmity, illness, fatigue, or any other reason, cannot be so conveyed without cruelty during the intended passage and upon landing." In the present case it was proved that the man had been twice convicted of cruelty in the same connexion. Mr. Biron sentenced him to three months' hard labour after making some remarks such as we have frequently expressed in those columns.[1] He said that he could not understand why the people behind the men employed to take such poor things through the street were not proceeded against. The very shippers and people on the boats must know that they had been exposed to great cruelty to make them travel. The trade was shocking, disgusting, and horrible. He could only make an example of the prisoner as the police said that there were difficulties in the way of reaching the men who hired him, though he could not understand why. We cannot understand why, either. Surely it is desirable that legislation should render the export of old horses for foreign food a criminal offence and we urge on the present Government the expediency of bringing in a small Bill, which would probably become law with little controversy, to abolish entirely this traffic.

THE FOURTH INTERNATIONAL CONGRESS ON ELECTROLOGY AND RADIOLOGY.

THE Fourth International Congress on Electrology and Radiology will be held at Amsterdam from Sept. 1st to 5th, 1908. The results of the three former Congresses—at Paris in 1900, at Berlin in 1903, and at Milan in 1905—having proved their utility and importance, the Fourth Congress will be organised on the same lines. The programme will comprise electrophysiology and electropathology, electrodiagnostics and electrotherapeutics, diagnostics and therapeutics of roentgen rays, the study of diverse radiations, and medical electrotechnics. In conjunction with the Congress an exhibition will be arranged of new or modified apparatus used in clinical and laboratorial work and also a collection of important radiographs. The Congress and the exhibition will be held in the University of Amsterdam, the executive committee being Professor Dr. J. K. A. Wertheim Salomonson, president, and Dr. J. G. Gohl and Dr. F. S. Meijers general secretaries and treasurers. Further information can be obtained from the secretaries by addressing them at Vondelstraat 53, Amsterdam.

A CURIOUS ECONOMY.

THE *Daily Telegraph* of Jan. 10th prints a curious story of Post Office economy contributed by a correspondent. The General Post Office, it says, has ceased to supply "dampers" to the clerks for sorting papers quickly, the official reason being that "dampers cost money, and we already pay for the use of fingers." That is well enough but the department does not pay for the use of tongues for other purposes than talking. The clerks are apparently alive to this and have, according to our contemporary's informant, improvised dampers by doubling several sheets of blotting-paper together to avoid the necessity of licking their fingers for the work, with the result that the makeshift is likely to cost more than the proper appliance. If this story be correct we can only hope that the authorities will speedily restore the old dampers and will do everything in their power to discourage the habit of finger-licking. Not only is it dirty in itself but the fact that the same forms may be handled by the licked fingers of different men at a short interval makes it a possible source of infection. Tuberculosis is far from uncommon in the Post Office service and it is not unlikely that the sick-pay given to one man whose lungs became thus infected would go a long way towards the provision of dampers throughout the department. The principle, too, is a

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[2] THE LANCET, July 7th, 1906, p. 28.

[3] THE LANCET, July 7th, 1906, p. 35.

[1] THE LANCET, April 13th, 1901, p. 1095, and April 11th, 1903, p. 1045.

Subject to the economical law of supply and demand the medical profession, after passing through a painful period of more or less prolonged malaise, will most likely cease to be overcrowded.

But it is a more serious danger which threatens us, a danger against which we ought to take immediate steps: it is the descent of the physician into the ranks of paid servants and (State) functionaries. These terms are synonymous; a physician becomes a paid servant when he enters the employment of a master or of any society which appoints him with the object of using his services at their discretion. If the society which employs the physician is the State, the department, or the commune, he becomes a functionary.

This condition of affairs tends to spread because many young medical men, like most young men of the middle-class, are wanting in initiative, in activity, and in energy, and prefer a badly paid appointment to the more laborious and more difficult struggle which building up a private practice entails. Besides, all those who in any way are at the head of any group of men, as owners of factories, company directors, presidents of mutual aid societies, clergy, mayors, administrators, or politicians, seek to increase medical appointments. They hope to succeed in making the practitioner a servant by having him in their pay, and the more important his social rôle becomes the more they believe it is to their interest to enslave him.

Up to the present the State appointments assigned to medical men have been services of public utility in which medical coöperation appeared much more appreciated than free and independent action. These appointments, connected with poor relief, with control, with sanitation, with various expert examinations (in which the medical man, poorly paid, looked only to his conscience), were considered legitimate and caused prejudice to no other medical practitioner. But gradually certain of these appointments will be turned into veritable administrative offices, the medical men will attend, under orders and at a reduced price, the patients on their lists. Political and religious struggles will intervene and the medical man will be obliged to become an electoral agent and to espouse the cause of the political tyrant of his district. Coöperation—that useful and fruitful work which properly organised and confined to its beneficent rôle could assist greatly in solving appropriately the difficulties of the social problem—has too often given the saddening spectacle of a brilliantly decorated theatre on the stage of which a medical man appears in some badly dissimulated political farce. Relegated to a servile condition the medical man can no longer fulfil the important rôle which it seems the evolution of science must intrust to him. For such a high mission moral qualities are necessary, which complete independence can alone assure. But the undignified competition for these medical appointments increases daily. Those who employ us find a decided advantage in this unbridled competition and seek, without any scruple, to benefit from it. This enslaving of the medical man—this degradation of a salary substituted for an honorarium—gradually brings about in the medical profession the formation of a proletariat, a proletariat so much the more dangerous as it is an intellectual proletariat.

Before these dangers the medical profession has quite naturally reacted, and as a means of defence developed the *entente syndicale*. Practitioners have little by little found out that isolated they could no longer resist the demands of powerful societies. They formed themselves into groups and in order to show more clearly the defensive object of those groups they gave them the form of syndicates. The movement has taken 25 years for its production, but if the beginnings of the medical syndicate have been difficult and slow we can state with some pride that their progress has been constant and that their power of action has been able, usefully and vigorously to make itself manifest of late years, that at last we are in a position to hope that they will be capable of facing the difficulties of the present situation.

During many years the medical syndicates resisted the abuses of which practitioners complained in their localities, but only in an isolated manner and without coördinating their efforts. Little by little, however, in the course of action by the syndicates a principle was evolved which, if successfully applied, will deal a fatal blow to the salaried and functionary practitioner. This is the free choice of a medical man by the patient.

The principle of the free choice of a medical man by the patient, which we have called 'the liberty of confidence,' is not one of those theoretical ideas started for the occasion and issue of a dreamer's brain, as Minerva came forth fully armed from the head of Jupiter. It is a practical conception which the syndicates have only adopted after proving the possibility of its application. It began in the organisations for gratuitous medical assistance before the law of 1893. Since the application of this law a very liberal organisation has been established in certain districts allowing the pauper to have recourse to the medical practitioner of his choice. This organisation, which was started in the departments of Landes and of the Vosges, has removed the greatest objections to the 'organisation of medical assistance' (for the poor) and has now been adopted by two-thirds of France. It is needless to say that all the medical syndicates persistently demand its application. We will not enter into the working details of the Vosgian system, which requires payment by visit and by kilometre travelled and the establishment of control commissions for the prevention of abuses which are always possible.

The legislature, in making employers liable for the cost of medical attendance on injured workmen, had to settle the conditions under which this attendance should be given. After a very lively struggle against the insurance companies who wished at any cost to monopolise the attendance required by the victims of accidents at work; after having had to defend themselves against a number of their colleagues who, even in the councils of the medical syndicates, defended this monopoly, thus sacrificing the general interest for their personal advantage, the medical syndicates succeeded in having 'the liberty of the choice of a medical man' recognised by the law. They did better, thanks to the energy, devotion, and inflexible tenacity of Dr. Diverneresse who devoted himself entirely to this task; they succeeded in having inserted in Article 30 of the law penal provisions against any person who offered obstruction to the right of the injured person to choose his medical man. The legislature, at the request of the medical syndicates, guided by Dr. Diverneresse, even added to the law a regulation of medical etiquette by stating in Paragraph 5 of Article 4 that the medical man employed to obtain information for the employer or for the insurance company as to the condition of the injured workman could only do so 'in presence of the medical man in attendance who should have notice by letter two days beforehand.'

The promulgation of this law of April 9th, 1898 (amended March 22nd, 1902, and March 31st, 1905), was a victory for the medical profession the consequence of which may be considerable, and which in any case clearly indicates the way in which it ought to move in order to insure independence and dignity for the practitioner, while preventing his descent into the ranks of salaried officials and functionaries. It is thus that the liberty of confidence becomes the corner-stone of medical independence. Is there a more solid base than this to serve as a rallying point for the work of the medical syndicates? Have not revolutions been started for much less worthy liberties?

The liberty of confiding his defects and his miseries, his health and that of his family to a medical man whom he knows, whom he esteems, in whom he has faith: is this not the most sacred liberty and that which ought to be the most inviolable? And is it not violated daily, this individual liberty, in that which is the most delicate, the most intimate, by public and private administrations and by mutual aid societies, which impose upon the patient treatment by an official or salaried medical man? Always received with apprehension and distrust, this medical man will have to exert prodigious devotion, mildness, and tact in order to gain the confidence of patients who are forced to receive him. And if, in consequence of a death, a family suspects this medical man of inability or of negligence what an intolerable position it would be for him if his duties called him again to those who believed that they had been victimised by him. He would find dark and hostile countenances and anxious glances. He would feel that the patient had no confidence in him, that he only half harkened to his advice, that in these circumstances the best treatment could not be fruitful, and the least complication, the least incident would be cast up to him as a crime. Intimately convinced that without the confidence of the patient the task of the medical man is incompatible with his dignity the associated medical men have vigorously proclaimed respect for it.

When all the medical men of a town or district are united they should be able to take up seriously the study of questions of hygiene and of prophylaxis. Solidly organised driven into the surface of the ulcer which has been previously cleaned. If the ulcer is small and the application is carefully and thoroughly done, once only will be found sufficient to cause its disappearance. It is probable that it will be applied successfully in other conditions such as ringworm, and lupus vulgaris would appear to be one likely to be influenced favourably by the local introduction of some ion prejudicial to the life of the bacillus. There should also be a large field open to investigation in regard to its use in gouty and rheumatic deposits. Theoretically an objection to this method is that the substance introduced would be washed away by the circulation *before it* had penetrated very deeply. While this is no doubt true to a certain extent it is none the less true that the process at times enables a more pronounced local action to be produced of, say, iodine than is possible by the administration of iodides in the usual way.

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THE annual course of lectures to be delivered at the Royal College of Surgeons of England will commence on Feb. 10th and will be continued on each Monday, Wednesday, and Friday until March 20th. The lecture hour will be 5 P.M. each day. Erasmus Wilson lectures: Mr. S. G. Shattock will deliver one lecture on Ovarian Teratomata on Feb. 10th; Dr. J. W. H. Eyre, one lecture on the Importance (surgically) of the Pyogenetic Activities of Diplococcus Pneumoniæ on Feb. 12th; and Mr. L. S. Dudgeon, one lecture on Infection of the Urinary Tract due to Bacillus Coli, on Feb. 14th. Hunterian *lectures*: Dr. Victor Bonney will deliver three lectures on a Study of the Connective Tissues in Carcinoma and in Certain Pathological Conditions preceding its Onset, on Feb. 17th, 19th, and 21st; Mr. Donald J. Armour, three lectures on the Surgery of the Spinal Cord and its Membranes, on Feb. 24th, 26th, and 28th; Dr. F. C. Shrubsall, three lectures on the Physical Anthropology of the Pigmy and Negro Races of Africa, on March 2nd, 4th, and 6th; Mr. A. Ralph Thompson, two lectures on the Anatomy of the Long Bones relating to certain Fractures, on March 9th and 11th; and Mr. W. S. Handley, one lecture on the Natural Cure of Cancer, on March 13th. Arris and Gale lectures: Dr. F. A. Bainbridge will deliver one lecture on the Pathology of Acid Intoxication, on March 16th, and Mr. M. Greenwood, jun., two lectures on the Physiological and Pathological Effects which Follow Exposure to Compressed Air on March 18th and 20th.

THE LAHORE MEDICAL COLLEGE.

THERE is a quaint old saying or proverb to the effect that "Soft words butter no parsnips." Doubtless the apothegm is an onomatopoetic corruption of another in a different language, couched in more dignified terms and possibly possessing a different meaning, but be this as it may the modern meaning was well exemplified at the annual prize distribution of the Lahore Medical College which took place some days before Christmas. The Principal of the College, Colonel F. F. Perry, I.M.S., in his introductory speech said: "There is no need for me to emphasise the fact that medicine is a progressive science and that the teaching of medicine becomes daily more elaborate and complicated. I will not say that the Lahore Medical College and School have been so far *facile princeps* in India, but I think I can justly claim for them that they have been, and are, second to none. In order to maintain this position it is necessary that we should keep up with the times, and in order to do this improvements and changes are essential in the near future." It was not in this admirable little speech that the soft words which do not butter parsnips made their appearance; they became apparent at once in the reply of the Lieutenant-Governor of the Punjab, Sir Denzil Ibbetson. "I have always regarded," he said, "the diffusion of medical and surgical knowledge as one of the best things we have done in India, and one great advantage attaching to medical education in this country is that it stands absolutely apart from all political currents. I should like to see the work enormously extended. We have been told by Colonel Perry of the growth and development of the College in the last 50 years, but I should like to see five times the present number of students in attendance. I should like to see competent medical aid provided for every class of the population, and indeed for every individual who desires to avail himself of it, but if this is to be achieved we must mainly rely upon Indian agency for the expansion. What India particularly wants in this direction at present is not more official medical officers but more private medical practitioners. Trained young men in large numbers are wanted to set up in medical practice on their own account. The process has been begun ...... but I want to see more of the young men who come here to study and to qualify start while in their youth upon a career of private practice instead of fixing their aims upon official employ." So far so good. Nothing could be more admirable than the sentiments which Sir Denzil Ibbetson eloquently expresses. It is quite within the range of possibility that among his hearers there may have been some who looked forward with joy to an announcement that the purse-strings of the sympathetic Governor were about to be relaxed. If such there were they soon were sadly disillusioned. "Well now, gentlemen," continued the speaker, "Colonel Perry has told us of changes and improvements and has asked for my interest and sympathy. I promised him both in the fullest measure. ...... But, gentlemen, you are all well acquainted with the serious nature of the present financial situation. This is a lean year ...... there is practically no hope that the Government will be able to provide a large sum of money for improvements in this College during the present financial year, and probably not during the next financial year, but while I am obliged to say that let me also say that the proposed changes undoubtedly have my sympathy and interest, and that when the time comes I will do my best." These were soft words but it seems a pity that the leading medical college must be starved.

A TELEGRAM from the Acting Governor of the Gold Coast received at the Colonial Office on Jan. 18th states that on Jan. 17th there were 4 deaths from plague. The total number of natives in hospital is 9, while 41 are isolated. A further telegram states that on Jan. 18th there was 1 death from plague. 17 natives were in hospital and 41 were still isolated. The Department of Public Health for Queensland in a bulletin dated Dec. 14th, 1907, states that a case of plague at Cairns was reported on Nov. 23rd, 1907. The patient died on Nov. 30th. The case which occurred previously to this one at Cairns was reported on Oct. 8th, 1907.

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fleas being caught in the houses and plague rats being found from time to time. In all 45 per cent. of the houses of that section of the village were shown to be plague-infected; by the nature of the experiment contact between the guinea-pigs in the different houses was excluded. Among the rats the infection persisted for two months and took six weeks to travel 300 feet. The authors conclude that the infecting agent was slowly disseminated among the guinea-pigs by plague-infected rats.

2. *Wadhala Village* (population 1500).—The observations made here were incomplete. In the early part of the epidemic season two cases of plague were imported from Bombay and died in the village without giving origin to any other human cases or any epizootic. Subsequently a number of human cases occurred, some of which were in close association with dead rats which could not be obtained for examination or with rats proved to be plague-infected.

3. *Parel Village* (population 3525).—During the period of observation 28 cases of human plague occurred in this village. Five of these were definitely associated in time and place with a limited epizootic among Mus rattus confined to one corner of the village. Ten cases were brought to Parel already infected; in six the probable source of infection could not be determined, the diagnosis being doubtful in one case, while seven were probably infected outside the village as they had recently visited places where rat plague was known to be present. An interesting observation is detailed as follows:—

Cases 14, 15, 16, 18, 19, 24, and 25 were all employed at a cotton spinning mill in the Sewri section of Bombay. Dead rats had been found in several parts of this mill, but especially in the mixing department, where cases Nos. 14, 15, 18, and 19 worked. Two of these men had thrown out the rats. Cases 16 and 24 were employed in other parts of the same mill. Case 24 lived with her son (25) who occasionally visited the mill with his mother. The woman had noticed dead rats in the go-down where she worked. All these cases and three others investigated by us who lived in other parts of Bombay but worked in this mill were attacked between the 30th April and 10th May. An interesting experiment was done in the mixing room in the mill. On the 12th May two guinea-pigs were placed in it; they were examined for fleas on the 14th May. On one guinea-pig 108 and on the other 160 rat fleas were captured. After the fleas had been removed the guinea-pigs were taken to the laboratory and isolated. They remained healthy. The fleas were transferred to a fresh guinea-pig confined in a flea-proof cage in the laboratory. This guinea pig died of plague on the 20th May. The mixing room was thus proved to be infective. It is important to note that these cases lived in different parts of Parel village and that we could obtain no evidence of a rat epizootic at their homes which did not prove infective to guinea-pigs. The infection therefore may reasonably be attributed to the mill in which they worked.

The infectivity of the houses in which plague cases occurred was investigated experimentally by means of guinea-pig flea traps. Though one of the imported cases infected the house in which she died, as shown by the capture of plague-infected fleas therein, none of them gave origin to any further human cases or to any epizootic among the rats. A number of interesting data are given relative to the prevalence of rats in this village which was very thoroughly trapped for nearly 12 months. This systematic trapping appeared materially to reduce the rat population.

4. *Worli Village* (population 2508).—Systematic trapping for a year appeared to reduce the rat population to approximately one quarter of the original number. No epizootic occurred among the rats and only three cases of human plague. It is probable that all these contracted the infection outside the village. In two of the cases evidence was obtained which pointed to infection so introduced having spread in one instance to a guinea-pig and in the other to a rat.

XXIV.—*General Considerations Regarding the Spread of Infection, Infectivity of Houses, &c., in Bombay City and Island.*

With regard to the spread of infection within houses the authors point out that the universal experience in plague hospitals has been that infection is not, except in pneumonic cases, communicated from the sick to the healthy attendants and others. Their own observations show that guinea-pigs running free in the plague wards do not collect rat fleas nor do they contract plague; that guinea-pigs do not contract plague when kept in a flea-proof hut in close contact with the bedding of plague cases removed daily for several weeks; and that the urine and fæces of acute plague cases are not infective to guinea-pigs by cutaneous inoculation. Their observations in Bombay villages tend to show that infection efficient to start an epidemic is not brought to a place in the persons of those sick of plague unless it is first effective in starting an epizootic. They also point out that in Bombay city comparatively few houses yield more than one or two cases. Recalling the experiments already published,[2] showing that plague is by no means easily transmitted from rat to rat by means of the human flea and that the degree of septicæmia found in the human cases is much less than in infected rats, they conclude that the transmission of infection from man to man by Pulex irritans is probably a very infrequent occurrence. The observations made in the village of Sion show that a widespread dissemination of infection in houses may result from an epizootic in the rats when direct contact with sick occupants of the house is rigidly excluded. In general, therefore, they reach the conclusion that contact with plague cases plays no part in the spread of the epidemic.

Plague is admittedly a place infection—i.e., a house or a room in a house may be definitely infective. Seeing that persons suffering from plague and their excreta are not infective and that, as was previously shown, the air and soil of plague-infected houses do not *per se* convey plague, much support is rendered to the view of the Commission that infection is contracted by man from the rat by means of rat fleas and that the infectivity of houses is due to the presence within them of infected rat fleas. It is also of opinion that plague may easily be transmitted to a distance by the same means.

During the whole of the work in Bombay no evidence was obtained suggesting that plague among the common or domestic animals (other than rats) was of any practical importance. Natural plague was observed only in guinea-pigs, rabbits, and monkeys (a limited epizootic in the Victoria Gardens) with one doubtful case in a cat.

XXV.—*Observations in the Punjab Villages of Dhand and Kasel.*

The villages of Dhand (population 1920) and Kasel (population 3938) were kept under close observation for a year from December, 1905. The general methods of inquiry were the same as those used in Bombay, and these villages were selected as representing isolated communities which had experienced an epidemic of plague in each year since its introduction into the district in 1902. An analysis of the data showed that plague did not tend to recur in the same houses year after year. The rats were practically all Mus rattus with a few Nesokia bengalensis; no Mus decumanus were found. In these villages Mus rattus is both a house and a burrowing rat. No relation was found between the breeding season of the rats and the prevalence of epizootic plague. As in the Bombay villages, extensive systematic trapping appeared to reduce materially the rat population. Of the fleas caught on the rats 98 per cent. were Pulex cheopis; the average number taken on each rat varied from 12·6 in April during the onset of the plague epizootic to 2·2 in August and September in the off-plague season. During the period November to April about 2 per cent. of the fleas were Ceratophyllus fasciatus (the common rat flea of Europe); none were found during the rest of the year.

Dhand village.—No definite origin could be ascertained. Acute rat plague (28 cases) slightly preceded human plague (32 cases) and the two show a close association in time during their prevalence from February to May. 11 rats suffering from chronic plague were taken between December and June. Of the human cases 22 inhabited 18 houses in which, or in the vicinity of which, plague rats had been found before or at the time of the occurrence of the cases. The other ten cases inhabited eight houses and no definite association with plague rats was demonstrated. Three of these eight houses (four cases) were, however, shown by guinea-pig experiments to contain infected rat fleas and two more of the cases lived close to these houses. Two of the remaining cases were clearly imported (late in the epidemic). The authors consider their failure to trace a more intimate association between rat and human plague to be largely due to the limitations of the available methods of finding plague rats.

Kasel village.—Here again the epizootic appeared to arise spontaneously though several of the neighbouring villages, including Dhand, were already infected. Acute rat plague was first discovered three days before the first indigenous human case and the close correspondence in time between the epizootic (238 acute plague rats) and the epidemic (75 cases) from April to July is well shown in a curve. 23 rats suffering from chronic plague were caught between April driven into the surface of the ulcer which has been previously cleaned. If the ulcer is small and the application is carefully and thoroughly done, once only will be found sufficient to cause its disappearance. It is probable that it will be applied successfully in other conditions such as ringworm, and lupus vulgaris would appear to be one likely to be influenced favourably by the local introduction of some ion prejudicial to the life of the bacillus. There should also be a large field open to investigation in regard to its use in gouty and rheumatic deposits. Theoretically an objection to this method is that the substance introduced would be washed away by the circulation before it had penetrated very deeply. While this is no doubt true to a certain extent it is none the less true that the process at times enables a more pronounced local action to be produced of, say, iodine than is possible by the administration of iodides in the usual way.

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[2] Journal of Hygiene, vol. vi., p. 521, and vol. vii., p. 413.

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your letter of the 25th ult. was passed. Miss E. S. Kerrison, one of the guardians of West Ham, stated that "they had excellent wards, and many applications for training could be entertained if they were allowed to do so." "They had the wards and the women, but not the authority." This statement passed unchallenged at the meeting and no doubt had its influence on the passing of the resolution. The real fact was, as pointed out by the medical officer of the union in a letter to the *Poor Law Officers' Journal* of Dec. 7th, that the West Ham workhouse had been recognised by the Board as a training school for more than two years.

An analysis of the list of approved training schools as it stands at present, differentiating between Poor-law and non-Poor-law institutions, shows the following result:—Poor-law: London, 6; England (except London), 13; Wales, 1; total, 20. Non-Poor-law: London, 12; England (except London), 21; Wales, 1; total, 34. In addition to these the medical officers of the following Poor-law institutions have been recognised as teachers of midwifery, thus enabling the training of midwives to be carried on under precisely the same conditions as if the institution itself had been approved as a training school: Blackburn, Blandford, Brentford, Burton-on-Trent, Christchurch, Epsom, Halifax, Hastings, Kingston-on-Thames, Llanelly, Merthyr Tydfil, Newbury, Portsmouth, Prescot, Preston, Reading, Rotherham, Southampton, Swansea, Walsall, Wolverhampton, Woodstock, Worcester.

During the year 1907 the 20 approved Poor-law institutions and the 23 recognised Poor-law teachers have sent up 139 candidates to the Board's examinations. The 34 non-Poor-law institutions and the 64 teachers have sent up 1626. A scrutiny of the list of candidates shows that of the Poor-law institutions one, and of the Poor-law teachers seven, have never sent up a single candidate for examination. In these cases the Board concludes that either the material for training midwives does not exist, or that the facilities already accorded by the Board have not been fully utilised. Since Jan. 1st, 1907, 15 Poor-law institutions have applied to the Board to be approved as training schools. Of these applications three have been granted, ten refused, and consideration of the other two is still pending. A list of the applications refused, with the number of deliveries per annum in each institution, is as follows:—

Name of Institution.	Deliveries per annum.
Ashton-under-Lyne Union Hospital	23
Auckland Union Infirmary	8
Dewsbury Union Workhouse Infirmary	20
Gateshead Union Hospital	34
Kingston Union Infirmary	63*
Lincoln Workhouse	18
North Bierley Union Infirmary (Bradford)	16
Sculcoates Workhouse Infirmary (Hull)	37
Stepping Hill Poor-law Hospital (Stockport)	39
Wycombe Union Infirmary	10
	268

* Medical officer recognised as teacher.

It appears to the Board to be undesirable to accord the name of Training School to an institution which cannot within the Rules train more than two pupils per annum. In such cases where there is evidence of an effective possibility of adequate training, the policy of the Board is to recognise the medical officer as a teacher, a course which in no way limits the opportunity of the guardians for the purpose of training. I am to add that, while the Board is deeply conscious of the necessity of according due facilities for the training of midwives where adequate guarantee exists for compliance with the Rules, it is very doubtful whether Poor-law institutions are authorised to undertake the training of any pupils other than their own probationers. If the Board had granted all the applications for approval as training schools made during the current year by Poor-law institutions the list shows that the maximum addition to the number of candidates at the examinations would have been 13, trained under conditions inferior to the standard which the Board has endeavoured to maintain.

I am further to submit that, in view of these facts, there is no ground for the suggestion that the policy of the Board has operated to limit the effective employment of methods and material at present available for the training of midwives. In conclusion, I am to state that, in the opinion of the Board, a division of authority, such as is contemplated by the resolution of the Association of Poor Law Institutions in England and Wales, would be prejudicial alike to the due training of midwives and to the public interest.

THE VACCINATION ORDER OF 1907.

SOME difficulty has recently arisen amongst public vaccinators in connexion with Article III. of the Vaccination Order of 1907 in so far as it affects the contracts entered into with their respective guardians. It is well known that the Vaccination Order of last year was largely aimed at lowering the fees to which these officers were entitled, for it laid down that these fees should in future be set forth in an "instrument" or legal document having relation to the conditions of individual districts and sent to the guardians and public vaccinators concerned. It would appear that many of these officers have signed such an instrument without fully appreciating its significance, having misunderstood the meaning of the section of the Order which governed its issue, and the question of appealing to the Local Government Board has been raised by a number of them. On their behalf the following letter has been sent to that Board by the Association of Public Vaccinators of England and Wales:—

1, Mitre Court Buildings, Temple, E.C., Dec. 18th, 1907.

SIR,—As public vaccinators are continually seeking advice respecting their right of appeal against the "instrument" issued under the Vaccination Order of 1907, the members of my council have directed me to inquire whether I may be granted the privilege of an interview with one of the assistant secretaries or, in the alternative, whether I may be honoured with your advice in writing upon the following points:—

1. As to the procedure to be adopted by public vaccinators who desire to appeal and
2. As to the circumstances under which such appeal arises.

The public vaccinators who desire advice may be divided into the following classes:—(*a*) Those who having been forced by threats of 28 days' notice to accept what they consider inadequate fees have done nothing further. (*b*) Those who have been forced in a similar manner but who have also signed new contracts. (*c*) Those who have, without such compulsion, accepted lower fees, but who are not satisfied and would like to appeal to the Local Government Board, either at once or after an interval, during which they are prepared to give the new fees a fair trial. (*d*) Those who have not agreed with their guardians before Oct. 1st last.

My council is very anxious to know whether an appeal arises upon the issue of the instrument in all of such cases, and if not whether it arises in any, and if so in which of them, and what has to be done by a public vaccinator who desires to appeal to the Local Government Board.

In some cases public vaccinators have agreed with their guardians for a reduced fee on the understanding that it is only for a short period and as a trial, and in those cases the public vaccinators are anxious to know whether, if the guardians refuse to reconsider the matter, they (the public vaccinators) will have a right to appeal to the Local Government Board.

Apologising for troubling you at this length,

I am, Sir, your obedient servant,
(Signed) CHAS. GREENWOOD, Organising Secretary.

The Secretary, Local Government Board.

This letter elicited the following reply:—

Local Government Board, Whitehall, S.W., Jan. 1st, 1908.

Sir,—I am directed by the Local Government Board to advert to your letter of the 18th ultimo and to state that the appeal to the Board provided for in Article III. of the Vaccination Order, 1907, arises in cases in which the vaccination contracts have not been determined and in which the guardians and public vaccinators have failed to agree on the fees to be paid; but that a public vaccinator has no ground of appeal if he has signed the forms agreeing with the guardians as to the fees or has entered into a new contract with the guardians.

A public vaccinator entitled to appeal to the Board should send to the Board a detailed statement of his reasons for declining to accept the fees offered by the guardians.

I am, Sir, your obedient servant,
(Signed) J. S. DAVY,
Assistant Secretary.

C. Greenwood, Esq.

We have carefully studied the Order to which this correspondence refers, which is couched in the usual confusing mass of legal verbiage in which Parliamentary documents seem to seek the concealment of their real meaning. We cannot explain why a document which is nominally intended for the guidance of the common people of England cannot be couched in language which may be readily "understanded of the people," and we can sympathise with those gentlemen who have misapprehended the clause in question, but there is no doubt that if they have signed an "instrument" issued under its authority they have legally bound themselves to accept the conditions of service and remuneration therein contained. Public vaccinators objecting to the terms of the "instrument" submitted to them should therefore appeal to the Local Government Board before signing it or they will find themselves in an unfortunately false position

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 23rd, 1830.

Gun-shot Wounds.—Gun-shot wounds have very commonly been considered as altogether different from wounds of other kinds, as being very peculiar in their nature. The injury which is inflicted by wounds of this nature, is very considerable. The inflammation which they produce in the part is violent; their consequences altogether are very serious. Hence, when fire-arms were first introduced, the effects of these wounds were found so much more serious than those which were ordinarily occasioned by the weapons which were previously employed, that it was supposed that gun-shot wounds were of a poisonous nature. It was suggested that the gunpowder, or the heat of the ball, in some measure affected the wound, and thus that some highly deleterious effect was produced in the injured part. Attempts were therefore made to counteract this deleterious influence by such applications as were supposed to be capable of counteracting heat; the application of turpentine, hot oils, and similar hot and stimulating remedies, were resorted to for this purpose. Writers of modern times, particularly the military surgeons of Europe, have had ample opportunities of observing gun-shot wounds, and of investigating their is, of course, provided the action of the central authority receives the loyal support of the several borough councils.

Among the fevers formerly designated "continued," typhus fever appears to have caused no deaths in London during the year 1906; nevertheless, it is clear from the present report that were it not for the vigilance of the sanitary authorities we should still hear of extensive local epidemics of the disease from time to time. For instance, we learn that in the period referred to four cases of undoubted typhus fever occurred and were removed to hospital, one of which cases was notified as suffering from enteric fever and was apparently isolated as such.

The cases of enteric fever in the metropolis were equal to a rate of 0·3 per 1000 of the population in the year 1906, a rate which corresponds closely to that obtaining in the immediately preceding year. In the year first mentioned Finsbury had the highest death-rate from enteric fever and Chelsea and Stoke Newington the lowest. Of the cases notified to be suffering from enteric fever, we learn that "a portion was found, after inquiry by the medical officers of health, to be incorrectly diagnosed." With respect to those that were accepted as being actual cases of enteric fever, effort was made by medical officers of health to discover the cause of the illness. A considerable number of these were believed to have received infection from elsewhere, some of them having been infected on the continent, whither they had repaired for the summer holiday. Among articles of food believed to have been instrumental in conveying infection cockles are once again frequently mentioned in the reports of medical officers of health, Southend and Leigh-on-Sea being referred to as the source of some of these molluscs. Dr. C. Sanders of West Ham reports an outbreak of not fewer than 52 cases of enteric fever during 1906, a number of the persons attacked having been found by him to have eaten cockles a short time before the onset of the disease. After discussing the views of his colleagues as to the part played by cockles in the spread of infection, Sir Shirley Murphy pertinently remarks: "Whatever view is taken as to the sufficiency of the evidence incriminating the cockles in these outbreaks, the fact remains that the risk of consumption of cockles which have been laid in the Leigh Creek is now well recognised, and any further evidence of injury to London inhabitants from this source must necessarily raise question as to the steps which should be taken in dealing with this matter by public authorities of the localities whose inhabitants suffer in this manner."

(To be continued.)

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on Jan. 17th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The consideration of the petition from the London School of Medicine for Women praying for the admission of women to the examinations of the College and of the whole question involved was resumed. On the previous occasion a motion was proposed and seconded "that the petition of the London School of Medicine for Women be granted." To this an amendment had been carried "That it is desirable that such alterations be made in the by-laws as to allow the admission of women to the examination for the Licence only of the College." When this had been put as a substantive motion an amendment had been moved and seconded "that the word 'only' be omitted." This was discussed at some length and the amendment was eventually carried by a large majority. On this being put as a substantive motion a further amendment was proposed to the effect:

> That it is desirable that such alterations be made in the by-laws as to allow the admission of women to the examinations of the College.

This was carried by 74 votes to 33.

The REGISTRAR (Dr. E. LIVEING) then moved a rider which was seconded by the SENIOR CENSOR (Dr. D. FERRIER) and carried *nemine contradicente*:—

> That it is not intended that any action should be taken under the resolution just adopted inconsistent with the agreement between the two Royal Colleges under which the Licence of the one and the Membership of the other are only granted conjointly.

The following communications were received:—1. From the Secretary of the Royal College of Surgeons of England, two letters reporting proceedings of its Council on Nov. 14th and Dec. 12th last. 2. From the Marine Department of the Board of Trade, inclosing a letter from the Governor of St. Helena forwarding a report by Dr. J. J. W. Arnold, the Colonial surgeon, on the necessity of issuing further instructions respecting the treatment of beri-beri and asking the views of the College. The matter was referred to a committee consisting of the President, Sir W. S. Church, Dr. J. F. Payne, Sir Patrick Manson, and Professor R. T. Hewlett. 3. From the Royal Sanitary Institute, inviting the College to appoint delegates to the annual congress of the institute to be held at Cardiff, from July 13th to 18th next. It was resolved to appoint two delegates whose names would be announced at a future meeting. 4. From the Dean of the Faculty of Medicine of the University of Edinburgh, announcing the award of the Murchison scholarship (1907) to James Sutherland Edwards, M.B. Edin.

Sir Dyce Duckworth was re-elected a representative of the College on the Council of Queen Victoria's Institute for Nurses.

A report was received and adopted from the Committee of Management recommending that the Municipal Technical School, Accrington, should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics.

The committee also recommended that the Borough of Devonport small-pox and fever hospitals should be added to the list of fever hospitals recognised by the Examining Board in England.

The PRESIDENT then dissolved the Comitia.

THE FUTURE OF THE MEDICAL PROFESSION: A FRENCH VIEW.

THE Students' Number of *Le Progrès Médical* for 1907, which was published at the end of the year, contains an article by M. J. Noir upon "The Future of the Medical Profession" which will be interesting to all of us. Our readers will remember that last year we published articles from our Special Commissioner entitled "The Organisation of the Medical Profession in France.[1]" We find that our French colleagues are called upon to deal with much the same difficulties in medical politics as have engaged the attention of the profession in England, and the abstract from M. Noir's paper which we publish below shows (as did the previous account by our Special Commissioner) how some important ethical questions have been solved in France. We learn how our French colleagues, for example, deal with "the right of choice of a medical man by the patient," a matter upon which we have often had to write. We note also "that a medical examination of an injured workman can only take place in the presence of the medical man in attendance, who should have notice by letter two days beforehand." This, again, is a point which has received attention from us, and is one of very great importance to general practitioners. The general remarks of M. Noir on the Socialistic tendencies of modern medical practice will also be read with interest by all British practitioners. We, too, on this side of the Channel have seen recently great developments of the system of the State employment of medicine, and it behoves us to be aware of its professional perils as well as of its advantages.

"It is not amongst its enemies that the medical profession should seek the danger which menaces it; it is in the transformation which it appears called upon to undergo with the times; it is within its own body that the germ of dissociation is likely to arise which will be capable for a time of arresting its healthy growth and of compromising its success. In proportion as the rôle of the medical man has increased and been ennobled, his material position has diminished and has become more and more precarious. The consideration and moral influence which he enjoyed have attracted a larger and larger number of young men to a medical career. The development of general education has further unduly increased the number of students. Medicine is now, indeed, an overcrowded profession. In consequence of this a crisis has arisen, dangerous without doubt, but which will be only transitory, like every crisis, and of little importance if it did not threaten to make the practice of our art evolve in a pernicious manner diseases in the corresponding week of last year. The causes of 22, or 2·6 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 0·9 per cent.

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[1] THE LANCET, March 30th (p. 911) and April 27th (p. 1190).

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 25·5 and 26·0 per 1000 in the two preceding weeks, further rose to 31·2 in the week ending Jan. 18th. During the first three weeks of the current year the death-rate in the city averaged 27·6 per 1000, the rates during the same period not exceeding 18·3 in London and 18·2 in Edinburgh. The 236 deaths of Dublin residents registered last week showed a further increase of 39 upon the numbers returned in recent weeks, and included but three which were referred to the principal epidemic diseases, against ten and four in the two preceding weeks; all these three deaths were referred to "fever," probably enteric. These three deaths from epidemic diseases were equal to an annual rate of 0·4 per 1000, the death-rates from the same diseases last week being 1·5 in London and in Edinburgh. No death in Dublin last week was referred to small-pox, measles, scarlet fever, diphtheria, whooping-cough, or diarrhœa. The 236 deaths from all causes in Dublin last week included 37 of infants under one year of age and 76 of persons aged upwards of 60 years; the number of deaths of elderly persons showed a marked increase upon the numbers returned in recent weeks. Nine inquest cases and seven deaths from violence were registered, and 98, or 41·5 per cent., of the deaths occurred in public institutions. The causes of five, or 2·1 per cent., of the deaths in Dublin last week were not certified; the proportion of these uncertified causes of death last week did not amount to 0·1 per cent. in London but were equal to 2·4 per cent. in Edinburgh.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified: Civil Practitioner J. Kirkwood to be Surgeon and Agent at Helmsdale.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel John C. Haslett is placed on temporary half-pay on account of ill-health (dated Jan. 20th, 1908).

Lieutenant Colin Cassidy, from the Seconded List, to be Lieutenant (dated Jan. 1st, 1908).

Colonel D. Wardrop has been selected to succeed Lieutenant-Colonel H. E. R. James as Commandant and Director of Studies, Royal Army Medical College. The undermentioned have joined at Aldershot and have been posted as follows: Lieutenant R. de V. King and Lieutenant J. C. L. Hingston to the Cambridge Hospital for duty, and Lieutenant J. B. Hanafin to the Connaught Hospital for duty. Lieutenant-Colonel A. E. Tate and Captain H. A. Bransbury have joined the London District for duty. Major M. Boyle has been posted to the Station Hospital, Lucknow, and appointed Specialist in Electrical Science, 8th (Lucknow) Division.

VOLUNTEER CORPS.

Rifle: 3rd Volunteer Battalion, The Northumberland Fusiliers: Henry Smurthwaite (late Captain) to be Surgeon-Lieutenant (dated Nov. 1st, 1907). The Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment): The undermentioned Surgeon-Captains to be Surgeon-Majors: J. H. A. Laing (dated Oct. 28th, 1907); and J. Pirie (dated Oct. 29th, 1907). 1st Volunteer Battalion, The Prince Albert's (Somersetshire Light Infantry): Supernumerary Surgeon-Major J. M. Harper (Brigade Surgeon-Lieutenant-Cylonel, Senior Medical Officer, Cornwall and Somerset Volunteer Infantry Brigade) to be Surgeon-Lieutenant-Colonel, remaining supernumerary (dated Dec. 21st, 1907). 1st Herefordshire Volunteer Rifle Corps: Arthur Llewellyn Baldwin Green (late Lieutenant) to be Surgeon-Lieutenant (dated Dec. 16th, 1907). 5th Middlesex (West Middlesex) Volunteer Rifle Corps: Surgeon-Captain and Honorary Surgeon-Major Richard Charles Maron Pooley (late 1st Volunteer Battalion, The Duke of Cornwall's Light Infantry) from the Retired List to be Surgeon-Captain, with the honorary rank of Surgeon-Major (dated Jan. 1st, 1908).

ALEXANDRA MILITARY HOSPITAL, PORTSMOUTH.

The Royal opening of the New Alexandra Military Hospital on the southern slopes of Portsdown Hill, near Portsmouth, has been abandoned. The Portsmouth Military Hospital staff will enter into occupation of the new buildings shortly.

THE NEW MEDICAL SERVICE FOR THE TERRITORIAL FORCE.

The Director-General of the Army Medical Service addressed a meeting of medical men at the West Kent Hospital, Maidstone, on Dec. 17th last, upon the new medical service for the Territorial Force. Dr. C. E. Hoar was in the chair and invitations had been sent to all medical officers of Volunteers in the Home Counties Division of the Eastern Command. There was a full and appreciative audience, which included amongst many others Colonel M. W. Russell, D.A.D.G., R.A.M.C., Surgeon-Colonel H. G. Thompson, V.D., Surgeon-Colonel R. T. Cæsar, V.D., Colonel T. F. MacNeece, A.M.S., and Major C. P. Oliver, who carried out the arrangements for the meeting and who was able to announce that although many of the officers invited had not been able to attend, yet all had expressed themselves as accepting the scheme as they had read it in the papers. Sir Alfred Keogh's speech was such as we have reported at similar meetings during his late autumn campaign and there is no occasion to repeat his arguments in detail. He took for his text the capital axiom that the function of the medical service of an army is to maintain the fighting strength of that army in the field and showed the lamentable deficiency of the present volunteer medical arrangements in administration, sanitation, and hospital organisation. He expounded his scheme by which he will be able to retain the services of the most skilled experts for the troops in time of war without burdening them with irksome and useless military training and also indicated how medical men who are unable actually to join the scheme may yet promote it by helping to instruct the members of the new force in sanitation, &c. He called attention to the great advantage which the continental powers have over us in the medical service of their home forces and submitted that we should become equally efficient in this respect. Sir Alfred Keogh very modestly deprecated the general professional opinion that the whole credit of the present scheme rests with him, pointing out that volunteer medical officers had long recognised the great need for reform and that in 1901 those in the north put forward a scheme to this end. Later the British Medical Association also evolved a scheme which was practically the same as that which he was advocating. The speaker was well received and subsequently replied to a number of questions addressed to him regarding administration, discipline, pay, and uniform under the conditions of the new service. Surgeon-Colonel Thompson proposed a vote of thanks and pointed out that although the Director-General disclaimed the credit of originating the proposals, yet he had coördinated them in a concrete form. The success of this meeting is of good augury for the future medical service of the Territorial Force in the Home Counties.

AN INDIAN EDITOR PUNISHED FOR DEFAMATION OF AN OFFICER OF THE INDIAN MEDICAL SERVICE.

Mr. Alfred Nundy and Lala Mool Chand, respectively editor and printer of the *Tribune*, a newspaper published at Lahore, have been fined, the former Rs.250 and the latter Rs.50, with alternatives of simple imprisonment, for defaming Captain W. E. McKechnie of the Indian Medical Service. From a long and elaborate judgment delivered by the judge, Mr. Connolly, we learn that one night in May, 1906, a punkha coolie was found lying dead at his post outside the barracks at Jullundur, and that it was alleged by the father of the deceased that his son had died from a kick given him by a soldier. At an inquest which was subsequently held the cause of death was found to have been double pneumonia, and it was further proved after a careful examination that there was not the slightest trace of physical injury on the body. The presiding magistrate upon this issued an order for the arrest of the deceased's father in order that he might be tried for having given false evidence at the inquest. The occurrence excited considerable attention and in a series of three articles having reference to it the *Tribune* made statements which Captain McKechnie, by whom the *post-mortem* examination was conducted, regarded as libellous. An action for defamation was accordingly brought by that officer against the above-mentioned persons, who in due course were they can provide the practitioner residing far from large centres with the laboratories which, left to himself, he could not seriously organise and which he would not have the leisure to use. Gradually becoming conscious of their power we shall afterwards see them found and maintain, with their own resources, paying hospitals for people of limited means, who require assistance and who often only go into hospital with regret. Thus an end will be put to the principal argument of those who pretend that the doors of the hospital cannot be closed to people of means. Hospital abuse, of which the medical profession complains so bitterly and in consequence of which the poor suffer, would disappear.

But if we ought not to despair of the future of the medical profession we ought also not to forget for one instant that it is at a dangerous turning point in its history. The diagnosis of the disease from which it suffers has been made; it has been given a name, '*functionarism*.' The prognosis is serious. But to combat and even to prevent it we have powerful specifics, which are mutual coöperation, strict cohesion, progressive application of the liberty of confidence, and demonstration by deeds that the first care of the medical syndicates is to put themselves at the service of the sick and of the public interest."

REPORTS ON PLAGUE INVESTIGATIONS IN INDIA

ISSUED BY THE ADVISORY COMMITTEE APPOINTED BY THE SECRETARY OF STATE FOR INDIA, THE ROYAL SOCIETY, AND THE LISTER INSTITUTE OF PREVENTIVE MEDICINE.[1]

THE present report is devoted to an account of the epidemiological observations of the Commission which were made in Bombay city, in four villages in Bombay Island, and in two villages in the Amritsar district of the Punjab. In all places the primary object of inquiry was the relationship of rat plague to human plague. Owing to the necessarily complex nature of the data many of the important facts brought forward cannot be condensed into a short summary.

XXI.—*Digest of Recent Observations on the Epidemiology of Plague.*

This paper contains an abstract of the observations and opinions which have been published during the last ten or 12 years on the connexion between rat and human plague, the mode of infection, manner of spread, &c.

XXII.—*Epidemiological Observations made in Bombay City.*

The Commission made an exhaustive inquiry into plague in rats and men in Bombay city over a period of 16 months. The period dealt with in this report is the last *12 months of* the whole investigation (October, 1905, to September, 1906). With the coöperation of Dr. J. A. Turner and his sanitary staff more than 117,000 rats were collected and examined for plague infection in the laboratory at Parel; nearly 18,000 were found infected. At the same time, nearly all the cases of human plague (more than 10,000) in the city were inquired into with the view of ascertaining the probable mode and place of infection, &c. The density of both rat and human plague in Bombay was, however, so great that the Commission found itself unable to draw any very definite conclusions with regard to these points which were more satisfactorily investigated in the smaller village communities. The large numbers in Bombay, on the other hand, show the broad temporal and geographical relations between plague in rats and in men better than the smaller epidemics in limited communities.

By far the most abundant and important rodents in Bombay city are Mus rattus and Mus decumanus. The habits and distribution of the two species differ, for while Mus decumanus lives for the most part outside houses in sewers, stables, &c., Mus rattus is essentially a house rat and abounds in the most intimate relationship with the people. Both are subject to plague; but the percentage of Mus decumanus (18·8 per cent.) found infected was twice as great as Mus rattus (9·5 per cent.). The authors point out in this connexion that the former species usually harbours twice as many fleas as the latter (e.g., in April, 1907, an average of 13·9 fleas per live rat was found in 306 Mus decumanus examined, as against 5·2 per rat on 1911 Mus rattus), while their susceptibility to plague experimentally transmitted by fleas is the same. The breeding season of both species was examined by recording the number of pregnant females and the number of young rats caught week by week; no correlation between the breeding season and epizootic plague was obtained.

Acute plague in both species of rat as well as in man occurs in Bombay city throughout the year; the rat epizootic appeared to begin simultaneously in many parts of the city and no particular focus of origin could be ascertained for the epizootic or the epidemic. It is shown that the general intensity of rat plague corresponds to the intensity of human plague in the different sections of the city: eight sections showed from 1·0 to 3·1 plague rats per building actually obtained and a plague death-rate from 10·7 to 17 per mille, while in the other six sections the plague rats per building were 0·6 or less and the mortality 3·6 to 13·1 per mille. The minute details of the spatial relations between rat and human plague were, for reasons already alluded to, difficult to make out; the general coincidence is illustrated by a series of monthly maps of one district.

The close correspondence in time and relative intensity at different times of the epizootics and epidemic is well shown in a series of curves. That for the whole of Bombay city shows that the beginning of the epizootic in Mus decumanus precedes the epizootic in Mus rattus by about 16 days, and that the epizootic in Mus rattus comes on some 25 days before the rise of the human epizootic. This is confirmed by a series of similar curves for 12 districts of Bombay taken separately. The authors point out that these intervals are not inconsistent with the hypothesis that the flea is the transmitting agent from rat to rat and from rat to man, and they conclude that the epidemic is directly attributable to the Mus rattus epizootic which in its turn takes origin in the Mus decumanus epizootic.

In a statistical analysis of these data, printed as an appendix, Mr. M. Greenwood shows that the correlation between human plague and plague in Mus rattus is of very high order (0·8801 ± 0·0184); he also reaches the important conclusion that the correlation between plague in man and in Mus decumanus (which reaches the large figure of 0·7481 ± 0·036) is probably spurious, depending on the correlation between plague in Mus decumanus and in Mus rattus (which is still higher: 0·945 ± 0·00875).

The paper concludes with a review of the sanitary circumstances of Bombay city in their relation to the prevalence of plague. The authors show that conditions of housing, ventilation, conservancy, and the like can only be considered factors of importance in so far as they encourage the rat population and bring it into more intimate relationship with the people. Even when the people live in well-constructed buildings free from sanitary defects (as in the municipal tenement buildings) they suffer severely from plague owing to their being perfectly agreeable to allow rats to live and to breed in their rooms.

XXIII.—*Observations made in Four Villages in the Neighbourhood of Bombay.*

The villages of Sion, Wadhala, Parel, and Worli in Bombay Island were kept under continuous close observation and were systematically trapped for rats. In Parel there is a sewerage system and Mus decumanus occurs occasionally; Mus rattus, however, greatly predominates and is the *only* species found in the other three villages. No cases of human plague occurred outside the epidemic season. In Sion, Parel, and Worli no plague rats were found during the same period; in Wadhala (where some of the attendants at the Parel laboratory were living) a single rat suffering from acute plague was caught in August. The inhabitants of all four villages are in more or less constant communication with Bombay city.

1. *Sion Village* (population 950).—The origin of plague in this village in January, 1906, could not be definitely ascertained; the available evidence points to the infection having been imported on or about the person of a woman who came from an infected quarter of Bombay. Human plague began soon after, and in the same block of houses as, the occurrence of a dead rat. The inhabitants then evacuated that part of the village and were replaced by guinea-pigs in cages in each house which were kept under careful observation. Plague gradually spread from the original focus through the village, the guinea-pigs dying from plague, plague infected

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[1] Third report: Journal of Hygiene, vol. vii., pp. 693-985, with 23 plates, 67 maps, and 19 charts. Accounts of the previous reports will be found in THE LANCET, Nov. 3rd, 1906, p. 1233, and July 27th, 1907, p. 245.

variation in the tautness of those non-elastic lungs during each respiration.

In his former letter he assumed the non-adherence of the pleuræ and we now get several other assumptions; I should have preferred facts. He thinks his "purpose is equally well served by taking an actual case in which the pleuræ are adherent. In such a case the traction which the lungs exert on surrounding structures is considerably in excess of the normal and this excess is partly due to the contraction of the scar-tissue but still more to the preponderating action of the inspiratory muscles." I think he might offer some proof of all these statements, and this he tries to do by saying that "in fibroid phthisis the inspiratory muscles do act powerfully, as he can assert from personal observation," but this is no proof that there is increased *tautness* of the lungs and consequent lowered intrathoracic pressure. In asthma and emphysema the inspiratory muscles, both ordinary and extraordinary, may pull and tug and struggle and strive to get air into the chest, but the whole time the intrathoracic pressure may be positive, and Dr. Harry Campbell might tug and pull and push at Cleopatra's Needle till he was black in the face, but he would not make the slightest impression on it. In fibroid lungs there may be a slight fall in the intrathoracic pressure during inspiration, but in advanced cases there is nearly always a positive pressure in expiration and then the blood is not "sucked in." The variations in such pressures only amount to a few millimetres of mercury. What an enormous difference there is between this and the "suction" of healthy elastic lungs. Dr. Campbell ought to be able to produce in Müller's experiment a negative intrathoracic pressure of 70 or 80 millimetres of mercury and a person with fibroid lungs could not do a tenth part of this. What is the use of discussing why a fish should not displace water or how strongly acting inspiratory muscles drag out the chest and with it make *taut* the adherent lungs which thus exert "more traction on circumjacent parts than normal highly elastic lungs." Try and you will find that the fish does displace water, and the lungs are not taut, and the intrathoracic pressure is not lowered. When Sir Frederick Bramwell and some other members of the capital sentences committee discovered that ropes stretch much more than is usually anticipated, and that there is great variation in the stretch of different ropes according to their constitution, and the amount of strain to which they are submitted, and also in the same rope in different circumstances and according to the amount of moisture which it contains, I was asked by the Home Office if I could devise a method of estimating the elasticity of any rope. I did not retire to my study and work out the coefficient of elasticity and what should but what probably would not happen. I determined the *vis viva* or energy which I considered necessary, and then under a strain of a given number of foot-pounds I determined the stretch, and I had no difficulty in devising a method of measuring the length of unstretched rope which would allow of a given energy. So far as I know, my method is still in force, at least, it was when I left the prison service.

He again says that "in many cases of fibroid phthisis the mean size of the thorax is increased, and this in spite of the fact that the lungs are less than normally yielding to a stretching force. How could such an increase be effected but by supernormal activity of the inspiratory muscles?" I always thought that fibroid tissue occupied less space than the portion of the lung which it replaced. I am afraid there is some confusion in Dr. Campbell's mind between fibroid tissue and the accompanying emphysema. We are not at present discussing the causes of emphysema, but only Dr. Campbell's non-existent increased tautness of fibroid lungs, so we need not pursue this point further, but I might refer Dr. Campbell to the extremities and ask him to inquire why his heightened tautness of the lungs should allow the finger ends to become bulbous.

He says: "What, I would ask, has the average intrapulmonary pressure got to do with the stretching of the lungs when the pleuræ are adherent? Manifestly nothing whatever." The question and answer coming from a physicist are really very funny. Does he not know that whether the pleuræ are adherent or not the thoracic parietes intervene between the external atmosphere and the lungs, and any force which expands the thorax beyond the expansile power of the lungs must exercise a power of 15 pounds to the square inch, and this the inspiratory muscles could not do over such a large surface as the chest though they tugged and pulled like Dr. Campbell at Cleopatra's needle? The inspiratory muscles, like Dr. Campbell, often expend a lot of useless energy. How often do we grieve at the struggles of a poor asthmatic doing nothing? Regarding his remarks about the piece of cord, the root of the lung, the visceral pleura, &c., he forgets that every time the cord is stretched in inspiration it is relaxed in expiration; healthy elastic lungs remain always elastic and taut and in direct proportion to the manifestation of their elasticity their tautness and the intra-thoracic negative pressure are increased.

I shall not now dwell on his remarks on his interesting lectures to which I referred, as I shall probably read them again when I get more leisure—not having done so since 1904—but he need not flatter himself that they have met with general acceptance because they have hitherto passed uncriticised, though I think this is not strictly accurate, because I believe, if my memory serve me rightly, and it does not often fail me, that about July, 1904, I expressed to Dr. Campbell a somewhat similar opinion to that recorded by me in your pages. *Hinc illæ lachrymæ.* Notwithstanding Dr. Harry Campbell, the tautness of the lungs depends on their elasticity and the pressure of the air within them, hence I have arrived at the point from which I started, the winning post. *Magna est veritas, et prævalebit.*

I am, Sir, yours faithfully,
JAMES BARR.

Liverpool, Jan. 12th, 1908.

To the Editor of THE LANCET.

SIR,—In the discussion which has lately taken place under the above heading in your columns between Sir James Barr and Dr. Harry Campbell it appears to me, as in so many debated subjects, there is something to be said from both points of view. The question would, however, be materially simplified by defining exactly what is meant by "elasticity" before proceeding to discuss it. Elasticity is the property of a substance in virtue of which it tends to return to its original form and condition after distortion by a force; and it is measured quantitatively by the amount of force required to produce a given distortion in a given volume, or unit, of the substance. Thus steel is more elastic than ivory, and ivory than rubber. Rubber yields considerably to a small force and is therefore comparatively inelastic. It possesses the quality of elasticity to a striking degree but in a low measure.

It is important to remember that elasticity is a property fixed in amount for any substance. Distortion may render it evident but does not increase it. Like moral qualities in man, temptations may exhibit them, but the tried man was a gentleman or honourable before his trials, and if the latter be doubled he is not double the gentleman or double the saint. Sir James Barr is certainly in error where he says in his letter of Dec. 21st, "The more taut or stretched (the lung) the greater will be its elasticity or tendency to recover its form after being stretched." Its elasticity and tendency to recover cannot be increased by stretching; it was inherent in it and fixed in quantity from the first. The tendency of a cat to return home is as great when asleep on the hearth as when lost in the woods; and the unstretched lung of an unborn babe is as elastic as that of the expanded lung of the newly born infant. In the one case the elasticity is dormant, and in the other called into play, but increased *never*.

In considering the forces producing a negative pressure in the pleural sacs there is less objection to Sir James Barr's statements: "In health there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs," and "the elasticity of the lungs tends to separate the pleural surfaces." It is, however, to these statements Dr. Harry Campbell so strongly objects, apparently because of the very restricted sense in which they are true. When an infant first breathes it is the expansion of the chest walls under muscular action which tends to create an intrapleural space of lowered pressure and into this the lung simultaneously expands, because the pressure of the air entering by the windpipe into the lungs is greater than the reduced pressure beneath the thoracic walls by the amount the muscular inspirations can reduce it. In this way the negative pressure in the pleural sacs is created by muscular effort and not by elastic recoil of the lungs. It would be even greater, as Dr. Campbell contends, if the lungs did not expand. It is their expansion which limits the fall of pressure in the pleural sacs. By following the chest expansion the lungs allow the visceral pleura to press on the parietal with a force equal to the whole atmospheric pressure, less that which the elastic recoil of the lungs can support and neutralise.

and December. The 75 human cases occurred in 67 houses (total houses in village 808); in the houses which furnished single cases there were 273 "contacts," of whom only 18 had been inoculated; none of these 255 susceptible persons contracted plague. 53 of the cases were definitely ascertained not to have been in contact with other plague cases. Of the 75 human cases, four were imported, 25 occurred in houses in which plague rats had been found, 36 in houses in the immediate vicinity of which plague rats had been found, and of the remaining ten cases six had visited at houses in which plague rats had been found, three lived in houses in the vicinity of which plague rats were found some days after they fell ill, and one was a doubtful case of plague.

Experiments in plague houses in Dhand and Kasel.—A number of experiments were carried out in these villages similar to those done in Bombay[3] showing that the infective agent in the houses was infected rat fleas. In 49 plague-infected houses guinea-pigs were allowed to run free for about 18 hours; in nine instances they afterwards died from plague. Three times as many fleas were caught on the guinea-pigs in plague-infected as in not plague-infected houses, and five times as many in houses which proved infective to guinea-pigs as in those not infective. Fleas found on guinea-pigs or rats in plague houses were transferred to guinea-pigs in flea-proof cages in the laboratory; in 10 out of 31 experiments the fresh guinea-pigs died from plague. In 51 experiments guinea-pigs, unprotected and protected with fine wire gauze or with "tangle toes," were placed in plague houses; a single flea was found on four of the protected animals, none of which died from plague; from one to 75 fleas were found on 34 of the 51 unprotected animals, six of which died from plague. Nearly 90 per cent. of the fleas caught on the "tangle toes" were rat fleas (the rest being cat fleas), and of 55 dissected the stomach contained plague bacilli in three.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Jan. 16th, Mr. HENRY MORRIS, the President, being in the chair.

It was resolved that the election of the conservator of the museum should take place at the ordinary meeting of the Council on Feb. 13th.

It was resolved to approve of the suggested alterations of the Standing Rules relating to the conservator of the museum.

It was decided that during the next three months tea should be served at a charge of 4*d.* per person in the library for readers, or in the common room for readers who are Fellows or Members of the College.

A report was received from the committee on the annual report of the Council, and after consideration it was resolved that the first resolution carried at the annual meeting of the Fellows and Members should be referred back to the committee for further consideration. It was further resolved that the mover and seconder of the second resolution (which reaffirmed the desirability of admitting Members to direct representation on the Council) should be informed that the resolution had been laid before the Council and that the views of the Council upon the question referred to therein would be found in the last annual report of the Council. No action was taken with regard to the third resolution.

It was resolved that the mover and seconder of the fourth resolution should be informed that the Council saw no reason to adopt the suggestion. The fourth resolution suggested that when a poll of the Fellows and Members was taken on the question of the admission of women to the diploma of the College a similar course should be taken with regard to the proposal for direct representation of the Members on the Council.

The fifth resolution was a request that the Council should add a hood to the gown already worn by Fellows and Members. The Council resolved not to comply with the request on the ground that a hood was generally distinctive of a degree and was not in general use among colleges of similar standing.

The sixth resolution wished the Council to endeavour to join the work of the College with the University of London (so as to form an Imperial University of London). In reply to this resolution the Council directed that the mover and the seconder should be informed that the matter had been much discussed in the past and that it still occupied the attention of the Council.

Mr. Henry Morris, the President, was appointed Hunterian orator for 1909.

The PRESIDENT reported that he had given evidence on Dec. 20th last before the Home Office Committee on the London Street Ambulances. The evidence was based on a large amount of information which he had obtained from Paris, Berlin, and Boston (Massachusetts). A vote of thanks was given to the President.

Mr. Thomas Bryant was re-elected for three years a representative of the College on the council of Queen Victoria's Jubilee Institute for Nurses.

A committee was appointed to prepare a circular to the Fellows and Members asking their opinion as to the desirability of admitting women to the examinations for the diplomas of the Royal College of Surgeons of England.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on Jan. 16th, Dr. F. H. CHAMPNEYS being in the chair.

A deputation from the guardians and directors of the Coombe Lying-in Hospital, Dublin, consisting of Dr. M. J. Gibson, the Master, a member of the board of the hospital, and the honorary secretary, attended on Jan. 9th and presented a memorial praying the Board to rescind its resolution of Dec. 19th[1] removing the name of the Coombe Hospital from the list of recognised training schools. The memorial was supported by letters from the Very Rev. Canon Scally, the Rev. J. D. Smylie, and Sir Charles A. Cameron, medical officer of health of the city of Dublin, and by a statutory declaration made by the registrar of the Coombe Hospital as to the circumstances in which the board of the hospital first learned of the correspondence between the secretary, the late master, and the registrar on Dec. 30th. The members of the deputation spoke in support of the memorial and Dr. Gibson made application in due form for approval as a teacher. Having fully considered all the evidence and argument submitted to it by the deputation the Board took no action on the memorial but approved Dr. Gibson as a teacher.

Letters were considered from the late Master of the Coombe Hospital, Dublin, and from Messrs. D. and T. Fitzgerald, his solicitors, asking the Board to reconsider its decision not to accept any certificate signed by him in future and the following decision was agreed to: "That the Board declines to reconsider its decision."

A letter was considered from Dr. W. Arnold Evans, medical officer of health of Bradford, as to advertising by midwives and it was decided that Dr. Evans should be informed that the Board has no power to prohibit advertising by midwives.

A letter was considered from a midwife approved by the Board for the purposes of signing Forms III. and IV., inquiring whether her substitute, being a certificated midwife, may supervise cases on her behalf during her absence on a holiday. The Board decided that in the circumstances stated the substitute may supervise the cases, but that the duty and responsibility of signing the certificates remain with the midwife approved by the Board. In case of such substitute acting in this manner it shall be notified on the schedule at the time of signing. The Board then adjourned.

A letter has been addressed to the Lord President of the Privy Council by the secretary of the Central Midwives Board, giving facts and figures in relation to the training of midwives in Poor-law institutions. The letter points out that the public utterances of those who have advocated the transference of the responsibility for the training of midwives in workhouses or workhouse infirmaries from the Central Midwives Board to the Local Government Board appear to indicate an imperfect knowledge of the facts in connexion with the action of the Board in dealing with applications for approval from Poor-law institutions, and considerable misapprehension as to its causes and results. It continues as follows:—

> A conspicuous instance of this occurred at the very meeting of the Association of Poor Law Unions at which the resolution referred to in

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[3] Journal of Hygiene, vol. vi., p. 467, and vol. vii., p. 436.

[1] THE LANCET, Dec. 28th, 1907, p. 1831.

of health excepting a slight dry cough from which he had been suffering for the past week or ten days. He returned home a little after 6 P.M. and partook of his usual tea, making a good supper a little before 9 previous to turning in for the night at about 9 30 P.M., as from the nature of his occupation he was obliged to keep early hours. At a few minutes to 10 he started out of bed, remarking to his wife that he "felt choked" and ran into the front sitting-room. Here he sank on to a chair and evidently still experiencing intense agony in this situation rolled on to the floor and expired. His intensely cyanosed appearance on rising out of bed so alarmed his wife that I was sent for immediately and arrived at the house it is estimated less than ten minutes after the time when he left his bed. The remarkable severity and rapid dissolution in this case call, I think, for special notice as the experience must be a very rare one. The appearance of the body when first seen by me was as follows. The face was intensely livid and wore an expression of agony, the pupils were very widely dilated, the body was of a natural warmth, supple, muscular, and well nourished and the thorax well formed. Even at this time an abundance of white foam was welling from the mouth and nostrils and there was an escape of a considerable amount of pinkish serous fluid from the mouth. I made the necropsy to-day at 3 P.M., at which the following additional appearances were observed. Post-mortem lividity was strongly marked and the veins all over the surface of the body were greatly distended with very dark blood. The frothy material was still issuing from the nostrils and mouth but the flow of serous fluid had ceased. Each pleural cavity contained about half a pint of reddish serous fluid. The lungs were somewhat voluminous from commencing emphysema at the apex and anterior borders and on division of the bronchi discharged an enormous quantity, over three pints, of reddish serous and frothy fluid, while this could also be squeezed from the lung through the bronchi and all cut surfaces in abundance, the lung tissue then assuming a vesicular character. The larger bronchi and trachea were clear but somewhat congested and otherwise the lung tissue appeared normal. The left ventricle was markedly hypertrophied, the heart weighing 19 ounces, and the aortic valves were somewhat thickened, distorted, and incompetent. The other valves were apparently normal. The aorta was the seat of well-marked atheromatous changes, while the radial and temporal arteries also manifested pronounced thickening and tortuosity. The other organs of the body were in an apparently healthy condition. Microscopically no characteristic abnormal appearance can be detected in the lung. The patient had not been under any treatment. No history of heart or kidney trouble could be obtained. I expressed the opinion that death was due to the sudden strain thrown upon the heart by the rapid engorgement of the lungs.

I am, Sir, yours faithfully,
G. H. C. LUMSDEN, M.B. Aberd.
Brighton, Jan. 17th, 1908.

To the Editor of THE LANCET.

SIR,—In Zola's powerful book "Fécondité" there is a graphic description of the sudden illness of a perfectly healthy young woman whose symptoms began at bedtime, following a wetting from a rain-storm in the afternoon, and who died after intense suffering at 7 o'clock in the morning, "d'une congestion pulmonaire." When the book was published eight years ago a medical friend discussed this case with me. As neither of us was familiar with an acute pneumonia or pulmonary congestion which would cause death in a hitherto healthy adult within seven or eight hours we were at first inclined to class this description among the errors of novelists writing on subjects of which they are ignorant; remembering, however, the notorious accuracy of M. Zola and the mastery of technical detail which he always acquired of any subject on which he undertook to write, and having, moreover, both been in practice sufficiently long to have learnt that we did not know everything, we decided that the novelist was probably correct and our own limited experience at fault.

I now learn that the case described corresponds accurately with those cases of rapidly fatal "acute pulmonary œdema" which have recently been recorded by correspondents in your columns. The clinical picture of the illness drawn by M. Zola is most vivid and accurate and is to be found on pp. 557 to 559 of the ordinary French edition. Perhaps the disease is better known in France than in England, for M. Zola writes of it as of something not very uncommon. The medical interest, in other respects, of this *striking* book is such, and the moral it teaches so impressive, that all might read it with advantage.

I am, Sir, yours faithfully,
Jan. 11th, 1908. C. K.

THE SOCIETY OF MEDICAL PHONOGRAPHERS.

To the Editor of THE LANCET.

SIR,—It is many years since the Society of Medical Phonographers was last mentioned in your columns and we shall be glad if you will allow us to direct attention to the fact that it still exists and still issues its medical periodical in lithographed phonetic shorthand. We believe that many students and members of the profession are ignorant of the society and its efforts to promote the effective use of shorthand in medicine, both in practical work and in research. The honorary secretary will be glad to furnish particulars of the society to any members of the profession or students who may desire to join it.

We are, Sir, yours faithfully,
WILLIAM R. GOWERS, President.
CHARLES W. CATHCART, } Vice-Presidents.
G. SIMS WOODHEAD, }
OSKAR C. GRUNER, Honorary Secretary,
Pathological Department, General Infirmary, Leeds.
January, 1908.

THE CAUSE OF THE PREVALENCE OF ADENOIDS.

To the Editor of THE LANCET.

SIR,—If reliable statistics were available it would, I believe, be conclusively proved that during the last 30 years there has been a remarkable increase in the number of children affected with adenoids. That adenoids have always existed may, no doubt, be correctly inferred from indirect evidence, but on the other hand, evidence has been brought forward to show that until recent years it must have been quite a rare disease. However, as regards what exists at present, I would mention that it is difficult to find evidence of many cases indicating the previous existence of adenoids among people of 40 years of age and upwards, whereas it seems to be comparatively rare to find a family of children without at least one of its members having suffered from the disease. It is not my intention, however, to compare the past with the present. What I want to do is simply to state that without any attempt at selection I took a number of families whose habits I knew with regard to the keeping of open windows in the sleeping apartments of their children. Of those who kept the windows shut at night there were five families, having 26 children in all, and not one of these 26 children had ever suffered from adenoids. While of five families, having 19 children in all, who kept open windows at night throughout the year, eight of these children had suffered from adenoids sufficiently badly to have required operation. Now I do not put any importance on these figures, they are too few to be of any particular value beyond being very suggestive, and it was not on account of them that I was led to think that open windows at night might be an important factor in the causation of the prevalence of the disease. I am writing because I am not in a position to get as full statistics on the subject as seems desirable and I should like particularly to know the effect of cold and damp night air, such as we usually have in England, in the production of adenoids and of its value or otherwise in the treatment of an ordinary cold in the head.

I am, Sir, yours faithfully,
Wimpole-street, W., Jan. 20th, 1908. J. SIM WALLACE.

THE INFECTIVITY OF CANCER.

To the Editor of THE LANCET.

SIR,—I very much regret to find from his letter addressed to you in THE LANCET of Jan. 18th, p. 188, that I have inadvertently misrepresented Dr. Bashford by attributing to him instead of to Messrs. Farmer, Moore, and Walker the statement reported in the *British Medical Journal* of Jan. 30th, 1904, that "malignant new growths were virtually reproductive tissue arising in abnormal situations" and I am nature; so that this part of the subject, and the particular rules applicable to it, are now very well understood. The only peculiarities in gun-shot wounds, arise from the nature of the objects by which the wounds are inflicted, and the degree of force with which they strike the textures of the human body. Balls, bullets, fragments of shells, splinters of stone and wood, and various hard substances of these kinds, are the objects by which the wounds are made, and they are driven with great force against the body; they produce lacerated and contused wounds of the most serious kind; that is, they produce injuries which are attended with very serious local inflammation. The degree of violence with which these wounds are inflicted, differs in different instances. If a gun-shot projectile meets the body directly and in full force, it traverses the part if it be small; or if it be larger, and meet a limb, for example, it probably carries it away. If a small substance meet the body directly, with a less degree of force, it will tear and lacerate the part, break and splinter the bone, producing injuries of this kind according to the degree of force with which it was moving. Sometimes balls or bullets strike the body obliquely; they do not come directly against it, but they strike it at various angles, and, in fact, do not enter the body, but, having touched it, glance off again. Under these circumstances, the soft textures that intervene between the skin and the bone may be divided, and effusion of blood may take place; the bone itself may be broken without the skin apparently being injured. It often happens in battle, that persons are found dead on the field in whom there is no appearance of a wound to account for death; but if the bodies be accurately examined, some injury of this kind will be found to have taken place; and those injuries have been very commonly ascribed to the "wind of the ball." It has been supposed, that a ball which has not struck the body, but has passed very near to it, produces some kind of influence, and that influence has vaguely been ascribed to the "wind" of the cannon ball. I fancy this explanation does not rest on any solid foundation; we have no proof for saying that a cannon ball by its wind, in passing very near to the body, will commit this injury; in fact, if the limb of a person be cut off by a cannon ball, it is certain that the ball must go very near to the other, yet you do not find that other at all injured. There can be no ground then for supposing that these injuries are occasioned by the wind of projectiles. In other cases we find that bones may be broken, although the skin may be uninjured; the state of the skin, therefore, is no proof that considerable violence has not been offered to a part.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9139 births and 6227 deaths were registered during the week ending Jan. 18th. The mean annual rate of mortality in these towns, which had been equal to 16·9 and 19·3 per 1000 in the two preceding weeks, further rose to 20·0 in the week under notice. During the first three weeks of the current quarter the death-rate in these towns averaged 18·7 per 1000; the rate during the same period in London did not exceed 18·3. The lowest annual death-rates last week in the 76 towns were 9·1 in East Ham, 10·7 in Walthamstow and in Hornsey, and 11·6 in Tottenham; the rates in the other towns ranged upwards to 29·3 in Oldham, 30·7 in Warrington, 32·2 in Liverpool, and 33·6 in Bootle. The rate in London last week did not exceed 19·8. The 6227 deaths registered in the 76 towns during the week under notice showed a further increase of 209 upon the numbers returned in the two preceding weeks, and included 501 which were referred to the principal epidemic diseases, against 393 and 457 in the two previous weeks; of these, 164 resulted from whooping-cough, 130 from measles, 63 from diphtheria, 59 from diarrhœa, 55 from scarlet fever, 30 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·6 per 1000, the rate from the same diseases in London being 1·5. No death from any of these epidemic diseases was registered last week in East Ham, Huddersfield, Bournemouth, St. Helens, Hornsey, or in four other smaller towns; the annual death-rates from these diseases averaged upwards in the other towns to 4·1 in South Shields, 5·4 in Merthyr Tydfil, 5·9 in Warrington, and 6·6 in Tynemouth. The fatal cases of whooping-cough, which had been 92 and 127 in the two preceding weeks, further rose to 164 last week; the highest annual death-rates from this disease were 1·9 in Reading and in Aston Manor, 2·7 in South Shields, 3·4 in Merthyr Tydfil, and 3·7 in Warrington. The deaths from measles, however, which had been 103 and 141 in the two previous weeks, declined last week to 130; the highest death-rates from this disease last week were 2·1 in Swansea, 2·3 in Willesden and Rhondda, 3·0 in Wallasey, and 6·6 in Tynemouth. The 63 fatal cases of diphtheria also showed a decline, but included 19 in London, three in Portsmouth, three in Liverpool, 11 in Manchester and Salford, and two in Gateshead. The deaths referred to diarrhœa showed a slight increase and the 55 deaths from scarlet fever also included those returned in recent weeks and included 24 in London, five in Birmingham, five in Liverpool, and two in Middlesbrough. The 30 deaths referred to "fever" also showed a slight increase upon recent weekly numbers; two were returned in Leyton, three in Birmingham, four in Nottingham, nine in Manchester and Salford, and three in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had declined in the six preceding weeks from 5581 to 4481, had further fallen to 4325 on Jan. 18th. No case of small-pox has recently been admitted to these hospitals. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 333 and 460 in the two previous weeks, further rose to 498 during the week under notice, and exceeded by 112 the corrected average number in the corresponding week of the five years 1903–07. The causes of 57, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Nottingham, and in 47 other smaller towns; in London all but one of the 1825 deaths were duly certified. No fewer than 16 of the causes of death were, however, uncertified in Liverpool, six in Birmingham, four in Hull, and three both in Manchester and Burnley.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·6 and 24·3 per 1000 in the two previous weeks, was again 24·3 in the week ending Jan. 18th, and exceeded by 4·3 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 16·1 and 17·3 in Aberdeen and Paisley to 28·3 in Leith and 29·3 in Glasgow. The 857 deaths in these eight towns exceeded the number in the previous week by two, and included 158 which were referred to the principal epidemic diseases, against 127 and 143 in the two preceding weeks; of these, 92 resulted from measles, 30 from whooping-cough, 13 from diarrhœa, 12 from "fever," five from diphtheria, five from scarlet fever, and one from small-pox. These 158 deaths were equal to an annual rate of 4·5 per 1000, which exceeded by no less than 2·9 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 53, 65, and 84 in the three preceding weeks, further rose to 92 in the week under notice, of which 73 occurred in Glasgow, seven in Greenock, and six in Dundee. The 30 deaths from whooping-cough also showed a considerable increase upon the numbers returned in recent weeks, and included 17 in Glasgow, five in Leith, and four in Edinburgh. The deaths attributed to diarrhœa were, however, somewhat fewer; eight were returned in Glasgow and three in Dundee. Of the 12 deaths referred to "fever" in the eight towns nine were certified as cerebro-spinal fever (including cases in Glasgow and two in Edinburgh), and three as enteric fever, all of which occurred in Glasgow. Of the five fatal cases of scarlet fever three were returned in Glasgow and two in Edinburgh. Diphtheria caused two deaths in Dundee; and the fatal case of small-pox occurred in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 128 and 205 in the two preceding weeks, declined to 199 in the week under notice, but exceeded by 22 the number from the same training for sanitary inspectors who should undertake the duties of sanitary supervision which are already performed by inspectors of nuisances in Great Britain. It is rightly urged that medical officers of health will not, and cannot be expected to, undertake work of this subordinate character and that the existing establishments of untrained supervisors and overseers are not able to give the health officer the assistance which he has a right to demand. These men form the connecting link between the health officer and the working labourers of low caste coolie class. The training of these sanitary inspectors is a question that will require very careful consideration. The standard required should be that prescribed by the Royal Sanitary Institute for inspectors of nuisances in England and no doubt arrangements can be made to obtain and to train specially selected men and to issue certificates to successful candidates who must be of good physique, satisfactory character, suitable caste and social status, the last qualification enabling them to move freely among all classes of the population with some degree of authority. To attract men of the right stamp it will be necessary to offer good pay and the Government of India thinks that a scale of salaries rising from Rs.50 to Rs.150 (£3 6*s*. 8*d*. to £10 English equivalent) will probably prove suitable in most provinces.

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[1] Excerpt from "Lectures on Surgery, Medical and Operative, delivered at St. Bartholomew's Hospital by Mr. Lawrence. Lecture XVII."

Finally, the Government of India discusses the question whether the proposed new scheme of medical officers of health and sanitary inspectors should be formed into a regular provincial sanitary service or whether each local authority should be allowed to recruit its own staff independently. The objections urged against the latter course are that a career which is limited to employment by local authorities on uncertain terms and without prospect of pension will not attract candidates of the proper stamp, if, indeed, it attracts any at all, and that the insecurity of tenure will deter men from qualifying for such appointments. The duties of sanitary inspectors of necessity bring them into conflict with members of local authorities, their families and relatives, and if sanitary inspectors are merely servants of local boards they may either neglect their duties in such cases or perform them at the risk of losing their appointments. On the other hand, it may be argued that the creation of a provincial service of sanitary officers will conflict with one of the main principles of local self government and it is urged that in no branch of local administration is local control so necessary as in matters connected with sanitation. The Government of India is convinced that in the case of sanitary officers the certainty of tenure during good conduct must be assured. It will thus be necessary to provide that no medical officer of health or sanitary inspector should be removeable from office without the sanction of the local government in the case of the former, or the sanitary commissioner, or perhaps the sanitary board, in the case of the latter. Regulations somewhat similar to these exist in England and Scotland and are necessary to secure the employment of properly qualified men and to guarantee protection against arbitrary treatment in retaliation for the fearless and efficient performance of duty.

Another part of the administrative machinery touched on by the Government of India in its new scheme is the formation of sanitary boards which would consist of from three to five members, including a senior member of the Civil Service who is in close touch with local administration, the sanitary commissioner and the sanitary engineer as experts, and one or two natives of India, preferably non-officials. Thus direct discussions will be secured between sanitary experts and those who are in a position to appreciate and to represent the attitude and feelings of the general population. The Government of India does not propose to discuss at present the thorny question of sanitation in rural areas. Finally, the question of providing an efficient staff of sanitary engineers has not been overlooked and assurance is given that a separate communication will be made on this matter.

The various suggestions enumerated above are put forward for the careful consideration of local governments and suggestions on some are asked for laying down what specific action they propose to take in order to give effect to the accepted general policy now promulgated of sanitary improvement. It is to be hoped that success will attend this new scheme, the first thorough attempt on the part of the civil authorities in India to place on a sound basis the important question of civil sanitation in its rôle as a prevention of disease. Lieutenant-Colonel J. T. W. Leslie, I.M.S., the present Sanitary Commissioner with the Government of India, is to be congratulated on taking the bull by the horns, and it is to be wished that he will in no way be hampered by financial considerations. Outside the Presidency capitals and a few of the larger cities sanitation may be said to be non-existent, if we except the cantonments of British troops, the latter being mere oases of sanitation in the desert, so to speak, scattered throughout India, and these in most cases are surrounded by mobs of insanitary native bazaars which have sprung up mushroom-like to live on the British soldiers as parasites, fouling his food, air, and environment and infecting him with enteric fever and malaria. With the coöperation of the civil sanitary service as now proposed the sanitary officers of the army will reduce these fell diseases to a minimum and the health efficiency of British troops in India will benefit greatly.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Birmingham Housing Reform Association and the Open Spaces Society.

DURING its short but active existence the Birmingham Open Spaces and Playing Fields Society has done excellent work for the city, for it has secured several areas where it was important that breathing space should be acquired, but it has been obvious lately that its work would necessarily overlap with that of the Housing Reform Association and consequently it has been decided to combine the two societies into one under the title of the Birmingham and District Housing Reform and Open Spaces Association. Much work still remains to be done and there can be little doubt that the larger association will work with even greater success than the smaller association attained in the past; therefore the councils of both associations are to be congratulated on the union of their forces.

The Birmingham Ambulance Brigade.

For the third time in succession the Birmingham challenge shield has been won by the Midland Railway division of the Birmingham Corps of the St. John Ambulance Brigade. Councillor Brooks presided at the meeting which was held to celebrate the victory, and in presenting the shield he took occasion to congratulate the whole brigade upon the value and efficiency of its work. The brigade numbers 358 members, and during last year it succoured whilst on public duty 275 cases, and in their private capacities the members have rendered aid to 4398 people. This obviously indicates a large amount of valuable work done at critical moments. 215 members of the brigade have passed the third examination and have received the brigade's medallion, and 46 men have gained the nursing certificate.

Infants in Public-houses.

In addressing a meeting in West Bromwich on social questions Dr. A. E. W. Hazel, M.P., once again drew public attention to the Chief Constable of Birmingham's statement that not a few women take young children into public-houses and some of them have been seen to give beer to infants for the purpose of making them sleepy and quiet. This is one of those glaring disgraces which might be promptly and effectively dealt with by legislation, for surely no sane person would oppose a measure which would make such abominable behaviour illegal, and every right-minded individual will hope, with Dr. Hazel, that the Government will act quickly in a matter which brooks no delay.

The Regulations Regarding Brass Castings.

The proposed regulations drafted with the object of preventing caster's ague are looked upon with great disfavour in Walsall, where it is contended that caster's ague is unknown, the conditions being quite different from those existing in Birmingham. The manufacturers characterise the regulations as arbitrary and unnecessary so far as Walsall is concerned, and they hope that alternative and more reasonable and acceptable regulations will be formulated.

The Water-supply and the Rainfall.

Apparently we may look forward to a dry summer with equanimity, for the rainfall in the Elan Valley during the past year has been quite up to the average, 61·36 inches, and at Whitton and Whitacre, as we had reason to expect, the fall has been above the average, exceeding it at Whitton found guilty and punished as we have stated. In the course of his judgment Mr. Connolly said that he agreed with the contention of the prosecution that the meaning conveyed to the readers of the paper by the articles was that the medical evidence in the case was intentionally and deliberately false, and that it was given in order to screen from punishment a European soldier who had virtually murdered the deceased. The charge was one of perjury, of a criminal offence on a particular occasion, a charge affecting complainant's private as well as his public character. There were, however, several factors that should be taken into consideration in extenuation. These Mr. Connolly proceeded to enumerate at some length, adding his belief that there was no proof that Captain McKecknie had suffered any material damage. The extenuating circumstances, said Mr. Connolly in conclusion, "all call for a lighter penalty than the serious nature of the implication would otherwise demand." It is certainly fortunate for the editor of the *Tribune* that the learned judge was content to listen to the pleadings of mercy.

Correspondence.

"Audi alteram partem."

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—I hope the rest of your readers are edified by Dr. Harry Campbell's letter under the above title in your issue of Jan. 11th. I must candidly confess that I am not; however, as I hope to get some educational advancement in physics I continue this controversy. In my first letter I was quite willing to allow an *elastician* of Dr. Harry Campbell's standing to settle the meaning of the term *elasticity*, but on further consideration I find that it will not be confined either etymologically, physically, or in common parlance within the narrow bounds set for it by Dr. Campbell, so I therefore revert to my former position stated in my Bradshaw lecture. With the Greeks an ἐλατὴρ was a driver, a hurler, a charioteer, &c.; ἐλαυνειν to drive, banish, hurl, impel, put to flight, row, lead, carry forward, strike, wound, harass, beat out; ἐλασις the act of riding, driving, a military expedition, march, pursuit, &c.; hence ἐλαστικος and elastic were applied to any implement, such as a catapult, used for hurling missiles by the force of a spring. Possibly David's sling with which he slew Goliath *may* have been of this nature but I shall try a less strenuous method of disposing of my antagonist.

In the "Century Dictionary," which is one of the latest references I have at hand on the subject, I find under the meanings of *elastic*:—

> 2. Having, as a solid body, the power of returning to the form from which it is bent, extended, pressed, pulled, or distorted, as soon as the force applied is removed; having, as a fluid, the property of recovering its former volume after compression. A body is *perfectly elastic* when it has the property of *resisting* a given deformation equally, however that deformation may have been produced, whether slowly or suddenly, &c. All bodies, however, have *different elasticities* at different temperatures, and if the deformation is so sudden as to change the temperature of the body and so alter its *resistance* to deformation, this is not considered as showing it to be imperfectly elastic.

In contradistinction to the foregoing physical definition of elasticity, Dr. Campbell says that when the term is applied to the lungs it signifies "their power of recovering their form after being stretched." This is what the Campbell physicist says, it is a mere property of a certain form of matter by which it has the power of recovering its original form after being stretched, but I prefer the other authority who says that it also signifies a *resistance to stretching or other deformation*.

It is only certain forms of matter which possess this property of *elasticity*, so it is not universal, like gravity. Surely Dr. Campbell will admit that we can measure the force of elasticity even more easily than we can measure the force of gravity. It is not sufficient for him to tell me that it is merely a property of matter, that it is a "power of recovering form after being stretched." The same power that enables elastic matter to recover form after being stretched surely offers an equivalent *resistance* to the process of stretching. This force of *elasticity* can be as easily estimated by the *resistance* as by the *power of recovery*. We can estimate the force of gravity in different latitudes and at different levels above the sea, and it is the force of gravity, rather than any abstract idea of it being a property of matter, which interests us. The same can be said of *elasticity*. How do I know that a collapsed lung is elastic if I do not stretch it? I not only want to know if it be *elastic* but I want to know how perfect is the elasticity. If I stretch the lung to find this out Dr. Campbell tells me: Oh, you are only making the lung *taut*; stop your stretching and you will see the *elasticity*. I reply that I am doing a great deal more: I am finding out the lung's capacity for being stretched and its resistance to stretching; consequently I am finding out the elasticity and the force of the elasticity.

"The elasticity of the lungs does not, as Sir James Barr assumes, rise and fall as these organs expand and contract in respiration, but remains the same. What does rise and fall under these conditions is the pull which the lungs exert on the visceral pleura." If this language means anything it means that the lungs contain a certain amount of elastic tissue in virtue of which they possess the abstract property of elasticity, and as this elastic tissue remains the same whether they are stretched or collapsed their state of tension or tautness has nothing to do with their elasticity. He seems to forget that if they are overstretched as in emphysema or long collapsed as in pleural effusion they lose their elasticity. It is not with any abstract property in the lungs called elasticity but with the manifestation of the force of their elasticity with which we have got to deal. What causes the pull which the lungs exert on the visceral pleura but their elasticity? Dr. Campbell says it is their *tautness*. The lungs might remain stretched when they lost their elasticity, but they would not remain taut without their elasticity. I shall deal with his fibroid tissue later.

Take a perfectly elastic body like air and see how its elasticity does not remain constant, but rises and falls under varying circumstances; it exercises a force equal to that by which it is itself compressed, and with every rise of a degree of temperature there is an increase of elastic force, yet, reasoning from analogy, I suppose, Dr. Campbell would say that the elasticity was a mere property of the air which like that of the lungs "remains the same, but the rise and fall was only in the tautness of the atmosphere."

Now for some more extraordinary reasoning from this writer. He quickly drops the negation called "suction" which he had elevated into a constant force "which sucks blood into the heart. ...... I should not, however, have called attention to Sir James Barr's ambiguous employment of this term—few writers are guiltless of ambiguity—were it not that he assumes, or appears to assume, that the suction, or let us say traction, which the lungs exert on the circumjacent parts is necessarily bound up with their elasticity. Such, as I pointed out in my letter, is not the case. This traction is in direct proportion to the degree to which the lungs are rendered taut—for the more taut the pulmonary tissue the greater is the tug exerted on the visceral pleura—but comparatively non-elastic lungs, such as those seamed with scar-tissue, are capable of being rendered more taut, and thus of exerting *more* traction on circumjacent parts than normal, highly elastic lungs."

This reasoning is that of the academician in his study and not that of the clinician who views facts and reasons therefrom. I shall now proceed to prick the bubble. When a ship is riding at anchor and the strain constant a comparatively non-elastic chain answers admirably, but when the strain is variable, as when a ship is being moored, the hawser is made of highly elastic hemp; if a chain were used there would be constant danger of it snapping or of the ship being damaged by bumps against the quay. The elastic rope offers resistance to being stretched and when the tug of the ship ceases the elasticity gradually pulls the vessel back to its former position. The elastic tension of more or less stretched healthy lungs maintains a constant intrapleural or intrathoracic negative pressure both during quiet inspiration and expiration and thus allows the blood to be driven in at all stages of respiration, but non-elastic fibroid lungs cannot be *taut* both in inspiration and expiration and therefore a constant negative pressure cannot thus be maintained. The idea of the slow shrinkage of fibroid tissue keeping up a constant tautness is too absurd to demand attention; if the cord be *shortened* it may more readily be made taut, but whether short or long there must be an intermittent

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Edinburgh.

THE annual report of the University of Edinburgh for the year 1907 shows that the total number of matriculated students (including 590 women) was 3278, being 79 more than the number for last year, and the highest number reached for 14 years. Of this number 1478 (including 55 women) were enrolled in the Faculty of Medicine, 690, or nearly 47 per cent., belonging to Scotland. Of the remainder 310, or 21 per cent., were from England and Wales; 118 from Ireland; 71 from India; 263, or nearly 18 per cent., from British Colonies; and 26 from foreign countries. These figures show that the proportion of non-Scottish students of medicine is well maintained. The degrees in Arts, Science, and Medicine conferred during 1907 were as follows:—Master of Arts (M.A.), 187 (including 61 women); Bachelor of Science (B.Sc.), 49 (including five women); Doctor of Science (D.Sc.), eight; Bachelor of Medicine and Master of Surgery (M.B., C.M.), two; Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.), 197 (including 16 women); Doctor of Medicine (M.D.), 70 (including three women); and Master of Surgery (Ch.M.), two. The General Council of the University now numbers 10,358. The diploma in Tropical Medicine and Hygiene was conferred on five candidates. The total annual value of the University Fellowships, scholarships, bursaries, and prizes now amounts to about £18,520, including in the Faculty of Medicine £3630. In July approval by His Majesty in Council was intimated of an ordinance of the University Court making important changes in regard to the curriculum and periods of examination for graduation in medicine and surgery. The outstanding features are the increased opportunity given to students for taking each of the four professional examinations in separate sections, and the holding of degree examinations in December as well as in the spring and summer. Another change involved in the new ordinance is the opening of the winter session of medicine about a fortnight earlier than at present—i.e., on or near Oct. 1st. Other two ordinances of the University Court—regulations for the degree of Bachelor of Pharmacy and regulations as to bursaries, &c.—have been transmitted to the Privy Council. The only change in the professoriate during the year is that due to the lamented death, which occurred suddenly on Dec. 20th, of Professor Thomas Annandale. Appointed in 1877 as successor to Professor Lister he has long ranked as one of the foremost surgeons and most popular teachers of his time. Dr. W. E. Carnegie Dickson has been appointed lecturer in pathological bacteriology in succession to Dr. J. M. Beattie, now professor of pathology in the University of Sheffield, and Dr. James Arnott, Brigade-Surgeon-Lieutenant-Colonel, I.M.S. (retired), was appointed lecturer in diseases of tropical climates in room of Dr. Andrew Davidson, retired. In the medical building at Teviot-place a new laboratory capable of accommodating 40 students has been provided for the pathology department. Accommodation was again given in August by the University authorities for a scheme of vacation courses in modern languages; also in September for a scheme of post-graduate courses in medicine, held under the joint auspices of the University and the Royal Colleges of Physicians and Surgeons. Both of these schemes proved highly successful.

Lord Lister and the Freedom of Glasgow.

Lord Lister, with Lord Blythswood and Mr. Cameron Corbett, M.P., were enrolled to-day, Tuesday, Jan. 21st, honorary burgesses of the city of Glasgow. The Lord Provost, Sir William Bilsland, having alluded to Lord Lister's connexion with the city as professor of surgery at the University and surgeon to the Royal Infirmary, recalled his lordship's eminent services to mankind as the discoverer of antiseptic surgery. Sir Hector C. Cameron, professor of clinical surgery in the University of Glasgow, one of Lord Lister's former students and his lifelong friend, accepted on Lord Lister's behalf the casket containing the burgess ticket, and read from him a letter recalling his connexion with the University and the city, in the course of which he said: "Having in due time been elected by the managers of the Royal Infirmary as surgeon to that institution, I experienced uniform consideration at their hands when applying to the treatment of wounds the great truth which had been recently revealed by the illustrious Pasteur regarding the nature of fermentative changes in organic substances. That truth, though it seemed to me to shine clear as daylight from Pasteur's writings, was for many years not generally recognised, and thus it was my privilege to witness in my own practice, as the application of the principle became gradually improved, the revelation of pathological truths of fundamental importance and a revolution in practical surgery, and I look upon the years spent in your city as the happiest period in my life. The old infirmary is now giving place to more commodious buildings and, great as must necessarily be the expense in this undertaking, I do not doubt that the proverbial liberality of Glasgow will prove fully equal to the occasion."

Enteric Fever in Glasgow.

A serious outbreak of enteric fever has occurred in the West-end of Glasgow during the latter part of December and the present month. On the occurrence of the first few cases it was found that the patients were all receiving milk from the same dairy. Further investigations revealed the fact that the cart from which the milk was procured received occasional supplies from a farm in the neighbourhood of Glasgow. The medical and sanitary authorities of the city and county thereupon visited the farm where they found a young woman—a member of the household—lying ill in the kitchen bed. She had been ailing from the first week of December and was once visited by a medical man. At the outset she was believed to be suffering from influenza and afterwards the cause of the illness was supposed to be pneumonia. Her symptoms were, however, recognised to be those of enteric fever, her blood giving a positive Widal reaction, and her removal to hospital was at once ordered by the county authorities. Thereafter the farmhouse was thoroughly disinfected and the supply of milk from it was prohibited. Up to the time of writing the number of cases reported in the city from this source is 69, while from the same source cases have been reported in Edinburgh, Uddingston, and Falkirk. There have been several deaths in connexion with the epidemic, one unfortunate case being that of a young man who, while incubating the disease, had gone to Switzerland on holiday and there succumbed to his attack.

Complimentary Dinner to Sir George T. Beatson.

A complimentary dinner was given to Sir George T. Beatson, M.D. Edin., K.C.B., on Jan. 10th, at which there was a large representation of the medical profession and other public men from Glasgow, Edinburgh, and elsewhere who had assembled to do honour to their guest who has recently been invested with the distinction of Knight Commander of the Bath. The Duke of Montrose, who presided, supported the toast of the health of Sir George Beatson, referring to his public-spirited work in connexion with the Scottish National Red Cross Hospital which went to South Africa in 1900 and to his connexion with St. Andrews Ambulance Association and the Western Infirmary of Glasgow. 200 gentlemen were present at the dinner and the proceedings testified throughout to the cordial esteem in which Sir George Beatson is held by his professional colleagues and his fellow-workers.

Jan. 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Tuberculosis Exhibition.

ON Jan. 15th the Tuberculosis Exhibition was opened in Armagh by Sir John Byers, who, in the presence of a crowded meeting in the county court house, gave an address on the formation, objects, and lessons of the exhibition.

Health of Belfast.

The death-rate of Belfast still continues far too high, being for the week ended Jan. 11th 28 per 1000, and 3·8 from the principal zymotic diseases (due to the large number of deaths from measles and whooping-cough). At a meeting of the health committee of the city corporation held on Jan. 16th the superintendent medical officer of health recommended that a steam disinfector should be procured, that one more refuse destructor should be erected, and that the ashbin system should be adopted. A circular has been sent to the butchers of the city by the medical officer of health, urging that meat should be hung at the outside of their shops at such a height as to be out of

The force of elastic recoil of the lungs therefore measures the limit of pressure fall in the pleural sacs which the thoracic expansion can effect. If the lungs have but little elastic recoil and stretch easily very little negative pressure can be produced by the thorax on inspiration; if the coefficient of elasticity be great and the lungs have considerable elastic recoil the inspiratory muscles expanding the thorax have something to pull against and can produce greater negative pressure; if the lungs be comparatively rigid the whole force of the inspiratory muscles can be directly expended on reducing the intrapleural pressure. In this sense Dr. Campbell's contention seems to me physically correct.

On the other hand, there are conditions in which Sir James Barr is correct likewise. For consider the thorax and its respiratory muscles at rest. The lungs remain stretched; they support by their elastic recoil a certain fraction of atmospheric pressure to which the intrapleural space (if space it *may be called*) is *not subjected* in consequence. In that sense, as Sir James Barr states, "there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs." Why all new repair elastic substance in the lungs is laid down in a stretched condition is difficult to see, though the utility of it is obvious. One would have imagined that the elastic tissue would have arranged to be at rest when the thorax was at rest, but it strangely chooses, from birth onwards, never to assume the unstretched condition. There is, therefore, a residual negative pressure for which the pleural sacs are indebted to the elasticity of the lungs and the opposing rigidity of the thorax. For the rest, the active and greater falls, they are indebted to the muscular efforts of the thorax and diaphragm and are distinct losers by the comparatively low elastic recoil of the lungs themselves.

I am, Sir, yours faithfully,
D. W. SAMWAYS.
Mentone, Jan. 16th, 1908.

BRITISH SHIP SURGEONS' ASSOCIATION.

To the Editor of THE LANCET.

SIR,—May we through your valuable journal issue a letter of welcome to all members of the medical profession interested in the formation of the above association? A meeting has been arranged to take place on Monday, Jan. 27th, at 8 P.M., at the Medical Graduates' College and Polyclinic, 22, Chenies-street, Gower-street, London, W., and we hope for a large and representative gathering. The object of such an association has been given in former issues and ship surgeons are almost unanimous as to its need. As some of us from the north are coming at great inconvenience to our practices we do hope that ex-ship surgeons and others now practising in or near the metropolis will do their best to attend.

I am, Sir, yours faithfully,
G. METCALFE SHARPE, Hon. Sec.,
Late Surgeon Cunard and P. and O. Companies.
Jan. 20th, 1908.

LICENTIATES IN MIDWIFERY.

To the Editor of THE LANCET.

SIR,—The annotation upon this subject in the current number of THE LANCET suggests that it would not be inopportune to relate a stage in the history of medical politics in this country, particularly with respect to the education of would-be women medical practitioners. In 1852 the Royal College of Surgeons of England sought and gained in a supplementary charter power to examine "persons" for a diploma—Licentiate in Midwifery of the Royal College of Surgeons of England, commonly abbreviated to "L.M." It is said that the inclusive word "persons" in Clause 17 of the new charter was introduced deliberately. Under Schedule A (4) of the Medical Act, 1858, such persons might be "registered" with this single qualification. It was, however, urged by some that the "L.M." diploma was *only* to be issued to men who were already otherwise qualified. The Medical Act, 1875, sec. 2, did not vary the position. This diploma was suppressed in 1876. In 1872 the King's and Queen's Colleges (now the Royal College) of Physicians in Ireland made their midwifery licence registrable; in 1874 they granted diplomas to midwives. It was not, of course, until the Medical Act, 1886, sec. 2, became law that a triple qualification in medicine, surgery, and midwifery was essential prior to the registration of the name of a would-be medical practitioner.

The Female Medical Society (1862-72) was founded "to provide educated women with proper facilities for learning the theory and practice of midwifery and the accessory branches of medical science." The Ladies' Obstetrical College (Great Portland-street) was founded in 1873. In 1875 Miss Sophia Jex-Blake, Miss Edith Pechey, and Mrs. Thorne, having been informed of an opinion of counsel given to the College of Surgeons as to the scope of Clause 17 of their enlarged charter, and having fulfilled all precedent requirements, claimed to be "persons" who must be examined by the Royal College of Surgeons for the licence in midwifery. In this way they hoped to secure admission to the Medical Register. The midwifery board of examiners of the College, led by the late Dr. Robert Barnes, resigned in protest, thus postponing in January, 1876, the examination *sine die.* It has never since been conducted. The Obstetrical Society of London concurred with this practical protest. The late Dr. Robert Barnes, writing to me in October, 1906, said with respect to this incident: "I may say that I rescued the College and the profession from the disgrace of issuing a barren midwifery licence."

I am, Sir, yours faithfully,
Adelphi-terrace, W.C., Jan. 13th, 1908. STANLEY B. ATKINSON.

A CASE OF "DIPHTHERIA OF THE SKIN."

To the Editor of THE LANCET.

SIR,—Dr. J. G. Hare is to be congratulated in clearing up the nature of Dr. Alan B. Slater's remarkable case of cutaneous diphtheria as reported in THE LANCET of Jan. 4th. The case raises some interesting pathological issues, particularly in regard to the underlying cause of a diphtherial infection so extensive. It is, however, perhaps unnecessary to infer such an unusual course of events as that suggested by Dr. Slater in his ingenious explanation. Diphtheria bacilli do not spread far and wide *viâ* the superficial lymphatics, but they are conveyed at times from one abraded surface to another by auto-inoculation. Moreover, while neuritis is an ordinary and specific feature of diphtheria, herpes of the neuritic type is rare in that disease—is, in fact, commoner in other infections, notably scarlet fever, which present the rash as a pure complication.

The peculiar characteristics of the case being the widespread distribution of the lesions and their long duration, it seems to me that if auto-inoculation be accepted an explanation based on established pathological facts is forthcoming. It is well known that nurses with slight abrasions of the fingers may, when working in diphtheria wards, develop a localised diphtherial infection and that a permanent cure may not be obtained for weeks or even months if antitoxin is not given. It may happen that more than one finger is infected, and there seems to be no reason why this modified form of diphtherial lesion should be restricted in distribution where the inoculable points are multiple. Given, then, that the original conjunctivitis and vulvitis were wholly or partly septic in nature, it might well be that the patient developed a spreading septic rash such as is often seen under such conditions in children. The cutaneous abrasions would offer points of inoculation, and the diphtheria bacillus, established anywhere from mixed infection of the eye or vulva or from an outside source, would be readily carried in the discharges from one area to another.

Now that Dr. Hare has proved bacteriologically the nature of one case, there is the interesting possibility that other obstinate skin affections of a similar type may also turn out to be diphtherial.

I am, Sir, yours faithfully,
JOHN BIERNACKI.
Plaistow Hospital, London, E., Jan. 12th, 1908.

ACUTE PULMONARY ŒDEMA.

To the Editor of THE LANCET.

SIR,—With reference to the interest lately awakened by the able dissertation upon acute pulmonary œdema by Dr. Leonard Williams in THE LANCET of Dec. 7th, 1907, may I be permitted to add my humble testimony of what I consider to be a most remarkable and typical example of the condition. At 10 P.M. last night I was summoned to see a man who, I was told, had been taken suddenly and severely ill. I immediately set out and arrived on the scene within five minutes of the summons to find the patient dead.

The history was as follows. The patient, a man, aged 48 years, had been at his work all day apparently in the best of violence a patient in the same asylum having surreptitiously got hold of a copper-lid from the refectory, inflicted a murderous blow with it on another patient's skull, on whom the operation of trephining had to be performed, fortunately in time to save his life. Again the public press, in anticipation of the results of judicial inquiry, is calling loudly for a more effective *personnel*, in numbers as well as in aptitude, if only to bring the "madhouse administration" of Italy up to something like the standard reached and maintained north of the Alps. Dr. Giovanni Mingazzini, professor of neuropathology and psychiatry in the University and director of the Manicomio of Rome, has just intervened in the discussion of this topic and with an authority which few of his Italian contemporaries can claim. Admitting the deplorable incidents all too common in the asylums of Italy he concedes what has been pointed out above—the inadequacy of the *personnel* to the surveillance of the patients. The Roman Manicomio, in particular, is overcrowded—its inmates being far beyond the control of the official attendance, and this he attributes to the practice of the law courts in relegating to the purely medical asylums those criminals who, undoubtedly insane, are better fitted for such special establishments as that of Montelupo in Tuscany than for those asylums where patients are admitted for treatment with a reasonable hope of recovery. As to the clamour raised in some quarters for more stringent restraint, he opposes that system as at once unscientific and ineffective —quoting with approval the dictum of an Italian alienist: "It is not so much the mental disease that instigates the patient to deeds of violence; it is rather the coercion which, depriving him of the power of moving, determines in him a reaction abnormal and antagonistic, exploding in aggression." Paying a high tribute to Dr. Conolly of Hanwell who, nearly 50 years ago, put the non-restraint system in practice, he draws a pathetic picture of the risks incurred by asylum directors in Italy who, fully convinced of the efficacy of non-restraint, have yet to contend with the disadvantages due to the defective *personnel*—to the lack of that sufficiency of attendants which alone makes non-restraint practicable. Dr. Mingazzini's letter, written with ratiocinative force and literary *brio*, ought to have a salutary effect on "asylum reform"—one of Italy's most urgent desiderata.

The Italian "State Quinine" in Greece.

The Greek legislature has just approved on the third reading of a Bill for the introduction of "State quinine" of the type of that existing throughout Italy by the Law of 1900. The Government at Athens has put itself in communication with that of Rome for the supply of the preparation in question as manufactured in the Farmacia Centrale of Turin. Specimens of this product had, it seems, been obtained by the Greek Red Cross Society for purposes of experiment, with the result that the Government at Athens has not only adopted the Italian law as to its use but is about to employ the identical product itself. This imparting of "good offices" by Italy to Greece is of gratifying augury (so says the leading Roman journal) for the future of the two ancient civilisations.

Science and Surgery at Bologna.

The "Mater Universitatum" on the 8th inst. lost, within a few hours of each other, two of her brightest ornaments. One is Professor Domenico Peruzzi, domiciled at Lugo, the distinguished surgeon, *ætatis* 89, known throughout Italy as the first operator to perform laparotomy with a successful result. A colleague of his at Pisa had indeed the priority in the operation but the patient did not recover. The other "scienziato," also an octogenarian, is Professor Paolo Ruffini who, after a brilliant career in the Bologna school, became professor of the higher mathematics at Modena. He had also been a combatant in his country's cause and for his share in the battle at Governolo in 1848 had been exiled by the then ruler of the duchy.

Jan. 17th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Influence of General Anæsthetics upon the Blood.

AT a recent meeting of the Vienna Gesellschaft der Aerzte Dr. Reicher communicated the results of a series of experiments which he had made with a view to ascertain the chemical influence of certain anæsthetics (ether, chloroform, and A.C.E. mixture) upon the blood. The experiments were made on dogs which after having been kept under observation for several days were anæsthetised for 90 minutes. Whilst the animals were still under the influence of the anæsthetic blood was withdrawn from the femoral artery and the amount of lecithin, cholesterin, and fat contained in it was ascertained by extraction with a mixture of alcohol and ether; the amount of ammonia, nitrogen, and acetone was also estimated. The latter substance was, moreover, sought for in the expired air. A considerable increase in the amount of fat (up to three times the normal quantity) was found in the blood and acetone was also present in a higher degree, especially in the expired air and in the urine. Dr. Reicher believed that the fat in the blood was sent thereto from the normal deposits of fat in order to neutralise the anæsthetic and thus to spare the red cells. If this fat was not sufficient then the lipoid bodies from the central nervous system were sent into the blood, as was proved by the presence of lecithin and cholesterin. Only a few anæsthetic substances attacked the erythrocytes directly. The alkalescence of the blood was lowered, because the red cells when disintegrated formed acid substances. In alcoholic intoxication oxybutyric acid and acetic acid were demonstrated in the urine. The acetone was derived from the disintegration of fat and albuminoid bodies. Acetonuria and lipæmia were closely related to each other, so that diabetic persons might easily show the latter condition, and general anæsthesia was therefore a dangerous procedure with them. Dr. Reicher commented on the similarity of general anæsthesia and diabetic coma.

Cancer of the Stomach Consequent on Swallowing Caustic Potash.

At a recent meeting of the Vienna Medical Society Professor Ghon showed some of the viscera of a boy, 13 years of age, who died not long ago. In December, 1906, he swallowed a quantity of a weak solution of caustic potash, whereupon violent vomiting followed. In course of time he showed symptoms of stenosis of the œsophagus which necessitated protracted use of bougies, and jejunostomy had ultimately to be performed on account of a stenosis of the pylorus. Death was due to intercurrent broncho-pneumonia. The necropsy revealed stenosing erosion of the pylorus, two external erosions of the transverse colon which also had caused secondary stenosis by contraction, stenosis of one ureter, and chronic inflammatory changes of the peritoneum originating from the stomach. On the lesser curvature there was a perforation in the midst of a tumour-like mass which on histological examination proved to be carcinoma. This case is interesting on account of the age of the patient, for he is one of the youngest persons of whom there is a record as suffering from carcinoma, if ovarian and uterine neoplasms are not taken into consideration. Another point of interest in the case is the connexion between chronic irritation and malignant growth.

A Small Outbreak of Enteric Fever.

During the last three weeks a number of cases of enteric fever have been brought to the notice of the sanitary authorities and this gave rise to some uneasiness, for the Vienna water-supply is so pure that no epidemics of this kind have occurred for about 25 years. It was soon possible, however, to trace the source of infection to contaminated milk and the outbreak was quickly stopped. Whilst every care is taken to insure the supply of pure fresh milk to the city a certain dealer in a village where enteric fever existed unfortunately added infected water to the milk. The milk-supply of Vienna is to a great extent centralised and the milk is subjected to pasteurisation in most of the dairies, but by some misadventure the heating process was interrupted on these occasions before the milk was sterilised, with the result that 35 cases of enteric fever appeared in a certain district and two cases have ended fatally.

Radio-active Baths in Bohemia.

The Government has formed a bathing establishment at Joachimsthal, a mining district in northern Bohemia (from which the thaler, and consequently the dollar, derived its name), where pitchblende containing radium is found, and this establishment will be supplied with radio-active water directly from the mines. Notwithstanding the receipt of many offers from Karlsbad, Marienbad, and private persons the Government declined to let the control of the water pass out of its hands. The establishment will be under the superintendence of a medical man and as the water has a very high index of radio-activity its effect will have to be watched and studied very glad to be assured that Dr. Bashford dissociates himself from such a conclusion. I find, however, that four months after Dr. Bashford's and Dr. Murray's paper, which contained the above quotation, was read Professor Farmer at a meeting of the Pathological Society of London held on May 17th, 1904, and reported in the *British Medical Journal* of May 21st, 1904, p. 1196, observed "that although the authors" (Messrs. Farmer, Moore, and Walker) "had been credited with the view that they had arrived at an explanation of the phenomena of carcinoma they disclaimed this; the relation between heterotype mitosis and the life-history of carcinoma they did not profess to explain."

I am, Sir, yours faithfully,

Driffield, E. Yorks, Jan. 18th, 1908. A. T. BRAND.

DEATH UNDER AN ANÆSTHETIC.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Dec. 14th, 1907, p. 1714, is a report of an inquest upon a case of death under an anæsthetic upon which I gave evidence as to the post-mortem appearances. Amongst other remarks I am reported to have said that I considered coughing might have acted as a "shock" to the heart. If I used the word "shock" it must have been thoughtlessly and in ignorance of the fact that the word might appear in print. My opinion is that the deep inspiration which follows a forcible expiration may affect the heart and that the heart—judging from the clinical evidence—was thus affected in this particular case.

It has never seemed to me that adhesions of the pleura or pericardium are important factors in the production of the so-called "pulsus paradoxus." Yet in this case it may be of interest to mention that firm adhesions obliterated both the right and the left pleural cavities. The consequent inability of the lungs to advance over the heart during inspiration may have aided to produce a distension of the heart which, weakened by the anæsthetic and defective aeration of the blood—owing to the presence of thick muco-pus in the bronchial tubes—proved fatal.

I am, Sir, yours faithfully,

Jan. 23rd, 1908. THEODORE FISHER.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—Every thinking person must feel that the present condition of affairs requires serious consideration. Have we passed the zenith of our fame and power? Has rapid progress brought with it the seeds of decay and impotence? If it is true, as has been asserted, that the average income of a medical man is under £250 a year, the number of parents and guardians anxious to send their children and wards to the profession is certain to decrease. Young men are seldom tempted to a medical career by the fervid enthusiasm which determines to an ecclesiastical vocation. Medicine shares none of the high prizes of the law. The most that the majority of its members can hope for is a moderate competence with a slender provision for old age. It is probable that many causes acting concurrently have combined to bring about the present state of affairs and I propose to comment briefly on some of them.

The agricultural population shows an increasing tendency to flock to the towns and, as Canon Jessop has remarked, the old village life has all faded away. Even in districts in which corn and other crops are still cultivated extensively improved agricultural implements have diminished the demand for labour and the railways have brought all except the remotest districts into touch with towns where patients can consult some medical man renowned for special knowledge of their ailments. It is therefore clear that large districts will require fewer medical men in future and will afford poorer remuneration. Here we are face to face with causes entirely non-medical and most unlikely to change, except for the worse.

The inevitable growth and development of specialism which increased knowledge has produced have aided, no doubt, in the reduction of the income of the general practitioner, but other causes are, in my opinion, as powerful, if not more so, in London and other very large towns. One of these is the abuse of medical charities, for it is a matter of common knowledge that thousands of persons well able to pay an ordinary fee prefer to present themselves at the out-patient department of some great hospital. Another difficulty with which we have to contend is the fact that quackery displays everywhere her various illusions to cheat the hopes and prey on the weaknesses of mankind, while faith-healing, crystal gazing, and palmistry are rampant. We know from the sixth satire of Juvenal that pretenders of a like kind existed in ancient Rome:—

> "Frontemque manumque
> Praebebit vati crebrum poppysma roganti."

It must not be forgotten that as a profession we are placed at a great disadvantage as compared with other callings, because the sciences on which our art is based are to a considerable extent occult sciences to even the majority of the most cultivated of the laity. The proposition that with the advance of hygiene disease will fade away is in all probability no more than a beautiful dream, "born of hope and destined to die of experience." Preventive medicine may indeed arrest the progress of some epidemics; though, as in the matter of the vaccination laws, it seems doubtful whether with the advancing wave of democratic ideas there will not be an increased disinclination to submit to the restraints which the medical profession may recommend for the physical welfare of the community.

In the lives of professions, as in the lives of states, of senates, of individuals, there are periods for pause and thought. The present time seems to me a desirable one in the life of medicine. Never at any period, I believe, have the heads of medicine and surgery been more faithful workers, more true to nature, or have conferred larger benefits on the human race. To their wisdom and guidance I trust that the difficulties of the present may be removed and that in the future the triumphs of the past may become even greater and brighter than before.

I am, Sir, yours faithfully,

Jan. 20th, 1908. INSPECTOR-GENERAL.

CIVIL SANITARY REFORM IN INDIA.

(FROM A SPECIAL CORRESPONDENT.)

A MOST important letter has been addressed by the Government of India to all local governments and administrations for their opinion on the subject of sanitary reforms in civil areas. In the past practically no attention to this important subject has been paid, if we except the Presidency capitals and a few of the larger cities. The letter now addressed indicates the nature and direction of the advance which in the view of the Government of India (under the advice of the new sanitary commissioner who was appointed in 1904) should now be made towards the reorganisation of the sanitary department. The Government of India now suggests that the posts of deputy sanitary commissioners should not exclusively be reserved for officers of the Indian Medical Services but should be *thrown open* to all medical officers of health who must in all cases possess the D.P.H. diploma. The present inadequacy of the staff of medical officers of health is pointed out and it is suggested that the proposed new sanitary service will offer a suitable and congenial career for educated Indians who have been trained in Europe, the latter essential being absolutely necessary. In towns with a population between 20,000 and 100,000, however, it will be necessary to accept a lower standard of scientific attainments, and such posts may be suitably offered to educated natives of the assistant surgeon class. Here I may remark lies the greatest pitfall of the scheme, as this class of medical practitioners in India are mainly recruited from the Brahmin caste, which sect according to caste prejudices becomes defiled by contact with latrines and the like, so it may be assumed that inspection of such an important source of public health pollution will not be as rigidly performed as it would be by European medical officers of health. The Government of India also suggests that in future medical officers of health from the Indian Medical Service will not be appointed deputy sanitary commissioners unless they have more than seven years' service. Medical officers of health will not be allowed to undertake private practice and their salaries will therefore have to be fixed on a more liberal scale than would otherwise be necessary.

The supervision of the conservancy establishment in municipal towns is in urgent need of reform and it is imperative that steps should be taken to provide efficient whom all local officers should obtain their supplies according to requirements before Nov. 1st in each year. To Government servants lancets will be issued free of charge, but cost price will be charged to municipalities, private firms, and individuals. A reserve stock of permanganate of potassium crystals will be kept at all hospitals and dispensaries for distribution to those who have lancets when the supply of permanganate contained in each lancet is exhausted.

Rabies in Jackals.

Owing to the prevalence of rabies in Simla the health officer attached to the Simla municipal council has started a campaign against jackals, large numbers of which exist in the vicinity of India's summer capital. A special man has been engaged to exterminate these animals by poison and also by shooting them. Bites caused by rabid jackals are always of much greater severity and graver prognosis than dog-bites.

The Serum Therapy of Plague.

Khan Bahadur N. H. Choksy, M.B., special plague officer, Bombay, has just published a valuable pamphlet recording recent observations on the serum-therapy of plague in India. It has been contended by some people that the serum treatment of plague cases is ineffectual, if not altogether useless, and that the results are entirely disappointing. Dr. Choksy contends that, having regard to the unfavourable conditions that are almost unavoidable in the treatment of a disease like plague, the wonder is that serum treatment has given such comparatively good results. He supports this assertion by an elaborate discussion of over 1600 cases treated at Bombay, Poona, Indore, Calcutta, and Karachi. The average mortality in plague cases in Bombay is about 89 per cent.; in cases treated with serum the incidence of mortality varied from 33·3 among a small number of Europeans, to 40 per cent. among Parsees, 44·3 per cent. among Mahomedans, and 55 per cent. among Hindus. Dr. Choksy contends that "the serum treatment is the only method of saving a larger proportion of lives in a certain class of patients." At the same time it cannot favourably influence all types of plague; in hospital practice where more than half the cases are of the septicæmic type on admission, and consequently not amenable to any specific treatment, it must be of comparatively little value. The essence of successful serum treatment is that it should be commenced at an early stage of the disease. This is rarely possible with hospital patients, most of whom have been suffering several days before admission. But in the case of private patients who call in a medical man at once the results are undoubtedly favourable. Among 468 private patients the case mortality was only 39·9 per cent., while among 613 specially selected hospital patients it was 57 per cent. Again, among first-day patients the case mortality was 30·3, among second-day patients 52·6, and among third-day patients 63 per cent. These figures show, as Dr. Choksy contends, favourable results, and if patients could be taught to apply for treatment as soon as they were attacked the results would be still more satisfactory.

The Chinsura Cholera Cases.

Three tragic deaths which occurred recently from cholera have been the subject of a special investigation by Major Clarkson, I.M.S., sanitary commissioner, who traced the transmission of the cholera germ to the jharans (cloths used for cleaning dinner plates) of one of the servants of the house. Mr. Bernard, Commissioner, Mrs. Bernard (his wife), and a Miss White, a visitor, were the victims; several others who partook of food with them were also attacked but recovered. The jharans were infected by being washed in a portion of a river where a cholera corpse of a native had been lying, the disease being transmitted to the dinner plates by the infected jharans.

Jan. 4th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Huethe, formerly surgeon-general of the German Navy, at the age of 74 years, who had been living in retirement since 1894. He was for some time a professor in the Naval Military Academy at Kiel. His death took place at Capri.—Dr. Donner, formerly professor of physiology in the Tours Medical School.—Dr. H. P. Loomis, professor of therapeutics and materia medica in Cornell University.—[illegible] ments [illegible] chemical influence of certain anæsthetics (ether, chlorofo

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the first professional examination held on Jan. 7th, 8th, 9th, and 10th, the following gentlemen were approved in the subjects indicated:—

Chemistry and Physics.—Gilbert Bailey, Manchester University; Basil Fraser Beatson, Leys School, Cambridge; William Hackett Broughton, Manchester University; Frederick William Campbell, University College, Cardiff; Rowland Burnell Campion, Guy's Hospital; Nai Cheune, London Hospital; Henry Dyer Scott Close, St. Thomas's Hospital; Edward Percy Drabble, London Hospital; Charles Alexander Robertson Gatley, Guy's Hospital; John Llewellyn David Lewis, Guy's Hospital; Victor Alfred Luna, Guy's Hospital; Leonard Robert Pickett, Tonbridge School; Henry Charles Rigg, Charing Cross Hospital; William Andrew Thompson, Guy's Hospital; Claude de Boudry Thomson, Middlesex Hospital; Claude William Treherne, St. Thomas's Hospital; Arnold Viney, Oundle School; and Sydney Arthur Wilkinson.

Chemistry.—Ahmed Abdel-Al, Guy's Hospital; Frank Cunninghame Cowton, Alexander Rentoul Esler, and Maberly Squire Esler, St. Thomas's Hospital; Hassell Dyer Field, Battersea Polytechnic; Meredydd Foulkes, St. Thomas's Hospital; Francis Henry Guppy, St. Bartholomew's Hospital; Frank Mainwaring Hughes, Gerald Noel Martin, and David Scott, London Hospital; Ivan Lindley Waddell, St. Bartholomew's Hospital; and William Neville Pennant Williams, Liverpool University.

Physics.—Allan Stanley Coalbank, St. Bartholomew's Hospital; William Trevor Flooks, University College, Cardiff; Owen Gwatkin, Manchester University; William Fidler Mason, Leeds University; Eugene Andrew Joseph Murphy, King's College; Edmund Unlacke Russell, King's College; Charles Pearse Crodacott Sargent, St. Bartholomew's Hospital; and Henry Stanley Young, Birkbeck College.

Biology.—Ramrao Belcrushma Agaskar and George Aspinall-Stivala, St. Bartholomew's Hospital; Gilbert Bailey, Manchester University; William Somerset Birch, King's College; Herbert Chorley, Liverpool University; Arthur George Bisset Fenwick, St. Thomas's Hospital; Geoffrey Garland, Leeds University; Charles Alexander Robertson Gatley, Guy's Hospital; William Edward Hallinan, Charing Cross Hospital; Leslie Price Harris, Guy's Hospital; John Rollo Hayman, Middlesex Hospital; George Basil Henley Jones, Guy's Hospital; Edmund Thomas Howard Lea, Westminster Hospital; David Lewis, London Hospital; Victor Alfred Luna, Guy's Hospital; Alexander Macrae, London Hospital; Reginald Victor Martin, St. Mary's Hospital; Arthur Geoffrey Morris, University College, Bristol; Eugene Andrew Joseph Murphy, King's College Hospital; Frank Andrew Miller Nelson, London Hospital; Jorabhai Bhaibabhai Patel, Bombay University; Montague Pern and George Brentnall Pritchard, Guy's Hospital; Walter Alexander Reynolds, St. Mary's Hospital; Henry Charles Rigg, Charing Cross Hospital; Charles Pearse Crodacott Sargent, St Bartholomew's Hospital; Jelal Moochool Shah, Bombay University and St. Bartholomew's Hospital; Cuthbert Shaw-Crisp, St. Mary's Hospital; William Andrew Thompson, Guy's Hospital; Chunilal Bhimbhai Vakil, St. Bartholomew's Hospital; William Cuthbert Whitworth, Guy's Hospital; William Neville Pennant Williams, Liverpool University; and William Wörger, University College, Bristol.

At the Preliminary Science Examination for the Licence in Dental Surgery held this month the following gentlemen were approved in the subjects indicated:—

Chemistry and Physics.—Robert Reginald Adams, Guy's Hospital Edwin Randolph Bailey and Henry Leonard Bailey, Polytechnic Institute; Stanley Maddox Gardner, Technical Institute, Wandsworth; Robert John Harley-Mason, Birkbeck College; Guy William Enstone Holloway, Polytechnic Institute; Sidney William Ingram, Guy's Hospital; William Howard Keay, Walsall Technical Institute; Sidney Saxton, University College, Bristol; Herbert Thornton, Guy's Hospital; and Thomas Reginald Trounce, Birkbeck and City of London Colleges.

Chemistry.—Ernest Walter Bacon, Alleyn's School; Arthur Raymond Goddard, University College, Nottingham; Cyril Arthur Pollard, Birkbeck College; James Stacey Robinson, Walsall Technical Institute; George Wesley Royle, Modern School, Bedford; and James Bennett Sharp, Charing Cross Hospital.

Physics.—Charles Repton Faulkner, Birmingham University; Thomas Leonard Fiddick, Guy's Hospital; Roy William List, Charing Cross Hospital; William Macqueen Potter, Birkbeck College; and Frank Percival Sturdee, Northern Polytechnic Institute and Birkbeck College.

At the quarterly examination in Practical Pharmacy held on Jan. 16th the following gentlemen were approved:—

Burgess Barnett, St. Bartholomew's Hospital; Charles Thornton Vere Benson, B.A. Cantab., Cambridge University and St. Thomas's Hospital; John William Bowen, private study; Frederick William Campbell, University College, Cardiff; Arthur Henry Howard Catt, Charing Cross Hospital; Nai Cheune, London Hospital; Thomas Bonnor Davies, St. Bartholomew's Hospital; Maurice Dwyer, Leeds University; Harold Delf Gillies, Cambridge University and St. Bartholomew's Hospital; Arthur Oliver Gray, King's College Hospital; Claud Anthony Holburn, Sheffield University; George Barrowclough Horrocks, Victoria University, Manchester; Gilbert Percy Humphry, St. George's Hospital; Colin Mackenzie, B.A. Cantab., Cambridge University and Middlesex Hospital; Dalton Mallam, London Hospital; Samuel Marle, University College, Bristol; Guy Harvey Mead, St. Thomas's Hospital; George Hugh Bertram Charles Noble O'Reilly, London Hospital; Arthur Hardwicke Platt, Piercy, University College, Bristol;

by 3·27 inches and at Whitacre by 2·76 inches. To a certain extent this satisfactory result on the gathering grounds whence our water-supply is derived may be considered as a compensation for the past dreary summer.

Medical Inspection of Schools in Worcestershire.

If the conditions in Worcestershire are to be taken as an indication of the terms on which the medical officers engaged for the inspection of school children will have to work and of the work which they will have to do, then it may be admitted that the pay will not be over-generous and the work if it is well done will be heavy. The sanitary subcommittee appointed to report upon the best method of carrying out the administrative provisions of the Education Act of 1907 in Worcestershire recommended that the education county, which contains 251 public elementary schools, should be divided into three districts, in the largest of which the school children would average 18,471 and in the smallest 12,164. The subcommittee was of the opinion that a medical inspector should be appointed for each district and that the work should be supervised by the county medical officer. It proposed that the county medical officer's salary should be increased by £100 per annum, that one of the inspectors should receive £500 per annum, rising to £600, and the other two £350, rising to £400, and it suggested that one of the medical inspectors should be a woman. The report was subjected to a considerable amount of criticism and opposition and it was eventually decided that the education committee should recommend the council to appoint three medical inspectors who should commence with salaries of £250, rising to £300. This does not seem too much for the work to be done, yet the cost to the county will be very considerable and there seems every probability that the scheme will have to be enlarged if satisfactory results of any substantial character are to be looked for. Apparently, according to the reports, the scheme makes no provision for the fees of specialists, yet numerous cases must be met with in which specialists' opinion will be invaluable and will no doubt have to be obtained. It will be well to expect that the early estimates of cost for all schemes of this nature will prove insufficient and to make up our minds to face considerably increased taxation, whilst it is to be hoped that the results may give a satisfactory return for the expenditure. Expression was given to fear of increasing expenditure when the report was presented to the council. Objection was made to the appointment of whole-time inspectors and the report was referred back to the committee for further consideration. What the committee will do is not clear, for no reasonable person can expect that the work required by the Act can be properly done by district medical officers of health who are already burdened with duties.

Jan. 21st.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Carmarthenshire Water-supply.

FOLLOWING the example of the steam coal areas of Glamorgan it is proposed in the anthracite district of Carmarthen to go away from the coal district for a supply of water. This eventuality was foreshadowed in 1904 when the Local Government Board refused to sanction a scheme of the Llanelly rural district council for the supply of Burry Port, where there is a population of about 4500, with water obtained from the coal measures. The local authorities cannot be accused of being precipitate in the action now proposed to be taken, for as long ago as 1901 the Carmarthen county council decided to make a representation to the Local Government Board in accordance with the provisions of Section 299 of the Public Health Act, 1875, to the effect that the Llanelly rural district council had made default in enforcing the provisions of that Act.[1] In the coming session of Parliament there will be promoted two Bills, each concerned with securing a supply of water for the district named. In both proposals the supply is to be obtained from the head waters of the river Loughor. The larger undertaking, which is estimated to cost £95,000, is that of the Burry Port urban district council jointly with the Llanelly rural district council. The second scheme, the cost of which is estimated at £32,000, is being put forward by the Ammanford urban district council which has undertaken to supply the adjoining rural district of Llandilo.

Cardiff Water-supply.

The inhabitants of Cardiff are supplied with water from the old red sandstone of the Breconshire Beacons, and in spite of the increase in the size of the town sufficient provision has been made to insure an ample amount both for domestic and municipal purposes. During last year the average daily consumption per head was 27 gallons, of which 11 gallons were for trade and municipal requirements. The revenue from the undertaking is not yet sufficient to meet all the charges and a rate in aid has to be levied. It is anticipated that in a few years the latter will not be necessary. The sum of £280 is paid yearly for the water supplied to the public baths and it has been suggested that when the water in the service reservoirs is running to waste a sufficiently increased amount of water should be supplied to the baths to enable them to be emptied much more frequently than once a week as is the case at present. The proposal is one which should meet with favourable consideration.

Cardiff and the Notification of Births Act.

Notwithstanding the fact that the health committee of the Cardiff corporation recommended the city council not to adopt the Notification of Births Act, the council after some discussion decided that the Act should be adopted. In a special report upon the incidence of infantile mortality in Cardiff which was made by the medical officer of health in January, 1907, Dr. E. Walford urged the employment of qualified health visitors or women inspectors to visit the houses of the poor in which infants are born. Already one such inspector was attached to the health department but her work was hampered owing to the length of time which usually elapsed between the birth and the time of registration. A scheme of voluntary notification of births by the midwives in the town was proposed by Dr. Walford and he suggested a fee of 1*s.* being paid to each midwife who notified a birth within 48 hours of its occurrence. The action of the corporation in adopting the Notification Act will necessitate the appointment of another woman inspector, and that there is sufficient work ready to her hand is evident from the high rate of infantile mortality in some parts of the city. In the third quarter of the four years 1903–06 the rate in the whole of Cardiff was 142 per 1000 births, but in one part of the town it was 178 per 1000, and in another part as high as 189 per 1000.

Proposed Cottage Hospital for Pontypridd.

The populous valleys which spread out almost fan-like from Pontypridd are very ill-provided with hospital accommodation. In the Rhondda valleys there is only one such institution situated at Porth and with accommodation for 13 patients. In the Aberdare valley there are small hospitals at Mountain Ash and at Aberdare, while in the Taff valley there is at Merthyr a well-equipped hospital of 45 beds. Pontypridd has a population approaching 40,000 persons and is the centre of an extensive coal mining district so that the need of a general hospital is apparent. At a public meeting held in the town on Jan. 15th it was decided that the urban district council should be asked to build a small accident hospital and to support it out of the general rates of the town. At Barry the rates have been applied in support of a similar institution for many years.

Medical Officer of Health for Monmouthshire.

At the next meeting of the Monmouthshire county council a proposal will be made to appoint a medical officer of health part of whose duties will be the supervision of the medical examination of the children attending the public elementary schools in the county. The suggested salary is £600 per annum, together with travelling and other expenses. The area of the administrative county is 345,000 acres. About three-fourths of the county is of a rural character and the remainder includes the thickly populated districts of the eastern and western valleys where coal mining operations are extensively carried on. The population of the administrative county is about 250,000 and there is every probability that the number of persons employed in the collieries of the district will increase in the future.

Jan. 21st.

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[1] THE LANCET, Nov. 2nd, 1901, p. 1231.

DEUTICKE, FRANZ, Leipzig und Wien.

Atlas der Venerischen Affektionen der Portio Vaginalis Uteri und der Vagina. Von Dr. Moriz Oppenheim, Privatdozent für Dermatologie und Syphilidologie an der K. K. Universität Wien. Price M.14.

DOIN, OCTAVE, 8, Place de l'Odéon, Paris.

Études sur la Physio-Pathologie du Corps Thyroïde et de l'Hypophyse. Par les Docteurs Léopold-Lévi et Henri de Rothschild. Préface de M. Ch. Achard, Professeur Agrégé à la Faculté de Médecine, Médecin de l'Hôpital Necker. Price Fr.8.

DYBWAD, JACOB (In Kommission bei), Christiania. (A. W. Broggers' Buchdruckerei.)

Pathologisch-anatomische Untersuchungen über Akute Poliomyelitis und verwandte Krankheiten von den Epidemien in Norwegen, 1903–1906. *Von Francis Harbitz, Professor* der Pathol. Anatomie und allgemeinen Pathologie an der Universität zu Kristiania und Olaf Scheel, I. Assistent am pathologisch-anatomischen Institute zu Kristiania. (Udgivet for Fridtjof Nansens Fond.) Price not stated.

FISCHER, GUSTAV, Jena.

Die zytologische Untersuchungsmethode, ihre Entwicklung und ihre klinische Verwertung an den Ergüssen seröser Höhlen. Von Dr. Hermann Königer, Oberarzt an der medizinischen Klinik. Price M.3.

Handbuch der Orthopädischen Technik. Für Ærzte und Bandagisten. Bearbeitet von San.-Rat Dr. A. Schanz, Spezialarzt für Orthopädie in Dresden. Price, paper, M.18.; bound, M.20.

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Oxford Medical *Publications. Fevers in the Tropics; Their* Clinical and Microscopical Differentiation, including the Milroy Lectures on Kala-Azar. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., B.S., I.M.S., Professor of Pathology, Medical College, Calcutta; Fellow of the Calcutta University; Honorary Member of the United States Society of Tropical Diseases and of the Philippines Medical Society. Price 30*s.* net.

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GREEN, WILLIAM, AND SONS, Edinburgh and London.

Essentials of Physiology for Veterinary Students. By D. Noël Paton, M.D., B.Sc., F.R.C.P. Edin., Professor of Physiology, University of Glasgow. Second edition, revised and enlarged. Price 12*s.* net.

HIRSCHWALD, AUGUST, Unter den Linden 68, Berlin, N.W.

Atlas der Pathologisch-anatomischen Sektionstechnik. Von Prof. Dr. M. Westenhoeffer. Price M.2.

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International Clinics. Edited by W. T. Longcope, M.D., Philadelphia, U.S.A., with collaboration. Volume IV. Seventeenth Series, 1907. Price not stated.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83–91, Great Titchfield *street, Oxford-street, London, W.*

The Pyonex: its Theory and Practice. By W. B. Rule, M.R.C.S., L.R.C.P. Price 12*s.* 6*d.* net.

KABITZSCH, CURT. (A. STUBER), Würzburg.

Die Tierischen Parasiten des Menschen. Ein Handbuch für Studierende und Ærzte. Von Dr. Max Braun, O. Ö. Professor der Zoologie und Vergl. Anatomie, Direktor des Zoologischen Museums der Universität Königsberg i.Pr. Vierte, vermehrte und verbesserte Auflage. Mit einem klinisch-therapeutischen Anhang bearbeitet von Prof. Dr. Otto Seifert in Würzburg. Price, paper, M.15; bound M.17.

KEYSTONE PUBLISHING CO., THE, 809–811–813, North 19th-street, Philadelphia, U.S.A.

Tests and Studies of the Ocular Muscles. By Ernest E. Maddox, M.D., F.R.C.S. Edin., Ophthalmic Surgeon to Royal Victoria Hospital, Bournemouth; formerly Syme Surgical Fellow, Edinburgh University. Second edition, specially revised and enlarged by the Author. Price not stated.

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Lessons in Hygienic Physiology. By Walter Moore Coleman, A.B., Fellow of the Physical Society of London. Price 3*s.*

MARLBOROUGH, E., AND CO., 51, Old Bailey, London, E.C.

Egyptian Self-Taught (Arabic). By Captain C. A. Thimm. Third edition, revised and enlarged by Major R. A. Marriott, D.S.O. Price, wrapper, 2*s.*; cloth, 2*s.* 6*d.*

REBER, ALBERTO, *Libreria della R. Casa*, Palermo.

A. Trambusti, Professore Ordinario di Patologia Generale nella *R. Università di Palermo. La Febbre Mediterranea* (Setticemia del Bruce). Conferenza tenuta nell' Aula degli Istituti Clinici di Perfezionamento a Milano il 30 Maggio, 1907. Price not stated.

ROUSSET, JULES, 1, Rue Casimir-Delavigne et 12, Rue Monsieur-le-Prince, Paris.

Traité Clinique des Maladies de l'Estomac. Par le Dr. Lucien Pron, (d'Alger). Price Fr.12.

RUEFF, J., 6 et 8, Rue du Louvre, Paris.

Alimentation et Hygiène des Enfants. Par le Dr. Jules Comby, Médecin de l'Hôpital des Enfants-Malades. Troisième édition. Price Fr.5.

SOCIÉTÉ DU MERCURE DE FRANCE, 26, Rue de Condé, Paris.

L'Art chez les Fous. Par Marcel Réja. Price Fr.3.50.

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Considérations Historiques sur la Blennorragie. Par le Docteur Ernest Roucayrol, Médaille de Bronze de l'Assistance Publique, Membre de la Société Française d'Histoire de la Médecine. *Price* not stated.

URBAN AND SCHWARZENBERG, Berlin und Wien.

Die Praxis der Hautkrankheiten. Unna's Lehren für Studierende und Ærzte. Zusammengefasst und dargestellt von Dr. Iwan Bloch, Berlin. Mit einem Vorwort von Dr. P. G. Unna in Hamburg *Price M.18.*

Prof. Dr. Wilhelm Czermak. Die Augenärztlichen Operationen. Zweite vermehrte Auflage. Herausgegeben von Dr. Anton Elschnig, K.K.O.Ö. Universitätsprofessor und Vorstand der Deutschen Universitäts-Augenklinik in Prag. I. Band, 2 Hälfte Price M.10.

VIGOT FRÈRES, 23, Place de l'Ecole-de-Médecine, Paris.

Le Criminel aux Points de Vue Anthropologique, Psychologique et Social. Par le Dr. Émile Laurent. Préface de M. le Professeur Lacassagne. Price Fr.3.50.

Traitement de la Tuberculose par la Paratoxine. Basé sur l'Action antitoxique du Foie. *Par E. Gérard, Professeur de Pharmacie* et de Pharmacologie à l'Université de Lille, et G. Lemoine, Professeur de Clinique Médicale à l'Université de Lille. Price Fr.1.50.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERSON, C. M., M.D. Edin., has been appointed Clinical Assistant to the Samaritan Free Hospital for Women.

BARBER, B. A., M.D., M.S.R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Dronfield District of the county of Derby.

BURY, REGINALD FREDERICK, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Warneford Hospital, Leamington Spa.

CULROSS, JAMES, M.B., C.M. Glasg., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

GLOVER, J. A., M.D. Cantab., D.P.H., has been appointed Deputy Medical Officer of Health to the Islington Borough Council.

GRIMBLY, RICHARD H., M.R.C.S., L.S.A., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

HAYDON, EDGAR, M.B., C.M. Glasg., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

HULBERT, J. G., Major, I.M.S., M.B., B.C. Cantab., has been appointed Clinical Assistant to the Samaritan Free Hospital for Women.

HUNT, ERNEST, L.R.C.P., M.R.C.S., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

MACMILLAN, EVAN, M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Strathmiglo District of the county of Fife.

MANNERS, W. F., *M.R.C.S. Eng., has been appointed* Clinical Assistant to the Samaritan Free Hospital for Women.

MILLAR, N., *L.D.S. Eng., has been appointed* Honorary Dental Surgeon to the Newton Abbot Hospital.

NISBET, A. THOMSON, M.D., C.M. Glasg., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

PURNELL, R., *M.D. St. And., M.R.C.S., L.S.A., J.P.*, has been appointed a Member of the Visiting Committee for Shepton Mallet and Bristol Prisons.

SCOTT, WALTER H., L.R.C.P. Lond., M.R.C.S., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

SCOTT, W. GIFFORD, M.B., C.M. Edin., L.R.C.S. Edin., has been appointed to the Honorary Medical Staff of the Newton *Abbot Hospital.*

SCRASE, J. J. S., L.R.C.P., M.R.C.S., has been appointed to the Honorary Medical Staff of the Newton Abbot Hospital.

SHIRVELL, EDGAR A., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Royal Albert Hospital, Devonport.

SMITH, G. F. DARWALL, B.M., B.Ch. Oxon., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the *Samaritan Free Hospital* for Women.

STUART, FREDERICK, M.B., B.S. Durh., has been appointed Clinical Assistant to the Samaritan Free Hospital for Women.

SUGDEN, W. A., L.S.A., has been appointed Clinical Assistant to the Samaritan Free Hospital for Women.

WATKINS, JOHN GRANDISSON, L.R.C.P. Lond., *M.R.C.S.*, has been appointed Medical Officer for the North Curry *District by* the Taunton Board of Guardians.

reach of contamination by dogs, dust, &c., and if this cannot be done in certain places it was advised to cover the meat with cloth or waterproof covering. It was also decided to notify all the milk purveyors in the city as to the dangerous and common practice of leaving cans with milk on footways during the process of delivering milk to consumers, the cans and their contents being thus liable to pollution. In the future legal proceedings will be taken in such cases. It is interesting and satisfactory to see all the suggestions made at the Belfast Health Commission gradually adopted by the city authorities.

Jan. 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The School for Nurses at the Salpêtrière.

A SCHOOL for training certificated nurses has been open for two months at the Salpêtrière and is the first of the kind in France. The building consists of a main block and two wings. The course at this institution will be one of two years. The pupils live at the school, where each has her own room; they are not allowed to go out on Sundays unless their families live in Paris or unless they have friends known to the administration; they have one month's holiday in the year besides a few days at New Year and Easter. The number is to be 75 in each year, those of the second year passing out for 75 new ones to take their place. There is a general superintendent with two assistants. The pupils spend their mornings in the wards of the hospital in learning their duties practically, working in turn in all the wards, the children's and adults' and those for maternity, infections, and insane cases. They learn all the details of sick nursing, how to make their patients' beds and their toilet, how to lift them, and so on. They return to the College for *déjeuner* and in the afternoon attend courses of lectures delivered by specially appointed medical men and midwives in the theatre; these courses comprise anatomy, physiology, hygiene, massage, invalid cookery, and all that is included in hospital nursing. The housework and table service are done in turns by the pupils. The uniform is very like that of English nurses. At the end of two years the young women who have successfully passed out of the school, which will be done by examination, will become second-class nurses and will be given their board, lodging, and uniform, and 600 francs a year pay. An intelligent nurse will be able to become a superintendent at the age of 30 years.

Extension of the Hospital for Charity Children.

For some time past the accommodation of this institution has been unable to cope with the calls upon it. To overcome this difficulty the General Council of the Seine has ordered the prefectorial administration to obtain near Paris a piece of land where an extension might be built rapidly and under the best possible hygienic conditions. Such a site has been found not far from Sceaux, in the Antony district. It was occupied by a religious community which has been expelled and the President of the Republic has signed a decree declaring the appropriation of the dwelling of the community to the purposes stated above to be in the public interest. This supplementary building may be opened during the course of next year.

Hæmarthrosis of the Knee.

M. Rochard and M. de Champtaissin communicated to the Surgical Society on Dec. 11th last the result of treating a case of hæmarthrosis of the knee by puncture followed on the next day by active movement against gradually increased resistance. The result was excellent. By increasing progressively the resistance the atrophy likely to result from articular injuries is most effectively met. The treatment has a favourable application to other kinds of effusion into joints.

Resection of the Lower Jaw, with Immediate Mechanical Replacement thereof.

M. Vallas brought this subject before the Surgical Society on Dec. 18th last. After resection of the lower jaw certain complications sometimes occur, such as various forms of ulceration and defects in the dental alignment. M. Vallas has for several years been able to prevent these by fitting an artificial appliance immediately after the operation. This procedure does not give rise to suppuration, and the surgeon can become very expert at fitting suitable appliances to various cases. To get a good result as much tissue as possible must be left and in particular the orbicularis oris which prevents the dribbling of saliva. The classical incision should be extended a little backwards, so that the wound and the scar may not be irritated by the apparatus, and, most important of all, the mouth must be washed out every two hours so that no septic liquid can remain in it.

The Effect of Nervous Stimulants on the Capacity for Work.

At the Academy of Sciences on Jan. 13th M. Armand Gautier made an interesting communication on this subject. He has particularly studied the action of kola on fatigue. In the course of experiments made by giving this drug to a number of horses he found that it apparently diminished fatigue in those that took it. For instance, a horse that ordinarily could go 20 kilometres in an hour went 21 in that time when he had been given the kola. But it was ascertained that at the same time the horse lost more weight than one which had not received any of the stimulant. This shows, according to the learned chemist, that kola, like alcohol, can give the tissues a lash with a whip, but that such energy, artificially provoked, is at the expense of the organism.

A "Rest House" for the French Medical Profession.

For some time past various medical men have had the idea of founding a "rest house" (*maison de retraite*) for French medical men. The idea is now in a fair way to take shape, and upon the initiative of Dr. Courtault and Dr. Nass a committee for consideration of the question has been formed which will hold monthly meetings.

Jan. 21st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

"Madhouse Administration."

IT is "common knowledge" that Italy cannot cope either with her mendicancy or with her crime. It seems that she is not less impotent to maintain order or even personal safety in her lunatic asylums. Within a few days of each other scenes of violence and even homicide have drawn attention to the "madhouse administration" of two such provincial centres of life, academic and civic, as Turin and Rome herself. The facts are these. In the great Turinese "manicomio" in the Via Giulio, a female inmate, confined to bed by means of powerful straps to prevent her from doing injury to herself or others, contrived to free herself from restraint and at one in the morning, with an iron cross bar taken from her bed, proceeded to the cell of another female also suffering from acute mania and also strapped to her couch, and with two or three well-directed blows fractured the wretched woman's skull and then retired to her own dormitory. These cells form two of a series in a vast corridor of which the only surveillance is intrusted to two women who relieve each other at long intervals. No cry, it seems, on the part of the victim reached the woman on duty, and when the latter entered the cell of the homicide she was suddenly assailed, though providentially the crossbar had been left in the victim's cell. Assistance arrived not a minute too soon, the furious assailant was overpowered and again put under restraint (this time effective), while the victim of her previous aggression on being removed to the hospital was found to have been dead for some hours. The tragic incident of which these details have been made public in the press is now under judicial investigation, while the journals are commenting on the fact that in the Turinese asylum, as in others throughout Italy, the *personnel* is manifestly insufficient. Almost at the same time that this tragedy was in progress the great Roman "manicomio" of the Santo Spirito was the scene of another which, equally savage in detail, was fortunately not fatal. In a ward reserved for the "agitato" (violently excited patients) there was a paralytic man, aged 50 years, who had been giving the attendants trouble. One of these had gone to administer medicine to a patient in another cell, and in his absence a seemingly harmless inmate got access to the paralytic's dormitory and throwing himself upon him with maniacal fury bit off the fleshy part of the nose just above the lip. The victim's cries drew the attendants to the scene. The assailant was overpowered and removed; while the paralytic, if he ever recovers, will bear a hideous disfigurement on his face to his dying day. A week before this deed

DEATH OF A CENTENARIAN IN AUSTRALIA.

IT is stated in the *Australasian* that John Browne, an inmate of the Liverpool Benevolent Asylum, New South Wales, died last month at the reputed age of 119 years. About three years ago he lost his hearing and 18 months later he had a paralytic stroke. He formerly belonged to the British Navy and landed in New South Wales at the age of 32. 20 years ago he entered the asylum, being then 99 years old. His age was fully authenticated by the Asylum authorities.

ARTIFICIAL NOSES.

To the Editor of THE LANCET.

SIR,—Can any of your correspondents tell me of any firm making artificial noses and recommend the work from personal knowledge?

I am, Sir, yours faithfully,

Jan. 22nd, 1908.

M.D.

A COUNTESS'S CURE FOR SMALL-POX.

To the Editor of THE LANCET.

SIR,—In the interesting note under the above heading which appears in your issue of Jan. 18th a passage in the Countess's recipe is given as follows, "as much refined searved (?) through tiffeny." There is evidently a word omitted after "refined" and the word "searved" should undoubtedly be "searched" or "searced," meaning put through a sieve. The word "search" is still a common Scots word for a sieve, or was so at any rate in the early years of the last century. Moreover, the expression "fine searced sugar" will be found constantly in the seventeenth century cookery books.

I am, Sir, yours faithfully,

Jan. 21st, 1908.

ETONENSIS.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Jan. 23rd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 17	30 03	S.W.	...	66	53	50	49	51	Cloudy
" 18	30·29	S.W.	...	53	48	43	42	43	Fine
" 19	30 34	E.	...	43	41	34	35	36	Foggy
" 20	30 43	N.E.	...	58	44	36	38	39	Cloudy
" 21	30 57	S.E.	...	43	38	33	35	36	Foggy
" 22	30·43	S.	...	43	42	33	35	37	Overcast
" 23	30·50	S.	...	40	40	36	38	38	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (29th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (30th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2 30 P.M.). Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

SATURDAY (1st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.—(*Odontological Section*). 7 P.M., Council Meeting. 8 P.M., The Curator: Recent Additions to the Museum. Mr. W. W. James: Some Notes on a Case of Extensive Necrosis of the Mandible. (The patient will be in attendance before the meeting.) Mr. J. F. Colyer: The Treatment of Children from a Dental Aspect (illustrated by the epidiascope).

TUESDAY.—(*Medical Section*). 5 P.M., Dr. C. Thomson: Demonstration of the Use of the Kinematograph in Illustration of Disease. Dr. A. F. Hertz: Pathology and Treatment of Constipation (illustrated by lantern slides). (*Therapeutical and Pharmacological Section*). (Apothecaries' Hall, Blackfriars, E.C.) 4.30 P.M., Prof. W. E. Dixon: Arterio-sclerosis and its Causation. Prof. A. R. Cushing: Nutmeg Poisoning.

THURSDAY.—(*Neurological Section*). 8 P.M., Cases. 8.30 P.M., Discussion on "Tics."

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Mr. C. B. Lockwood: The Use of Chemicals in Aseptic Surgery. Dr. S. West: The Nervous Complications in Acute Pneumonia.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY.—8 P.M., Card Cases. 8.30 P.M., Mr. S. Snell: (1) Carcinoma of Orbit; (2) Colobroma of Iris in each Eye occurring in Five Generations. Mr. S. Mayou: Microphthalmia resembling Glioma, with Lenticonus and Hypertrophy of the Ciliary Body. Mr. L. Paton: Optic Neuritis in Cerebral Tumours. Dr. A. J. G. Barker: A Case of Suppurative Tenonitis.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—5.30 P.M., Adjourned Discussion on Dr. Edgecombe's paper on Blood Pressure in Spa Practice (introduced by Dr. F. Fox) Mr. T. Hawksley: Exhibition of Blood Pressure Instruments.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Mr. J. Sherren: The Differential Diagnosis between Injuries of the Spinal Cord and those of Peripheral Nerves.

TUESDAY.—4 P.M., Dr. J. H. Squire: Clinique (Medical). 5.15 P.M., Lecture:—Dr. D. Sommerville: Mucous Colitis.

WEDNESDAY.—4 P.M., Mr. P. J. Freyer: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. W. Langdon Brown: Some Intestinal Intoxications.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Williams: The Bogey of Albuminuria.

FRIDAY.—4 P.M., Mr. S. Stephenson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon: Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Bidwell: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. E. Jones: The Relation of Insanity to Allied Neuroses.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Edwards: Clinical.

FRIDAY.—10 A.M., Dr. M. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. E. Lloyd: Anæsthetics.

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

carefully. Quite recently it was announced in the newspapers that three grammes (less than 50 grains) of radium had been obtained at a cost of £2000 from ten tons of pitchblende in that place. This is no doubt an exaggeration, for it may be said that this amount approaches the total quantity of radio-active substance found in Joachimsthal during the last few years. However that may be, nearly all physiological and physical laboratories in Austria, as well as some clinical stations, possess small quantities of the new element which have been placed at their disposal by the Government.

Legislation as to the Certification and Detention of Lunatics.

Several cases of grave mistakes and unlawful detention of persons in lunatic asylums which have happened within the last few years have led to the adoption by a Parliamentary subcommittee of a Bill modifying the present conditions of admission into these institutions. Thus before a person can be put under the control of a trustee on account of his mental condition a judge must make an order, after previously hearing the opinion of duly qualified medical men, some of whom may be selected by the person alleged to be insane. No asylum may receive a patient without the written order of a judge unless the patient seeks admission voluntarily. The detention of a person against his will may not last longer than one year and if prolongation is necessary a new examination of his mental condition by a medical committee is again required.

Jan. 20th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Sudden and Violent Deaths in Montreal in 1907.

ACCORDING to the official report of Coroner McMahon of Montreal there were in that city in 1907 785 deaths attributable to accidents, &c. This was just 25 more than in 1906. There were 83 persons killed by railways, of whom 23 were killed by street railways. There were 27 suicides and 50 people met death from drowning. Fire was responsible for 44 deaths, which number includes the deaths of 17 school children and one teacher which took place in a school. There were 12 homicides and 217 sudden deaths. 51 people died without medical treatment and one through an automobile accident. 18 died in gaols, four in the police stations, and one in the patrol wagon. Alcohol caused four sudden deaths and there were 13 from gas asphyxiation and 17 from scalding. During the year there was only one case of manslaughter.

Birth Statistics.

Montreal has a huge birth-rate which is not perhaps exceeded by any other city in the world. It is shown that the birth-rate for 1907 is in the neighbourhood of 44·20 per 1000 of the population. The average of births for a period of 19 years has been 37·92 per 1000. This was for all nationalities, but during this period the birth-rate amongst French Canadians was over 40. The birth-rate in Montreal is higher than in Toronto by 13·21 per 1000, and the excess in comparison with a number of other cities is as follows: Breslau, 5·61; Prague, 13·18; Munich, 5·5; Vienna, 6·5; Milan, 10·0; Rome, 12·3; St. Petersburg, 6·5; London, 8·7; Paris, 16·4; New York, 10·0; and Philadelphia, 13·0. It is satisfactory to record that the proportion of illegitimate children born in the province of Ontario is steadily decreasing. In the year 1900 one out of every 65 of the children born there was illegitimate. Gradually year by year the proportion has been diminishing until in 1905 only one out of every 74·2 was of that unfortunate class. In 1899 the total number of illegitimate births was 808; in 1900, 800; in 1901, 812; in 1902, 819; in 1903, 782; in 1904, 798; and in 1905, 699. The proportion of illegitimates to every 100 children born in these years has been as follows: 1·80, 1·73, 1·76, 1·72, 1·6, 1·58, and 1·34. The comparison with other countries is most favourable, for the latest quinquennial periods return the illegitimate births to every 100 children born as follows: Austria, 14·55; Belgium, 8·51; Norway, 7·35; England, 4·04; Sweden, 10·80; France, 8·26; Scotland, 6·33; Ireland, 2·65; German Empire, 9·21; Prussia, 7·84; and Italy, 6·34. The following statistics are given of the multiple births in Ontario. From 1899 to 1905, both years inclusive, there have been in each of the years in the Province of Ontario twins as follows: 1899, 296; 1900, 401; 1901, 469; 1902, 523; 1903, 492; 1904, 549; and 1905, 526. In the seven years 1899 to 1905 inclusive there have been 29 births in which triplets have occurred. The proportion of male to female births in 1905 shows an increase over the preceding year, the proportion being 100 female to 105 male.

Toronto's Vital Statistics in 1907.

The total number of births registered in Toronto in 1907 was 6715, two a day more than in 1906. The marriage service was performed 3635 times, almost ten times a day, while the messenger of death entered the city 4563 times, nearly 13 times a day. The following is Toronto's record for the past seven years: 1900 (births, marriages, and deaths): 4530, 1789, 3604; 1901: 4445, 2148, 3404; 1902 (not given); 1903: 5040, 2631, 3730; 1904: 5283, 2867, 3884; 1905: 5816, 3060, 3915; 1906: 5985, 3108, 3960; and 1907: 6715, 3635, 4563.

Small-pox Expensive in Ontario.

Owing to neglect on the part of municipalities throughout the province of Ontario to enforce the Vaccination Act and the small-pox regulations it is estimated by Dr. C. A. Hodgetts, secretary of the Ontario Board of Health, that it has cost the province $2,000,000 in the past ten years. During those years the disease has been present throughout the province in more or less of an epidemic form but of a mild character. At the present time there are several centres and just within a few days from 15 to 20 cases were located in one of Toronto's public schools. Ontario now is a largely unvaccinated province and the reflection is on the municipal authorities themselves. If they had enforced the law as they are empowered so to do there would not have been 1 per cent. of the cases that have been reported during the past decade, for 99 per cent. of the cases have been in unvaccinated persons.

Reorganising the Staff of Toronto General Hospital.

Work in connexion with the reorganising of the visiting staff of the Toronto General Hospital is proceeding apace and it is quite apparent from the appointments which have been made and those which are on the *tapis* that this hospital will hereafter be a pure University hospital. There are to be three services in medicine and those who have been appointed heads are: Dr. A. McPhedran, professor of medicine in the University of Toronto; Dr. W. P. Caven, associate professor; and Dr. Graham Chambers, associate in the same University. Mr. I. H. Cameron, M.B., LL.D., F.R.C.S. (honorary), professor of surgery in the University, will be chief of the surgical staff. The heads of the three active services will be Dr. George A. Bingham, Dr. A. Primrose, and Dr. H. A. Bruce, all clinicians of the University Medical Faculty. Dr. R. A. Reeve, dean of the Medical Faculty and Past President of the British Medical Association, is head in ophthalmology; Dr. George R. McDonagh, head of laryngology, otology, and rhinology; Dr. J. F. W. Ross, head of the gynæcological department; Dr. Kennedy McIlraith, head of obstetrics and pædiatrics; and Dr. Samuel Johnston, head of anæsthetics. The assistants to these and the *outdoor* appointments have yet to be made. The chiefs of medicine and surgery are to confine themselves to these specialties and not to do any general practice.

Jan. 12th.

INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Civil Sanitary Reorganisation.

AN important communication was issued on Dec. 4th last by the Government of India, Home Department, to all local governments and administrations upon the subject of sanitary reform in civil areas.[1] It indicates a distinct advance towards the reorganisation of the civil sanitary department on modern lines and will no doubt attract the attention of sanitarians of all kinds at home and abroad.

Snake-bite in Burma.

A Local Government circular issued in Burma states that in view of the large number of deaths occurring annually in Burma from snake-bite it has been decided to distribute as widely as possible through the province the lancets designed by Sir Lauder Brunton for the treatment of snake-bite with permanganate of potassium. The efficacy of this treatment if at once applied is now established. The distribution will be left to the Commissioner of Divisions through

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[1] This is dealt with at p. 263 of our present issue.—ED. L.

Communications, Letters, &c., have been received from—

A.—Angier Chemical Co., Lond.; Addenbrooke's Hospital, Cambridge; Alkuris, Richmond, *Managing Director of*; *Advisory* Committee for Plague Investigation in India, Lond., Secretary of; Ardath Tobacco Co., Lond.; *Aberdeen Free Press*, Manager of; American Medical Association, Chicago; Messrs. Allen and Hanburys, Lond.

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UNIVERSITY OF CAMBRIDGE.—The following degrees were conferred recently:—

M.C.—E. W. Sheaf, Downing.
M.B., B.C.—F. O. Arnold, Trinity.
B.C.—J. H. Ryffel, Peterhouse; B. P. Campbell, Clare; E. Slack, Pembroke; D. W. A. Bull, Gonville and Caius; B. A. I. Peters, Jesus; H. N. Coleman, Clare; N. M. Fergusson, Magdalene; and W. G. Parkinson, Emmanuel.

UNIVERSITY OF BIRMINGHAM.—The following candidates having passed the necessary examinations have obtained the Diploma in Public Health of this University:—

Tom William Beazeley and William Henderson Davison.

LITERARY INTELLIGENCE.—The Walter Scott Publishing Co. will shortly issue a work by Dr. R. R. Rentoul entitled, "Enthetic Diseases (or the Young Man's Peril)."

LONGEVITY.—Mrs. Williams of Sophia-street, Cardiff, has recently reached the age of 100 years.

AFTER-CARE ASSOCIATION.—The next annual meeting of the After-Care Association will be held at 48, Wimpole-street, London, W., by the kind permission of Dr. G. F. and Mrs. Blandford, on Wednesday, Jan. 29th, at 3 P.M. The chair will be taken by Mr. Anthony Hope Hawkins and after the usual business a paper will be read by Dr. G. H. Savage upon the subject of Convalescence from Mental Disorders.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the ordinary Council on Jan. 16th the diploma of M.R.C.S. was conferred upon John Lawrence Graham-Jones, B.A. Cantab., Cambridge University and St. Thomas's Hospital, and Charles Harold Smith, M.B. *Liverpool*, Liverpool University, who have passed the necessary examinations and have now complied with the by-laws. Licences to practise dentistry were conferred at the same meeting upon Samuel Stephenson Parkinson, Charing Cross and Royal Dental Hospitals, and Wilton Thew, Charing Cross and Royal Dental Hospitals, who have now complied with the by-laws of the College.

INCOME TAX REDUCTION LEAGUE.—A public meeting of the Income Tax Reduction League will be held in the Great Hall, Cannon-street Hotel, at 4 o'clock on Monday, Jan. 27th, when the Right Hon. Viscount St. Aldwyn, the Earl of Kinnoull, the Hon. Herbert C. Gibbs, Sir Alexander H. Brown, Bart., Sir Alexander Henderson, Bart., Professor H. S. Foxwell, and other gentlemen will take part. The Right Hon. Lord Avebury will preside. The aims of the League are: (1) to organise income tax payers for purposes of self-defence; (2) to obtain in times of peace a substantial reduction of the income tax, which ought not to stand at a war rate; and (3) the restriction of income tax to profits actually received by shareholders, or by individual traders, and to exempt depreciation funds from the operation of the tax.

THE CENTRAL POOR-LAW CONFERENCE.—The thirty-sixth annual central conference of the Poor-law authorities of England and Wales will be held in the council chamber of the Guildhall on Tuesday, Feb. 18th, and following day, the Right Hon. Sir Edward Fry, G.C.B., presiding. The Lord Mayor will attend in state and open the proceedings. Sir Edward Fry will then deliver his presidential address. The first day is to be devoted to a discussion on the Relation of Legal Relief and Private Charity, which will be opened by Mr. W. A. Bailward, late chairman of the Bethnal Green board of guardians. A debate is expected on the second day upon the Provision of Work for the Unemployed, opened by Mr. John Kentish Wright (Nottingham) and Mr. Robert Waite (King's Norton), with the Rev. P. S. G. Propert, chairman of the Fulham board of guardians, as selected speaker. The subject of the Treatment of Tuberculosis under the Poor-law will be introduced in a comprehensive paper by Dr. Nathan Raw, physician to the Mill-road Infirmary, Liverpool. Boards of guardians in all parts of England and Wales will, as usual, send delegates, and in addition the 12 Poor-law districts will be officially represented by their members on the central committee, of which Dr. J. Milson Rhodes is chairman, Sir William Chance, Bart., honorary secretary, and Mr. W. G. Lewis (barrister-at-law), secretary.

UNIVERSITY COLLEGE, BRISTOL.—The annual dinner of the University College Colston Society was held on Jan. 14th under the presidency of Mr. G. A. Wills. The chairman announced that his father, Mr. H. Overton Wills, had decided to make a gift of £100,000 towards the fund for the foundation of a university for Bristol and the West of England, provided that a charter be granted within two years. It was stated that £197,000 of the £250,000 required before the charter can be applied for had been subscribed. The guest of the evening was Sir William J. Collins, M.P., Vice-Chancellor of the University of London, who in an interesting speech alluded to the ideals of higher education and added that he considered Bristol had all the elements for the constitution of a vigorous and healthy university.

PROPOSED CONSUMPTION HOSPITAL FOR HEREFORDSHIRE.—At a meeting of the Herefordshire county council on Jan. 11th Sir Richard Harrington moved:—

> That it be referred to the general purposes committee to inquire and report whether it is practicable to establish a county hospital for incipient cases of tuberculosis on the condition of any, and what, payment by the respective boards of guardians throughout the county for pauper patients sent there and to consider the advisability of admitting paying patients.

Sir Richard Harrington said that he thought that a scheme might be adopted whereby the county would not be put to any expense. In other words, the hospital might be made self-supporting. Last year, at a similar hospital in Westmorland, a profit of £359 was made. Mr. George Creswell, who seconded the motion, said that in Herefordshire alone there were 500 persons suffering from consumption. The motion was agreed to.

UNIVERSITY OF LONDON: UNIVERSITY COLLEGE.—A course of eight lectures on the Chemical Constitution of the Proteins will be delivered by Mr. R. H. Aders Plimmer, D.Sc., in the Physiological Laboratory of the College on Wednesdays at 5 P.M., having been commenced on Jan. 22nd. The lectures will deal with the history of the discovery and of the determination of the constitution of the amino acids; the hydrolysis of the proteins and the quantitative determination of the products of hydrolysis; the synthesis of the proteins and the polypeptides; and the action of enzymes on the polypeptides. A course of eight lectures on the Chemistry of the Fats and Carbohydrates will be delivered by Mr. S. B. Schryver, D.Sc., Ph.D., in the Physiological Theatre on Fridays at 5 P.M., commencing to-day (Friday, Jan. 24th). The subject will be considered under the following headings:—The general chemistry of the fats and carbohydrates and the methods of differentiation; the enzymes which act on fats and carbohydrates; the part played by fats and carbohydrates in the general economy of nutrition; and their places of origin and synthesis in animal and vegetable organisms. Both sets of lectures are open to all students of the University of London and also to all qualified medical men and other persons who are specially admitted.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 and 43, Maddox-street, London, W.

The Chemical Basis of Pharmacology. An Introduction to Pharmacodynamics based on the Study of the Carbon Compounds. By Francis Francis, D.Sc., Ph.D., Professor of Chemistry, University College, Bristol, and J. M. Fortescue-Brickdale, M.A., M.D *Oxon.*, *Physician* Bristol Royal Hospital for Sick Children, Medical Registrar Bristol Royal Infirmary, Demonstrator of Physiology, University College, Bristol. Price 14*s.* net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

Aids to Surgery. By Joseph Cunning, M.B., B.S., F.R.C.S. Eng., Surgeon to the Victoria Hospital for Children; Assistant Surgeon to the Royal Free Hospital. Second edition. Price, cloth, 4*s* net; paper, 3*s.* 6*d.* net.

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years after inoculation, can be proved to be due to renewed activity of the spirochætæ in certain situations there seems to be a fair possibility of their being carried to a third generation. But the question is beset with difficulties, since the sexual purity of two persons up to the time of maturity must be proved, and these are generally persons in whom a tendency to vice is also hereditary; for it is known that a person the subject of inherited syphilis is not immune from re-inoculation after a certain period. Hutchinson mentions eight cases that had come under his observation of persons who presented signs of inherited syphilis and who married but whose offspring showed no evidence of the disease. On the other hand, Edmond Fournier collected 116 cases, 59 of which he thought were to be relied upon as showing transmission to the third generation, and R. W. Taylor has published others. Dr. D. M. Hutton brought a case before this society, which is published in the first volume of our reports and is there criticised by Dr. H. Ashby and others. My own experience is limited to one case but it is of unusual importance as both parents showed most obvious signs of inherited syphilis which were unmistakeable. A blind man attended a school for the blind where he met a blind woman for whom he developed a feeling of affection. They were both blind from interstitial corneo-iritis and they both presented the typical physiognomy of the inherited disease—notched teeth and scars around the mouth. They married, and at the time that the man came under my care their first child was about two months old. The blind wife was brought up to visit her husband, and seeing that she was marked by the same disease I sent for the infant who presented no evidence whatever of syphilis, nor did any symptoms of inherited disease develop in the months during which I was able to keep the child under observation. This case, in which there should have been double inheritance, showed, so long as I was able to watch it, complete immunity.

THE INFANT MORTALITY.

There is probably no disease responsible for such an enormous destruction of human life in its earlier stages as that caused by syphilitic parentage. But my experience shows that this mortality is greatest in those families where both parents have suffered from chancre syphilis and obvious secondaries. The severity of the infection and ineffective treatment, or lack of treatment, are the two factors which determine the mortality. I give two illustrations.

CASE 1.—The mother had been married for 11 years and had suffered three months after marriage from rash and sore-throat. The first child was stillborn 12 months after marriage and was miscarried at the sixth month. The second child lived (the mother being at this time under treatment), but had severe snuffles and rash, was very delicate, and had recurrent sores and eruptions. The third, fourth, fifth, sixth, seventh, eighth, and ninth children were all born at full time but they all died from a few minutes to within two or three months of birth. The tenth child was brought up for treatment suffering severely from snuffles, stomatitis, and coppery shiny eruption. Thus two weak children only were living out of ten.

CASE 2.—The mother three weeks after marriage suffered from sores on the vulva, followed by rash and sore-throat, for which she had no prolonged treatment. She was a pale, cachectic-looking woman. The first child, ten months after marriage, was stillborn at the seventh month. The second was prematurely born at the eighth month and lived for a day. The third, born at full time, a fortnight later came out in large brown spots and had snuffles, and was taken to Guy's Hospital and was there treated by having blue ointment rubbed in over the abdomen. This child is still living, and at the age of eleven years she shows no notching of the incisors or evidence of her inheritance. The fourth child did not come out in an eruption until he was five weeks old. He died at the age of six weeks. The fifth, a boy, came out in an eruption at the age of five weeks and died when he was seven weeks old. The sixth was stillborn. The seventh, prematurely born at the eighth month with an eruption upon her, survived for a day. The eighth, a girl, had a rash soon after birth and she died on the eighth day. The ninth, also a girl, was born healthy, but an eruption came out at the third week. She was treated but she died at the age of 11 weeks. The tenth child, a fine boy at birth, came out in an eruption three weeks after birth and was brought up for treatment. He was suffering from symmetrical squamous syphilide of the legs, the feet, the arms, and the ears, and a little on the body, with ulceration of the mouth and the buttocks and severe snuffles. In this series again there were two children only living out of ten.

THE SECONDARY STAGE.

The trite definition that syphilis is a "fever diluted by time" given by the late Dr. Moxon is applicable to the inherited as well as to the acquired disease. I argued that the primary stage is the separation of the placenta and the infection of the infant through the umbilical vein. The secondary or exanthematous stage commences from the second week to as late as the third month. It is characterised by eruptions which may vary from slight brown macular syphilide to pompholyx, by snuffles, stomatitis, condyloma, wrinkled skin, and wasting, and enlargement of the spleen and liver. Then follow certain changes in the bones, in severe cases perhaps epiphysitis (giving rise to pseudo-paralysis), Parrot's nodes (causing natiform skull and square forehead), cranio-tabes, and bent bones.

It cannot be too strongly insisted upon that the moist eruptions and ulcerations about the mouth and anus as well as the vesicular skin affections are charged with the spirochætæ and are highly contagious. From the second to the sixth year there is commonly a rest in the symptoms that are regarded as characteristic, but the tibiæ may become thickened from periostitis or a joint may become swollen and painful and resolve under mercurial treatment. But now the characteristic physiognomy has been gradually formed, the flattened nose, the square forehead, the radiating lines from the mouth, the stunted figure, and the pallid face; and then during the second dentition we look for the three signs pointed out by our great observer, Jonathan Hutchinson, the notched incisor teeth, interstitial corneitis, and syphilitic deafness. Associated with such signs or occasionally independent of them gummatous destruction of the soft or hard palate may occur and ulcerations of the skin and cellular tissue. Destruction of the nasal bones, caries of the forehead and skull, of the long bones and dactylitis may take place as the result of the inherited disease.

MOON'S MOLARS.

The teeth which Mr. J. Hutchinson described as so characteristic of the disease are the notched and narrowed incisors, especially the central incisors of the upper jaw. This defect is brought about by arrest in development of the central columella, of which each incisor has three. But I wish to draw special attention to the characteristic change brought about by the disease in the first molars described by the late Mr. Henry Moon many years ago, since this change has recently been rediscovered both in America and on the continent. The diagram which I show is taken from the fourth edition of "Bryant's Surgery," published in 1884, wherein the article on Teeth is written by Mr. Moon. He figures and describes the syphilitic first molar as "reduced in size and *dome* shaped through the dwarfing of the central tubercle of each cusp" He also contrasts these teeth with mercurial teeth and syphilitic-mercurial teeth. The change in the molar is of some clinical importance, since occasionally it is characteristic when the incisors are normal.

EYES AND EARS.

The eyes may become affected at an early stage by a choroido-retinitis which may leave permanent changes easily recognised by ophthalmoscopic examination, and iritis, though rare, may occur during the eruptive stage. Interstitial keratitis is most frequent between the ages of six and 16 years but may occur much later and rarely earlier. It is highly characteristic of the inherited disease.

Like the eyes, the ears are attacked by different affections in the early and late stages. During the eruptive stage otitis media may commence as an extension from the inflammation of the naso-pharynx, whilst during the second dentition a progressive deafness of labyrinthine origin may cause complete loss of hearing. Specialists in these departments will, I hope, give us some new facts relative to the syphilitic manifestations in the eyes and ears.

INHERITED SYPHILIS ATTACKING THE VISCERA.

Much work has been done in demonstrating the disease in the various viscera, not one of which appears to be exempt, and there is probably a large field still open here for further investigation. Enlarged spleen and liver associated with rickets may be proved almost invariably to be of syphilitic origin. The disease attacks the various organs in two forms, as a small cell infiltration usually following the course of the vessels, which in its development and decline may lead to

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, Clapham-road, S.W.—House Surgeon for six months. Salary at rate of £20 per annum, with board and lodging.

Birmingham, City of.—Medical Officer (female) for Notification of Births Act. Salary £200 per annum.

Blackburn County Borough, Education Committee.—Assistant Medical Officer of Health. Salary £150 per annum.

Bolingbroke Hospital, Wandsworth Common, S.W.—Surgeon.

Bootle, Borough of, Hospital for Infectious Diseases.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, washing, and apartments.

Brighton, Sussex County Hospital.—Second House Surgeon, unmarried. Salary £60 per annum, with board and residence.

Brighton Throat and Ear Hospital, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

Bristol, University College.—Demonstrator of Physiology.

Cambridgeshire, &c., Asylum, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120, rising to £150 per annum, with board, lodging, and attendance.

Cancer Hospital, Fulham-road, London, S.W.—House Surgeon for six months. Salary £70.

Carmarthen, Joint Counties Lunatic Asylum.—Assistant Medical Officer. Salary £200 per annum, with board, lodging, washing, and attendance.

Chesterfield and North Derbyshire Hospital.—Junior House Surgeon. Salary £80 per annum, with board, apartments, and laundry.

City of London Lying-in Hospital, City-road, E.C.—Two Physicians.

Croydon, County Borough of.—Female Assistant to the Medical Officer of Health. Salary £250 per annum.

Devonport, Royal Albert Hospital.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board, lodging, and laundry.

Great Yarmouth County Borough.—Assistant Medical Officer of Health. Salary £200 per annum.

Hampstead General Hospital, amalgamated with the North-West London Hospital.—Two Physicians and two Surgeons.

Hull, Royal Infirmary.—House Physician-in-Charge, unmarried. Salary £105 per annum, with board and apartments.

Ireland, Lurgan Union Workhouse and Fever Hospital.—Resident Medical Officer (female). Salary £80 per annum, with apartments, laundry, and rations.

King Edward VII. Sanatorium, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

Leeds Tuberculosis Association.—Resident Medical Officer of Health for the Sanatorium at Gateforth, near Selby, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

Liverpool Hebrew Tontine Society.—Surgeon.

Montgomery County Council.—Medical Officer of Health. Salary £75 per annum.

Mount Vernon Hospital for Consumption and Diseases of the Chest, Hampstead and Northwood, Middlesex.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

Northampton County Asylum, Berry Wood.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £200, with board, lodging, and washing.

Royal Hospital for Diseases of the Chest, City-road, E.C.—Assistant Physician.

Salford, Ladywell Sanatorium.—Assistant Medical Officer. Salary £150 per annum, with apartments and board.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Honorary Medical and Surgical Registrar.

Seamen's Hospital Society.—Surgeon at Branch Hospital.

St. Pancras and Northern Dispensary, 126, Euston-road.—Honorary Physician.

Stroud General Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Western General Dispensary, Marylebone-road, N.W.—Honorary Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

Last.—On Jan. 12th, at Littlehampton, the wife of Cecil E. Last, M.R.C.S., L.R.C.P. Lond., of a daughter.

Rix.—On Jan. 18th, at 4, Dennington Park-road, West Hampstead, N.W., the wife of Francis W. Rix, M.B., of a son.

DEATHS.

Best.—On Jan. 11th, at Cheltenham, Frederic Arthur Best, M.R.C.S., L.S.A. Lond., aged 69 years.

Gale.—On Sunday, Jan. 19th, John Dakeyne Gale, of 26, St. George's-road, S.W., Senior Partner in the firm of Gale and Company, 15, Bouverie-street, Fleet-street, E.C.

Greaves.—On Jan. 20th, at Eastgate-street, Stafford, Charles Henry Greaves, M.D.

Knaggs.—On Jan. 16th, H. Guard Knaggs, M.D., F.L.S., Lennard-road, Folkestone, in his 75th year.

Pirie.—At 20, Bonaccord-square, Aberdeen, on Jan. 16th, suddenly, Margaret, beloved wife of W. R. Pirie, M.B.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE WINTER EXHIBITION AT THE ROYAL ACADEMY.

To the Editor of THE LANCET.

SIR,—My somewhat belated letter is due to my custom of reserving your classical and art notes—which, I may add, I enjoy hugely and esteem highly—for digestion on the Sunday following publication.

The cause of the letter is to be found in your remarks in THE LANCET of Jan. 11th on the Cowley picture. Anything reflecting even indirectly on Abraham Cowley I feel as if cast on a personal friend, and I would like to be permitted to point out that many of your readers not acquainted with his studies and his life might derive a derogatory opinion of him from your sentence: "Cowley began to study medicine about 1656, and on Dec. 2nd, 1657, he was created M.D. at Oxford 'by order of the Government'—a piece of servility impossible in these days." As hurried journalism such a sentence is permissible and striking, for it is the bare truth; as compared to your classical notes it is sadly wanting in perspective.

As this note is intended for your edification (and perhaps later, if you see fit to correct the impression, for your readers also) may I recapitulate the essential features in Cowley's life which rendered "the order of the Government" not only possible but necessary?

"Entered at Trinity, Cambridge, 1636, B.A. 1639, *minor* Fellow 1640, major Fellow 1642, and M.A. in due course," he was ousted from that stronghold of Puritanism, or at least of Parliamentarism, on account of his strong Royalist opinions and sought refuge from his beloved though Saeva Mater at St. John's College, Oxford, the Royalist centre. We have little or no direct information on his individual studies, but it at least is presumable he began at that time the study of medicine, such as it was, and particularly from his predilection to botany, which then bulked largely in medical studies. Following the train of Queen Henrietta he was absent from England some 12 years, and only returned to be cast into a Cromwellian prison as a spy. Whether he did return with that intention or impelled by the growing fatalism that Cromwellianism was become perpetuated, it is certain that he was a suspected person, "for some time under Trouble, but at length complying (even too much as far as I can learn) with some in power, he got an order to be created M.D. (as he afterwards actually was) at Oxford."

Of course he *got* an "*order*" or otherwise he would not have been permitted to study and qualify at Oxford, released from prison as he was on the bail of Dr. Ch. Scarbrugh for £1000; a bail not abrogated in spite of his compliance.

So far as one can learn he made no use of his medical knowledge in practice, but "in the commencement of the Royal Society, of which an account has been given by Dr. Birch, he appears busy among the experimental philosophers under the title of Dr. Cowley."

My point is that Cowley returned to Oxford to complete studies already commenced in 1642. He was very much blamed for compliance ("even complying too much") and so obtaining his release from prison. The "order" saw to it that Oxford should not reject his attendance on that account and possibly also acted as a deterrent to any Royalists there with whom Cowley might seek to enter into treasonable conversation if there still remained any disposition on his part to act as a secret Royalist agent. Notwithstanding the "order" Cowley remained a "suspect" during the remaining tenure of Puritan Governments, and some even considered his medical studies a mere blind for treasonable practice.

If the "order of Government" had been an act of favouritism towards Cowley, surely he would not have been placed at the same time under a bail of £1000—a very large sum then. That would be a kiss and a blow with a vengeance!

He was known to have been the channel through which all the plotting correspondence of the exiled court for 12 years had been conducted, and having secured his release from prison by compliance with the Puritan Government I think my view of the "order" becomes a very reasonable one. *He was a "suspect" of both parties* explains it in short.

I must hunt up the terms of the "order" some day; it would be an interesting point to university men.

I am, Sir, yours faithfully,

Jan. 19th, 1908. N. CAMPBELL.

SHIP SURGEONS AND VACCINATION FEES.

To the Editor of THE LANCET.

SIR,—Not long ago Brazil, Uruguay, and Argentina passed laws insisting upon the vaccination of passengers before landing, and the shipping companies made their ship surgeons do the extra work without any extra pay, which in one case at least led to a difference of opinion.

Can anyone give information how matters stand at the present time, and whether the question of extra pay for the extra work has been settled in an equitable manner by any of the shipping companies running to South America? I am, Sir, yours faithfully,

Jan. 18th, 1908. BITTEN.

people with embryos in their blood was high; where there was little disease, then the percentage was low. Applying such tests to the different islands and British Guiana, all, with the exception of the latter and Barbados, much the same physically, and all, Barbados and British Guiana included, teeming with the proper intermediate host (culex fatigans) for filaria nocturna, the inequality of the distribution was very marked, reaching a very high percentage in St. Kitts and falling to practically zero in Grenada. The following are the detailed results in order of frequency:—

St. Kitts.—143 cases examined by night; 47 suffering from filaria nocturna disease = 32·8 per cent.; with symptoms 9, without 38. White people of the best class: 23 examined, 7 infected = 30·4 per cent.; with symptoms 3, without 4. Elephantiasis cases: 14 examined, embryos present in 3.

British Guiana.—150 examined by night; 25 suffering from filaria nocturna = 16·6 per cent.; with symptoms 5, without 20. Race characteristics: general population of hospital, negroes, coloured, Portuguese, and whites; 100 examined, 22 infected = 22 per cent.; with symptoms 5, without 17. Coolies (East Indians), 50 examined; 3 infected = 6 per cent.; with symptoms *nil*, without 3. Elephantiasis cases: 15 examined, embryos present in 1.

Barbados.—600 cases examined by night; 76 suffering from filaria nocturna = 12·66 per cent.; with symptoms 27, without 49. Elephantiasis cases: 10 examined, embryos present in none.

Race Characteristics.

Race.	Number examined.	Non-infected.	Infected.	Percentage.
Negroes	401	357	44	10·9
Mulattos	160	142	18	11·2
Whites...	39	25	14	35·3
Total	*600*	*524*	*76*	*12·66*

Trinidad.—400 cases examined by night; 43 suffering from filaria nocturna = 10·75 per cent.; with symptoms 19, without 24. Elephantiasis cases: 83 examined, embryos present in none.

Dominica.—144 cases examined by night; 11 suffering from filaria nocturna = 7 63 per cent.; with symptoms 2, without 9. Elephantiasis cases: 2 examined embryos present in neither.

St. Lucia.—356 cases examined by night; 27 suffering from filaria nocturna = 7·58 per cent. Elephantiasis cases: 5 examined, embryos present in none.

St. Vincent.—100 cases examined by night; 6 suffering from filaria nocturna = 6 per cent.; with symptoms 2, without 4. Elephantiasis cases: 2 examined, embryos present in neither.

Grenada.—174 cases examined by night; none infected = 0 per cent.

Carriacon (a Grenadine).—28 cases examined by night; 1 suffering from filaria nocturna, but this individual was born and had lived in St. Kitts, only having been in Carriacon one year; so deleting him we get a percentage of 0.

Looking into those figures in detail one notices a very great variability in the amount of filarial disease in the different islands, St. Kitts, one of the smaller islands, heading the list; British Guiana, which, of course, is not an island but on the mainland of South America, coming next; Barbados and Trinidad, both densely populated, next; with the smaller islands Dominica, St. Lucia, St. Vincent, and Grenada last. Why this should be is not very clear, and the case of Grenada is so peculiar that I quote the note I made on it on leaving the island. "Filaria nocturnal disease is very rare in Grenada, this answering to the clinical experience of the medical men in the island who state that they very rarely see cases. It does, however, exist and can, as C. fatigans is present. This is exemplified by one case I saw, a man who, though never out of the island, has varicose groin glands and elephantiasis. (Not being able to get his night blood I did not include him in my general list.) Similar other rare cases are to be found, two such having been heard of. In addition to those examined I also saw one Barbadian with elephantiasis and another with filarial embryos in his blood. The marked exemption of the island may be due to the chief town being mainly on a hillside and to there being few mosquitoes of the species C. fatigans present." The medical man at the small village at Carriacon (an island to the north of Grenada) also informed me that he never saw filarial cases there and my figures obtained bear out his statement. During the day and night I spent there I saw one typical case of elephantiasis, however, but he had lived in Trinidad, where he probably got his infection and the individual in whose blood I found embryos as already mentioned had without doubt acquired those in St. Kitts. In my note on Grenada I mentioned there being few mosquitoes (culex fatigans) present, but still I found examples without much difficulty and they were certainly very abundant in St. Lucia, which is also only slightly infected. It is probable that the number of mosquitoes present may have something to do with the prevalence of the disease, St. Kitts, for example, owing to the dirty privy system in vogue there, simply teeming with culex fatigans, and they are also very numerous in Barbados; but considering all things I have come to the conclusion that there is something more subtle at work than this in determining the distribution of this disease. Climate, by that meaning temperature, rainfall, &c., cannot play much part, as it is practically the same in all the islands, and the same might be said of physical characters, though at the same time I think the flat, low-lying, and thickly populated places are specially prone to the disease. Barbados is of coral formation, the other islands volcanic in origin. Looking at other parts of the world, I have found in the Swahilis (coast natives) of Mombasa 13 out of 50 infected with filaria nocturna, none of these showing any symptoms, and this giving a percentage of 26. In Zanzibar it is probably quite as prevalent, because though not making blood examinations there I nevertheless saw plenty of cases with definite symptoms. In Uganda in the interior it is practically non-existent in the indigenous races, as I only found it in one pure Waganda, though in Nubians from the Nile it occurred in 2 per cent., and I also had a well-marked case of elephantiasis in a Nubian woman. Its absence from the interior might probably be due to the absence or scarcity of culex fatigans, but then, again, Mansonia Africana, which Dr. C. W. Daniels easily infected with filaria nocturna experimentally in British Central Africa, abounds in Uganda also. Quoting from the book of our president, Sir Patrick Manson, on the Prevalence of Filaria Nocturna, I note South China given as 10 per cent.; Friendly Islands, 32 per cent. (Thorpe); Samoa, very high; Madras and West Africa, abundant. In Egypt it is present (Sonsino and others) but I do not know if its percentage has ever been accurately determined. Perhaps Dr. F. M. Sandwith may help us in this. In Brisbane in Australia (Bancroft), originally introduced by the Chinese, it seems to have flourished and spread, and it also occurs in Charlestown in North America.

In dealing with the distribution of filaria Demarquayi and filaria perstans we are not on so certain ground as we do not know the proper intermediate hosts of those parasites yet, unless the tick, the ornithodoros moubata, as Wellman believes, acts for the latter. This being so, their irregular distribution may depend on the presence or absence of the proper intermediary, but whether this is the reason or not I can certainly bring forward some remarkable points as regards their prevalence in certain places. Filaria Demarquayi was discovered by Sir Patrick Manson in blood slides sent to him from the West Indies, from St. Lucia and St. Vincent by the late Dr. Otho Galgey and Dr. C. Newsome respectively, and he gave it the above name in honour of Demarquay who first discovered the embryos of filaria nocturna. On arriving at St. Lucia Dr. Galgey informed me that the slides he had sent Sir Patrick Manson were taken from one of the villages of St. Lucia, Gros Islet by name, and that he believed most of the cases of this parasite were to be found there. Accordingly I investigated the subject and found that the belief, with one possible exception, was perfectly correct, the parasite was limited to this one village of the island. St. Lucia has one main town Castries and five subsidiary townships or villages—namely, Soufriere, Vieux-Fort, Dennery, Gros Islet and Anse-la-Raye. On examining the blood of people from these different villages I got the following results. Gros Islet: 62 people examined; 16, or 25·8 per cent., infected with filaria Demarquayi. Soufriere: 78 people examined; 2 infected, those 2, however, being policemen who had lived for periods in Gros Islet. Anse-la-Raye, none. Vieux Fort, none. Dennery: not examined. Castries: 3 infected, 2 of those Barbadians who had lived in different parts of the island, Gros Islet included; the third, a negro, aged 19 years, with the following record. He was born and had lived in Charlestown Nevis till 17 years of age, then went to Castries, then working in the field at a sugar estate, called Roseau, for four months, then back to Castries with fever; has remained in the town since, never in Gros Islet or north of island. It is possible he may have been infected at Nevis before going to St. Lucia. I also saw the infection in a man from a place called Monchy, near Gros Islet, and in another man who had lived all over the island. The one possible exception was Dennery, a small village on the north

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Demonstration:—Dr. G. P. Chappel: Selected Medical Cases

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Dr. A. J. Whiting: Cases of Aneurysm of the Thoracic Aorta (at the Mount Vernon Hospital Out-patient Department, 7, Fitzroy-square, W.).

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4 P.M., Special Lecture:—Dr. StClair Thomson: Mouth Breathing.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carless: On Movable Kidney.

WEDNESDAY.—2.15 P.M., Dr. P. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Diabetes.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).

TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).

FRIDAY.—3.30 P.M., Lecture:—Dr. C. Lockyer: Cancer of the Womb.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Dr. A. Turner: Cranial Nerve Paralysis.

FRIDAY.—3.30 P.M., Lecture:—Dr. J. Taylor: Myopathies.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: Syphilis: History and Primary Invasion (Constitutional and Local). Eruptions, Erythematous (I., Macular; and II., Maculo-Papular).

CHARING CROSS HOSPITAL.

THURSDAY.—3 P.M., Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M., Demonstration:—Dr. W. Hunter: Medical. (Post-Graduate Course).

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle street, Piccadilly, W.

FRIDAY.—9 P.M., Prof. E. Rutherford: Recent Researches on Radio-Activity.

ROYAL SANITARY INSTITUTE, Parkes Museum, Margaret-street, W.

WEDNESDAY.—8 P.M., Discussion on Rivers Pollution, with Special Reference to the Board proposed by the Royal Commission (opened by Sir William Ramsay, K.C.B.).

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1907 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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During the week marked copies of the following newspapers have been received:—*Morning Advertiser, Manchester Evening Chronicle, Edinburgh Evening News, Morning Post, Daily Chronicle, The Tribune, Daily Graphic, Liverpool Courier, Manchester Courier, Daily Express, Birmingham Post, Daily News, Manchester Dispatch, Northern Whig, Bournemouth Echo, Westminster Gazette, Cork Examiner, Lymington Chronicle, Poole Herald, Coventry Times, &c.*

people with embryos in their blood was high; where there was little disease, then the percentage was low. Applying such tests to the different islands and British Guiana, all, with the exception of the latter and Barbados, much the same physically, and all, Barbados and British Guiana included, teeming with the proper intermediate host (culex fatigans) for filaria nocturna, the inequality of the distribution was very marked, reaching a very high percentage in St. Kitts and falling to practically zero in Grenada. The following are the detailed results in order of frequency:—

St. Kitts.—143 cases examined by night; 47 suffering from filaria nocturna disease = 32·8 per cent.; with symptoms 9, without 38. White people of the best class: 23 examined, 7 infected = 30·4 per cent.; with symptoms 3, without 4. Elephantiasis cases: 14 examined, embryos present in 3.

British Guiana.—150 examined by night; 25 suffering from filaria nocturna = 16·6 per cent.; with symptoms 5, without 20. Race characteristics: general population of hospital, negroes, coloured, Portuguese, and whites; 100 examined, 22 infected = 22 per cent.; with symptoms 5, without 17. Coolies (East Indians), 50 examined; 3 infected = 6 per cent.; with symptoms *nil*, without 3. Elephantiasis cases: 15 examined, embryos present in 1.

Barbados.—600 cases examined by night; 76 suffering from filaria nocturna = 12·66 per cent.; with symptoms 27, without 49. Elephantiasis cases: 10 examined, embryos present in none.

Race Characteristics.

Race.	Number examined.	Non-infected.	Infected.	Percentage.
Negroes	401	357	44	10·9
Mulattos	160	142	18	11·2
Whites...	39	25	14	35·3
Total	600	524	76	12·66

Trinidad.—400 cases examined by night; 43 suffering from filaria nocturna = 10·75 per cent.; with symptoms 19, without 24. Elephantiasis cases: 83 examined, embryos present in none.

Dominica.—144 cases examined by night; 11 suffering from filaria nocturna = 7·63 per cent.; with symptoms 2, without 9. Elephantiasis cases: 2 examined embryos present in neither.

St. Lucia.—356 cases examined by night; 27 suffering from filaria nocturna = 7·58 per cent. Elephantiasis cases: 5 examined, embryos present in none.

St. Vincent.—100 cases examined by night; 6 suffering from filaria nocturna = 6 per cent.; with symptoms 2, without 4. Elephantiasis cases: 2 examined, embryos present in neither.

Grenada.—174 cases examined by night; none infected = 0 per cent.

Carriacon (a Grenadine).—28 cases examined by night; 1 suffering from filaria nocturna, but this individual was born and had lived in St. Kitts, only having been in Carriacon one year; so deleting him we get a percentage of 0.

Looking into those figures in detail one notices a very great variability in the amount of filarial disease in the different islands, St. Kitts, one of the smaller islands, heading the list; British Guiana, which, of course, is not an island but on the mainland of South America, coming next; Barbados and Trinidad, both densely populated, next; with the smaller islands Dominica, St. Lucia, St. Vincent, and Grenada last. Why this should be is not very clear, and the case of Grenada is so peculiar that I quote the note I made on it on leaving the island. "Filaria nocturnal disease is very rare in Grenada, this answering to the clinical experience of the medical men in the island who state that they very rarely see cases. It does, however, exist and can, as C. fatigans is present. This is exemplified by one case I saw, a man who, though never out of the island, has varicose groin glands and elephantiasis. (Not being able to get his night blood I did not include him in my general list.) Similar other rare cases are to be found, two such having been heard of. In addition to those examined I also saw one Barbadian with elephantiasis and another with filarial embryos in his blood. The marked exemption of the island may be due to the chief town being mainly on a hillside and to there being few mosquitoes of the species C. fatigans present." The medical man at the small village at Carriacon (an island to the north of Grenada) also informed me that he never saw filarial cases there and my figures obtained bear out his statement. During the day and night I spent there I saw one typical case of elephantiasis, however, but he had lived in Trinidad, where he probably got his infection and the individual in whose blood I found embryos as already mentioned had without doubt acquired those in St. Kitts. In my note on Grenada I mentioned there being few mosquitoes (culex fatigans) present, but still I found examples without much difficulty and they were certainly very abundant in St. Lucia, which is also only slightly infected. It is probable that the number of mosquitoes present may have something to do with the prevalence of the disease, St. Kitts, for example, owing to the dirty privy system in vogue there, simply teeming with culex fatigans, and they are also very numerous in Barbados; but considering all things I have come to the conclusion that there is something more subtle at work than this in determining the distribution of this disease. Climate, by that meaning temperature, rainfall, &c., cannot play much part, as it is practically the same in all the islands, and the same might be said of physical characters, though at the same time I think the flat, low-lying, and thickly populated places are specially prone to the disease. Barbados is of coral formation, the other islands volcanic in origin. Looking at other parts of the world, I have found in the Swahilis (coast natives) of Mombasa 13 out of 50 infected with filaria nocturna, none of these showing any symptoms, and this giving a percentage of 26. In Zanzibar it is probably quite as prevalent, because though not making blood examinations there I nevertheless saw plenty of cases with definite symptoms. In Uganda in the interior it is practically non-existent in the indigenous races, as I only found it in one pure Waganda, though in Nubians from the Nile it occurred in 2 per cent, and I also had a well-marked case of elephantiasis in a Nubian woman. Its absence from the interior might probably be due to the absence or scarcity of culex fatigans, but then, again, Mansonia Africana, which Dr. C. W. Daniels easily infected with filaria nocturna experimentally in British Central Africa, abounds in Uganda also. Quoting from the book of our president, Sir Patrick Manson, on the Prevalence of Filaria Nocturna, I note South China given as 10 per cent.; Friendly Islands, 32 per cent. (Thorpe); Samoa, very high; Madras and West Africa, abundant. In Egypt it is present (Sonsino and others) but I do not know if its percentage has ever been accurately determined. Perhaps Dr. F. M. Sandwith may help us in this. In Brisbane in Australia (Bancroft), originally introduced by the Chinese, it seems to have flourished and spread, and it also occurs in Charlestown in North America.

In dealing with the distribution of filaria Demarquayi and filaria perstans we are not on so certain ground as we do not know the proper intermediate hosts of those parasites yet, unless the tick, the ornithodoros moubata, as Wellman believes, acts for the latter. This being so, their irregular distribution may depend on the presence or absence of the proper intermediary, but whether this is the reason or not I can certainly bring forward some remarkable points as regards their prevalence in certain places. Filaria Demarquayi was discovered by Sir Patrick Manson in blood slides sent to him from the West Indies, from St. Lucia and St. Vincent by the late Dr. Otho Galgey and Dr. C. Newsome respectively, and he gave it the above name in honour of Demarquay who first discovered the embryos of filaria nocturna. On arriving at St. Lucia Dr. Galgey informed me that the slides he had sent Sir Patrick Manson were taken from one of the villages of St. Lucia, Gros Islet by name, and that he believed most of the cases of this parasite were to be found there. Accordingly I investigated the subject and found that the belief, with one possible exception, was perfectly correct, the parasite was limited to this one village of the island. St. Lucia has one main town Castries and five subsidiary townships or villages—namely, Soufriere, Vieux-Fort, Dennery, Gros Islet, and Anse-la-Raye. On examining the blood of people from these different villages I got the following results. Gros Islet: 62 people examined; 16, or 25·8 per cent., infected with filaria Demarquayi. Soufriere: 78 people examined; 2 infected, those 2, however, being policemen who had lived for periods in Gros Islet. Anse-la-Raye, none. Vieux Fort, none. Dennery: not examined. Castries: 3 infected, 2 of those Barbadians who had lived in different parts of the island, Gros Islet included; the third, a negro, aged 19 years, with the following record. He was born and had lived in Charlestown Nevis till 17 years of age, then went to Castries, then working in the field at a sugar estate, called Roseau, for four months, then back to Castries with fever; has remained in the town since, never in Gros Islet or north of island. It is possible he may have been infected at Nevis before going to St. Lucia. I also saw the infection in a man from a place called Monchy, near Gros Islet, and in another man who had lived all over the island. The one possible exception was Dennery, a small village on the north

An Address

ON

INHERITED SYPHILIS.

Delivered before the Society for the Study of Disease in Children on Nov. 13th, 1907,

BY R. CLEMENT LUCAS, B.S., M.B. LOND., F.R.C.S. ENG.,

CONSULTING SURGEON TO GUY'S HOSPITAL AND TO THE EVELINA HOSPITAL FOR CHILDREN; MEMBER OF THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

GENTLEMEN,—This discussion upon inherited syphilis opens under quite different circumstances from those under which it would have done had it been held three or even two years ago, for it is now generally accepted that the spirochæta pallida discovered by Schaudinn and Hoffmann in 1905 is the true cause of the disease and that mercury, formerly given empirically, is a direct antidote by causing destruction of the parasite.

THE NAME.

This leads me to say a word or two on the three terms applied to this form of the disease: (1) congenital, (2) hereditary, and (3) inherited. Of these three I greatly prefer the third. "Congenital" besides being objectionable in form and suggestion is not universally true; "hereditary" suggests something that may be passed on indefinitely, of which there is no proof; whilst "inherited" implies only something derived from the parents which is detachable, like a fortune or misfortune, and this more correctly expresses the passing on of the spirochætæ to the offspring.

THE MICRO-ORGANISM.

The cause of syphilis, whether inherited or acquired, is the presence in the blood and tissues of the same organism, which can be demonstrated in the various secondary lesions, in the blood, and in the internal organs. The spirochæta pallida is a protozoon of spiral form from 4 to 20 μ in length (about half to three times the diameter of the blood corpuscle) and $\frac{1}{4}\,\mu$ in diameter, with a flagellum at either extremity. It is very motile, and its motility is of three kinds—a lashing, a corkscrew, and a to-and-fro movement. It stains pale pink with Giemsa's fluid, whilst the coarser, highly refracting spirochæta refringens, with which it is often associated, stains dark purple.

THE MODE OF TRANSMISSION.

The discovery of the cause of the disease necessitates the rearrangement of our former views as to its transmission. To those who remember the revolution in thought caused by the discovery of the tubercle bacillus—how that the long-taught diathesis gradually receded into the background and the danger of contagion by intercommunication in houses and families grew into importance—will be prepared for some change of idea in reference to syphilis.

To my mind inheritance from the father alone is *now put* entirely out of court, and it follows that infection of a mother by her syphilitic fœtus can never occur. For how is it possible that a spirochæta which is highly motile and the length of which averages rather more than the diameter of a blood corpuscle, can penetrate an ovum $\frac{1}{120}$th of an inch in diameter and multiply without destroying it. I lay it down as an axiom to be demolished if you will by discussion, *that inheritance is invariably through the syphilised mother*. This is supported by Colles's law that a syphilitic infant cannot cause a chancre on the nipple of his mother when suckling. It would seem that when virulent the spirochætæ penetrate the chorion or placenta and occasion miscarriages, macerated fœtuses, or premature births; but when the virus is attenuated by time or treatment the placenta forms a complete protection to the developing fœtus and it is the separation of the placenta at birth which allows the infection to take place through the umbilical vein. Hence the regularity of the secondary exanthematous stage from a fortnight to three months after birth. *In these cases the separation of the placenta is the first stage and corresponds to the chancre of acquired syphilis.*

COLLES'S LAW.

I alluded to Colles's law (which was first stated in 1837) in support of the argument that the woman was always first syphilised before the embryo or infant. The law is that a woman giving birth to a syphilitic infant cannot be inoculated with syphilis by the infant when she is suckling him—in other words, though the mother may have shown no definite signs of syphilis she is immune; whereas, the syphilitic infant put to the breast of a healthy woman may inoculate her nipple and convey syphilis to her. Hitherto, Colles's law has been used as an argument in support of the view that the mother may get a mild form of syphilis from her syphilitic fœtus whose syphilis is supposed to be derived entirely from the father. But the law of immunity will remain equally true if it be supposed that the mother is first inoculated by the father, a large dose of the protozoon causing an obvious eruptive syphilis, and a small dose a syphilis which misses the eruptive stage.

Syphilis in a man is generally admitted to be capable of transmission to a succeeding generation for a much shorter time than syphilis in a woman, and this supports the view which I have stated—viz., that for transmission, it is necessary that the woman be first infected.

TRANSMISSION BY MILK.

The question whether the milk of a syphilitic female may infect a healthy infant at the breast has been discussed for two and a half centuries, since Ambroise Paré, in the seventeenth century quaintly observed: "Infants suckled by syphilitic nurses are infected by them, seeing that the milk is nothing but whitened blood, which being infected by the virus the child fed with it imbibes the same qualities." Hunter, founding his argument on ineffectual attempts to inoculate the blood of a syphilitic person, came to the conclusion that not only the blood but every secretion derived from it, such as milk, saliva, perspiration, &c., could not convey the disease. But his experiments were inconclusive and his deductions incorrect. Pellizzari succeeded in inoculating the blood of a syphilitic person and, if Voss's experiment is to be trusted, milk has been directly inoculated also.

A remarkable case bearing on this subject I showed before the Royal Medical and Chirurgical Society in 1881. A woman, aged 30 years, gave birth to a healthy child on Dec. 11th, whom *she suckled*. During the following Eastertide her husband inoculated her with syphilis, but she continued to suckle the child. She consulted me three months later, when she was suffering from severe secondaries, squamous eruption, sore-throat, condyloma, and loss of hair, but the child showed no sign of infection. The mother was then treated with small doses of mercury. She and the child were shown when the latter was ten months old. The child had continued to suckle and he remained plump and in perfect health, though the mother still had patches of circinated squamous syphilide on her arms. During the two years that the mother remained under my care for treatment the child showed no sign of inherited syphilis. The importance of this case rests on the fact that the mother had suckled her child for three months after her infection before any treatment was commenced, so that it cannot be argued that the infant was taking the antidote in the mother's milk with the poison and so escaped a source of possible inoculation; but it proves that the milk of a syphilitic woman when received into the alimentary tract of an infant need not convey any infection to the child.

TRANSMISSION BY SEMEN.

It is obvious, as the greater cannot be included in the less, that a spirochæta cannot be carried in a spermatozoon; but this does not exclude the possibility of the spirochætæ being conveyed by the fluid parts of the semen.

The early experiments of inoculation by Mireur failed, but if the recent results obtained by Finger on monkeys be correct the semen of syphilitic men is inoculable. It seems almost necessary that it should be so to account for the cases of inherited syphilis conveyed after the healing of the chancre. If the presence of the spirochætæ could be with certainty demonstrated in the semen of men suffering from recent syphilis much doubt would disappear; and, in the cases where no chancre could be traced in the woman, the probability of the infection being carried through the uterus, after the disintegration of its lining membrane at any menstrual period, would be apparent.

TRANSMISSION TO THE THIRD GENERATION.

Another question much open to discussion is whether syphilis inherited is capable of transmission to the third generation. If the tertiary symptoms, occurring ten or 20

A CASE OF SEVERE ECTHYMA FROM WHICH THE DIPHTHERIA BACILLUS HAS BEEN ISOLATED.

By A. EDDOWES, M.D. EDIN., M.R.C.P. LOND.,
PHYSICIAN TO ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, LEICESTER-SQUARE, LONDON, W.C.;

AND

J. G. HARE,
PATHOLOGIST AND BACTERIOLOGIST TO ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.

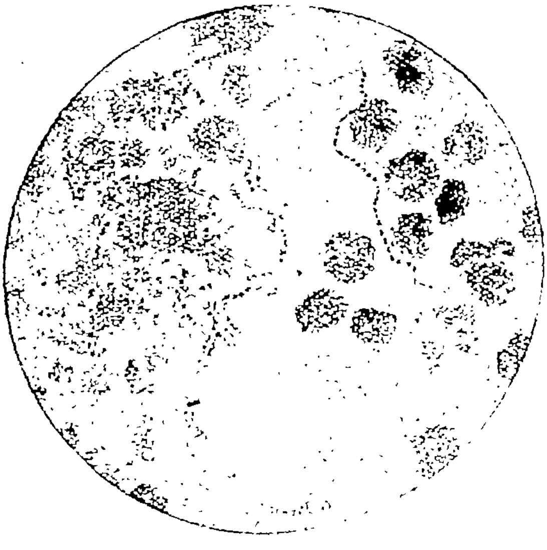
The patient, a girl, aged 11 years, was first seen on Jan. 2nd, 1907. The case was recognised as one of severe type. The contents of a bulla were examined bacteriologically but no streptococcus was found on this occasion. Carbolic lotion and mercurial ointment were prescribed and the patient was told to come again in a week's time. On the 9th the patient showed numerous bullæ on both arms, hands, and lips. Upon the left anterior pillar of the fauces could be seen traces of a ruptured and healing vesicle. There was no false membrane; there was no complaint of sore-throat, though there had been some soreness felt in the throat three days previously. As the child appeared ill and the case was probably being mismanaged at home she was admitted to St. John's Hospital for Diseases of the Skin as an in-patient, but before admission the case was again sent for a careful bacteriological examination. Some uneasiness was felt on account of the patient's general symptoms, but improvement took place at once after she had passed into the hands of the nurses and had all the sores thoroughly dressed with antiseptics; in fact, in 24 hours the patient was quite out of danger and made an uninterrupted recovery. Careful inquiry failed to elicit any plausible origin of the infection. Incidentally it may be mentioned that the child's father is the subject of myxœdema. The child's skin, however, is naturally normal. In May the child was seen and again later and there had not been any relapse.

Bacteriological Report.

1. A small bulla on the right hand was carefully sterilised first with 1 in 20 carbolic acid solution and afterwards with ether and then a sterile platinum needle was inserted and an agar slope inoculation was made with the fluid. From this a growth of staphylococcus aureus with the staphylococcus epidermidis albus was obtained 18 hours later. On plating these two organisms were found to be in pure cultuer.

2. The surface of the bulla was excised and a gentle impression was made on a microscopic slide from the "ceiling" or under surface of the roof of the bulla. This was also scraped with a sterile platinum loop and an agar tube inoculated. The slide was stained with Loeffler's methylene blue and on examination it showed long-chained streptococci, apparently in pure culture (Fig. 1). From the inoculated tube a growth of streptococcus was obtained in pure cultivation. This was again subcultured in broth and a characteristic growth was obtained.

FIG. 1.

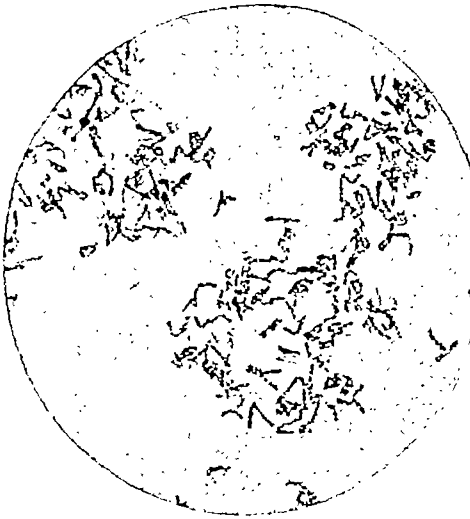


Streptococci. Impression from bulla.

3. A small unbroken pustule on the left hand was then examined. A platinum needle was inserted and two agar-agar tubes inoculated. The growth obtained 18 hours later was typical staphylococcus aureus and albus but together with these, and in separate colonies, there was a thin translucent growth which on smears being made and stained with methylene blue showed a bipolar staining bacillus. The bacilli in parts were only faintly stained; the grouping arrangement was parallel; there were many club-shaped forms, also V-shaped splitting (Fig. 2). The organism reacted to Neisser's stain and it also stained by Gram's method. From this colony two blood-serum tubes were inoculated and the bacillus was obtained in pure culture.

On Jan. 17th, 1907, a 300 gramme guinea-pig was inoculated per peritoneum with two cubic centimetres of serum suspension of this culture. 27 hours later the guinea-pig was dead. On the 19th a post-mortem examination was made, revealing extensive œdema of the peritoneum and hæmorrhages and enlargement of the spleen. Cultures were made from the seat of inoculation and from the heart on blood serum and a growth of this organism was obtained 18 hours later. At the same time a guinea-pig was inoculated with the streptococcus. The organism appears to be non-pathogenic, as up to the time of writing the guinea-pig is still alive. A third guinea-pig, however, being inoculated with the bipolar staining bacillus *plus* the staphylococcus died 72 hours later, and both organisms have been recovered in pure culture. Further inoculations were then made. A guinea-pig was inoculated with 0·75 cubic centimetre of the organisms obtained in pure culture from the guinea-pig. Death occurred 48 hours later, while one inoculated with 1·2 cubic centimetres of culture *plus* 1 cubic centimetre of diphtheritic antitoxin is still alive.

FIG. 2.



Klebs-Löffler bacillus from pustule on the hand.

All the lesions cleared up rapidly under local antiseptic treatment so it was not deemed necessary to employ antitoxin.

In a second case I am indebted to Dr. Alan B. Slater for carrying out the treatment at the patient's own home.

*** The second case referred to by Dr. Eddowes appeared in THE LANCET of Jan. 4th. No mention was then made by Dr. Slater that he was associated with Dr. Eddowes in the case, while we were unaware that the patient came under treatment at the St. John's Hospital for Diseases of the Skin and not at the Farringdon General Dispensary, where Dr. Slater is physician to the Skin Department. Dr. Slater, whose attention we have drawn to the matter, says that the case was handed over to him by Dr. Hargreaves, physician to the St. John's Hospital, whose assistant he was, with full permission for publication.—ED. L.

THE ROYAL SANITARY INSTITUTE.—The List of Honorary Fellows, Members, and Associates elected in January, 1908, includes the following names: Professor Dott. Cavaliere Giuseppe Badaloni, of Rome; Professor Leo Burgerstein, of Vienna; Professor G. W. Chlopine, of St. Petersburg; Professor H. Griesbach, of Mulhausen; Professor Kirchner, of Berlin; Dr. Albert Mathieu, of Paris; Professor M. Mishima, M.D., Principal Medical Officer, Ministry of Education, Tokio; Dr. Luigi Pagliani, Professor of Hygiene, University of Turin; Professor Alb. Palmberg, of Helsingfors; Sir H. H. Pinching, K.C.M.G., late Director-General, Public Health Department, Cairo, Egypt; and Dr. Marc Armand Ruffer, C.M.G.

fibrosis and consequent atrophy, and as a gummatous tumour which is less common. When the inherited disease attacks both testicles or both ovaries at an early age and brings about their fibrosis and atrophy, a condition known as *infantilism* is produced at a period when the sexual characteristics should be pronounced. The physicians present will, I hope, give us much new information on inherited syphilis of the viscera.

THE NERVOUS SYSTEM.

Much difference of opinion exists as to the frequency of nervous disease dependent on inherited syphilis. Whilst some are inclined to attribute every conceivable weakness, paralysis, or mental defect to this disease, others regard the nervous lesions dependent on it as infrequent. A certain proportion of epileptics, deaf-mutes, and idiots, but not a large percentage, show signs of inherited syphilis. On the other hand, syphilitic endarteritis of cerebral vessels, gummata on nerves, and sclerosis of brain and spinal cord have been noticed by competent observers. One of the most interesting observations of late years is that some cases of hydrocephalus are dependent on inherited syphilis and are curable by mercury.

THE NEED OF CRITICISM IN DIAGNOSIS.

In conclusion, I wish to insist on the importance of weighing carefully all the evidence before determining that a particular affection is due to inherited syphilis. Every deformity from dislocated hip to cleft palate, all defects such as hernia, infantile paralysis of various kinds, and even nævi have been described by various writers as dependent on inherited syphilis, and as if better to cover the anomalies the term "para-syphilis" has been invented to add to the confusion.

I need scarcely waste time in combating such crude generalisations as that "all rickets takes origin in syphilis," when any puppy taken from a litter and deprived of proper food and exercise will certainly develop this disease. Equally crude statements have been made as to other diseases. We do not deny that persons whose constitutions have been weakened by disease are liable to produce degenerates in succeeding generations; but in future the most certain test of the disease being syphilis will be the presence of the spirochæta pallida in the part affected. This organism has an extraordinary persistency, producing local symptoms after lengthened periods, but happily we have in mercury and the iodides drugs which control its development and bring about its destruction. Metchnikoff has recently shown that some hours after direct inoculation the application of a calomel ointment to the sore is sufficient to kill the organism and prevent the occurrence of secondary symptoms.

Gentlemen, I have now finished my brief sketch of this interesting disease as it attacks the second generation. It is the merest outline that you may fill in the substance. I ask for new facts and new observations; for now that the cause of the disease is definitely known we have a fresh incentive for further investigation. There are many diseases still confused under a common name—just as gonorrhœa and syphilis, typhus and typhoid fever were confused generations ago—that time will unravel. But as we gain more exact, more precise, and more definite knowledge of any one disease, we shall be the better equipped for appreciating the symptoms and distinguishing the effects produced by others.

THE UNEQUAL DISTRIBUTION OF FILARIASIS IN THE TROPICS.[1]

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THE distribution of any given disease is always a very interesting problem and one which of necessity must depend on many varying factors. This is specially so in many tropical complaints, and such being the case I have hoped by introducing one of those to your attention to-night to stimulate further work and research in the whole question of the unequal distribution of disease throughout the tropics. Most of the well known tropical diseases are peculiar in this respect—namely, that they require an intermediary either in the shape of an animal or an insect to further their proper dissemination, and if theoretically we could remove those then the diseases would necessarily come to an end. Examples of those are plague with its dependency on the rat and its fleas; Malta fever with its dependency on the goat; sleeping sickness conveyed from man to man directly and apparently only by tsetse flies; malaria, yellow fever, and filariasis requiring something more complicated still—namely, a definite extra-corporeal life cycle in different genera of mosquitoes; and so on.

The dictum, "No anopheles, no malaria," is easy of understanding and examples are not far to seek. Barbados, an island in an intensely malarial zone, is free from malaria and the reason of this I showed some years ago was due to anopheles mosquitoes being absent. Rome is now in the same category and other Pacific islands are said also to be free, the danger of the chance introduction of anopheles being exemplified by the present-day condition of Mauritius. If we extend such a dictum further we may say, "No stegomyia fasciata, no yellow fever," and "No culex fatigans or other suitable mosquito, no filaria nocturna." What is slightly more difficult to understand is why a disease should remain localised to certain parts of the world although its intermediate host is much more widely distributed. Why, for example, should yellow fever have remained so particularly endemic to the West Indies and South America when its intermediate host stegomyia fasciata is found throughout the tropics? It is possible that non-introduction of the specific germ is the cause, but behind this may there not be something deeper that we do not yet thoroughly appreciate? Lastly, what is even more difficult to understand is why, given the intermediate host of a disease, suitable climatic conditions, and the presence of abundant chance of the further introduction of the specific parasite, the disease should vary considerably in its distribution, abounding in one place, being scanty in another, or practically absent in a third. Filaria Bancrofti and the diseases it causes follow such an irregular course and it is on this interesting feature that I intend to base my paper to-night.

In dealing with filariasis (including under this term the parasites filaria nocturna, filaria Demarquayi, and filaria perstans) I have probably taken the most difficult of all the tropical diseases because of the tediousness in determining its exact distribution. I may remind you that it is the exception for people infected with filaria Bancrofti to exhibit symptoms, so the only way to arrive at a conclusion of how many individials in a given district are infected is to make exhaustive night blood examinations of the population generally, the same procedure being adopted with the exception that the blood may be taken by day for filaria Demarquayi and filaria perstans. This, as those latter two parasites produce no appreciable clinical signs, you will see is imperative. A group of islands is a suitable area to conduct such observations in for many reasons; they are isolated from each other, many of their inhabitants have never been out of them, the population is not excessive, and as a rule there is one main town with several villages. Recently then when in the West Indies I worked out the percentages of infection with filaria nocturna and filaria Demarquayi in many of the different islands and have tabulated some very interesting results which on the whole may be taken as approximately accurate.

My plan of procedure in this work was as follows. On arrival at an island I inquired from the local medical men if clinical manifestations of filariasis (elephantiasis, lymph scrotum, chyluria, lymphangitis, &c.) were common; then after looking for them myself generally, but of course without specially selecting them for my statistics, I took the night blood from as many of the general population as I could get, obtaining these from the streets, hospitals, prisons, and almshouses, and trying so far as possible to take indigenous natives. In some of the places visited I separated the different races, as this is important, but in others the admixture was so great that this was impossible. Out of the numbers examined I noted how many showed signs of filarial disease or were infected—namely, those with symptoms with or without embryos and those without symptoms but with embryos in the blood. For filaria Demarquayi I examined the different villages in detail as well, sometimes taking the blood by day, sometimes by night, and as those embryos are present at both times, night examinations did both for them and nocturna. The results came out in the following manner: where there was much clinical filarial disease, elephantiasis, &c., then the percentage of ordinary healthy that in cases of cerebral tumour it may be possible by cytological examinations of the cerebro-spinal fluid to distinguish between tumours of tuberculous or syphilitic origin on the one hand and those of different formation on the other. In a tuberculous or syphilitic tumour I should expect to find a lymphocytosis and no such change in a tumour of another source. I have not had an opportunity to verify this. Again, in an ascitic fluid a lymphocytosis points to the effusion being due to tuberculosis.

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[1] A paper read before the Society of Tropical Medicine and Hygiene on Jan. 17th, 1908.

Predominancy of polymorphonuclear cells.—An excess of polymorphonuclear cells in any serous fluid points to it being of an acute inflammatory origin. These cells can only have been derived from the blood by diapedesis through the vessel walls. Dr. Ross has tabulated 12 cases of acute infective conditions in which he examined the effusions and in all of these he found a very high percentage of polymorphonuclear cells. In two cases of post-basic meningitis these were the principal cells present. It has been proved by many observers that a large number of polymorphonuclear cells in a serous effusion or cerebro-spinal fluid occurs in acute infective conditions. When examining such exudations containing numerous polymorphonuclear cells cytological counts are in many cases not necessary, for the micro-organisms producing the condition are very frequently found in the films. The following are typical counts of the cells in two cases of pleuritic effusion caused by the pneumococcus of Fraenkel :—

Small lymphocytes	22·4	15·0
Polymorphonuclear cells	64·4	81·2
Endothelial cells	13·2	3·8

Only once have I examined cytologically a pericardial effusion and this was one due to the rheumatic diplococcus. The count was as follows: polymorphonuclear cells, 93·2; and small lymphocytes, 6 8 per cent.

The following are examples of cytological counts in four cases of cerebro-spinal meningitis, showing the great predominance of polymorphonuclear cells.

Polymorphonuclear cells	84·0 ...	79·1 ...	85·7 ...	74·6
Small lymphocytes...	15·6 ...	18·6 ...	11·9 ...	24·0
Endothelial cells	0·0 ...	0·6 ...	0·0 ...	0·7
Degenerated or cells not classified	0 4 ...	1·7 ...	2·4 ...	0·7

In two cases of cerebral abscess in which I examined the cerebro-spinal fluid cytologically the differential counts were :—

Polymorphonuclear cells	66·4 ...	97·0
Small lymphocytes	30·5 ...	2·4
Degenerated or cells not classified... ...	3·1 ...	0 4
Endothelial cells	0 0 ...	0·2

The cytodiagnosis in these two cases was of acute meningitis of non-tuberculous origin. With the help of the clinical history of the cases a diagnosis of cerebral abscess was made. In the first case the patient was operated upon by Mr. George Heaton and a large abscess was found in the right temporo-sphenoidal lobe, secondary to ear disease. In the second case the presence of a cerebral abscess was not proved until a post-mortem examination was performed.

Predominancy of endothelial cells.—When there is a large percentage of endothelial cells in a cytological count it indicates that the effusion is mechanical in origin. By mechanical effusion is meant such a one as occurs in serous cavities as a part of a general œdema or in the peritoneal cavity as a result of portal obstruction. Endothelial cells are nearly always present in small quantities in all serous effusions, but it is only when they are in large numbers relative to the other cells that they are of any diagnostic value. In a mechanical effusion the cells present are usually not nearly so numerous as are found in an exudation of acute inflammatory origin and are even much fewer than those found in an exudation due to tuberculosis or syphilis. In two cases, however, I have found them in very large numbers. Sometimes there are seen collections of endothelial cells as though they had been shredded off the serous membranes. These collections of cells or plaques have before now been mistaken for portions of malignant growth.

It has been definitely proved by the observations of Dr. Ross that numerous endothelial cells indicate a mechanical origin for the effusions, notwithstanding the presence of polymorphonuclear cells and small lymphocytes. In ascites due to cirrhosis of the liver numerous endothelial cells are found and the following are typical counts from two cases :—

Endothelial cells	96·4	98·8
Small lymphocytes	3·4	0·2
Polymorphonuclear cells	0·2	0·4
Unclassified cells	0·0	0 6

The difference between an ascites due to cirrhosis of the liver and that due to tuberculous peritonitis can usually be ascertained by a cytological examination. In the former case there would be an excess of endothelial cells and in the latter an excess of small lymphocytes. As tuberculosis of the peritoneum does sometimes occur as a complication of cirrhosis of the liver it may be important that the ascitic fluid be examined.

There is an excess in endothelial cells in all serous effusions occurring in general œdema, but whether this is the case in the cerebro-spinal fluid under such conditions I do not know. I have never examined the cerebro-spinal fluid cytologically in a case of general œdema during life but in one case examined after death I found that the endothelial cells were over 93 per cent. I do not, however, attach importance to this observation as many of the endothelial cells were probably shed into the fluid after death.

Effusions due to malignant disease.—A few observers have stated that it is possible to diagnose the presence of a malignant tumour by a cytological examination of the effusion. This they do by recognising a few cells in the fluid as having been detached from the malignant growth. The recognition of isolated cells in this way is, however, practically impossible and in those cases where a cytodiagnosis of malignant disease has been made it is very probable that the cells considered to be of malignant origin were really endothelial cells after all. Such cells usually predominate in effusions which are caused mechanically by the presence of a neoplasm and often appear in plaques. Unless there be a large collection of the malignant cells in the fluid it must be impossible to diagnose the condition by a cytological examination.

Without doubt a cytological examination of a serous effusion or a cerebro-spinal fluid may be of great help in diagnosis. A diagnosis should not, however, be made on the cytological finding alone, and the examination of the cells in the fluid must only be considered as an additional help in diagnosis. As a general rule it can be relied upon, and only in a very few cases does it mislead. In a very rare case of acute tuberculous cerebro-spinal meningitis published recently in THE LANCET by Dr. T. Stacey Wilson and Dr. James Miller,[2] the cytological examination pointed to the condition being of acute inflammatory origin and not tuberculous, on account of the large percentage of polymorphonuclear cells present. The appearances at the post-mortem examination were all those found in the cerebro-spinal meningitis due to the diplococcus of Weichselbaum, but on microscopical examination numerous tubercle bacilli were found to be present.

Conclusions.—1. Effusions of tuberculous origin contain a large percentage of small lymphocytes, ranging in my series from 59 to 100 per cent. 2. Effusions of acute inflammatory origin contain a large percentage of polymorphonuclear cells, ranging from 64 to 97 per cent. 3. Mechanical effusions contain chiefly endothelial cells, the highest count being 98·8 per cent. 4. Effusions due to malignant disease can rarely be diagnosed by cytological methods alone, but when such a condition is suspected to be present the predominance of endothelial cells would greatly support that view.

Birmingham.

ACID INTOXICATION FOLLOWING ETHYL-CHLORIDE ANÆSTHESIA.

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ACID intoxication following on general anæsthesia has only been described comparatively recently, but so far as I am aware it has only been recorded as an after-effect of chloroform anæsthesia. Thus in 1894 Dr. Leonard G. Guthrie first drew attention to this subject by his paper on Some Fatal After-effects of Chloroform on Children published in THE LANCET of Jan. 27th (p. 193) and Feb. 3rd (p. 257) of that year. In the Transactions of the Ulster Medical Society for 1906–07 Mr. Robert Campbell, after mentioning the papers published on this interesting subject, coast which I did not examine and it is just possible that filaria Demarquayi might exist there, though Dr. Galgey had never found it in a few examinations he made from there.

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[2] THE LANCET, Sept. 14th, 1907, p. 763.

In St. Vincent the same striking peculiarity of the parasite being practically localised to one spot occurred. St. Vincent, like St. Lucia, has one main town, Kingstown, and several villages—viz., Calliqua Layou, Barrouallie, Georgetown, and Chateaubelair. I examined blood from all those places with the following results. Calliaqua: 50 examined; 16 infected = 32 per cent. The others were all uniformly negative with the exception of one case from Barrouallie who had lived in different parts of the island, Calliaqua included, and another discovered in Kingstown who had also lived at one period in the infected village. Having had the experience of St. Lucia before me and suspecting that the same might hold good in St. Vincent, my procedure on arrival at the latter place was as follows. I asked Dr. Newsome where he got the blood he sent to London from and he gave me the name of a woman living in Calliaqua. I thereupon visited her (Sept. 21st, 1901) and found her suffering from malarial fever, counting at the same time, however, 40 embryos of filaria Demarquayi in her blood, and making the following note in my record book: "Embryos of F. Demarquayi found in London in 1894 by Dr. Manson." Other inhabitants of the same village examined at the same time showed similar embryos and the infected place being found all that remained was to see if any other parts of the island were infected. In addition to St. Lucia and St. Vincent I also determined the presence of filaria Demarquayi in Dominica, Trinidad, and probably in St. Kitts, but was unable-owing to difficulties of transport and time to find the exact focus in each place. In Dominica two cases were found, one in an old soldier who had served on the West Coast of Africa and had been in the other islands, so he might have got the infection elsewhere; but the other, a mulatto born and living in a place called *Batalie*, had never been out of the island. He suffered from elephantiasis as well—*e.g.*, a double infection —but had no nocturna embryos in his blood. In Trinidad two cases were also found, one in a negro born in *Dominica* who had also lived in St. Vincent and St. Lucia, he therefore being useless; but the other, a case of Dr. Vincents, a girl in the lunatic asylum, born at Matalot, a village in the north of the island, had *never been* out of the island. No further bloods were obtainable from that place, but the one case is sufficient to prove that the parasite is found in Trinidad in the north, though I never found it in the west and south. In St. Kitts, again, two cases were found, one in a man with elephantiasis of the scrotum, a sailor, who had been in Dominica and the other islands; the other in a Portuguese born in Madeira who came to St. Kitts when a youth and had only once been out of the island, when he lived in Port of Spain for a short time. The rest of his life had been spent in Cayon, a village on the windward coast of St. Kitts, so this probably means a focus of infection there.

Looking at the infected villages in St. Lucia and St. Vincent from a physical point of view there was nothing special to be noted in them as different from the other non-infected places. They were both situated on the sea-coast on level ground, with swamps and scrubby bush behind them, and were very malarious. Assuming that a mosquito or other blood insect might be the intermediary many experimental feedings were made with negative results; the only out-of-the-way mosquito noted was at Calliaqua, where the inhabitants told me that a big bright-blue one sometimes was seen. This was the Hæmogogus cyaneus of Williston, but I could only obtain one and it died before I could feed it on a suitable case. Since Wellman's work on the tick as the spreader of filaria perstans appeared I have wondered if such an insect could act as an intermediary for filaria Demarquayi, and this is possible, though even were this so it is strange how it should be so closely limited to one part of the island and not spread universally. Still, ticks of different sorts are very common in the West Indies and the forests of British Guiana and the hypothesis is worth following. It might even be a bug-like tick like the ornithodoros of *Africa*. Filaria Demarquayi is not found in Barbados and I never met with it in Grenada. In British Guiana two embryos are often found in the blood of aboriginal Indians and others living in the backwoods of that colony. One is blunt-tailed and is filaria perstans or a closely allied species, the other is sharp-tailed and may be filaria Demarquaii, though Daniels in comparing the adults believes there are differences, so it may be another species. Those embryos are not found in the blood of people inhabiting the towns or cleared coast lines, only in the forests. The following are statistics on their prevalence. Aboriginal Indians (Arawaks, Caribs, Wainis, Waraus, Akawoios, &c.): 163 examined; 105 infected with sharp- or blunt-tailed embryos = 64·4 per cent. Double infections, 38; blunt-tailed alone 56, sharp-tailed alone 11. Half Indians (*e.g.*, mixtures of Spanish, Portuguese, &c.): 20 examined; 5 infected = 25 per cent. Creoles (*e.g.*, negroes, mulattos, and whites who had lived in the interior): 28 examined; 3, all negroes from the Pomeroon river, only infected. Districts: Pomeroon River, 71 per cent. infected; Cara Cara Creek, Demerara River, 60 per cent. infected; Barima River (Morawhana district), 36 6 per cent. infected; Waini River, 60 per cent. infected. Those figures show that the infection is widespread and pretty equally distributed in the districts examined.

In Africa blunt-tailed embryos (filaria perstans) abound in some districts while they are entirely absent from others, and no one has yet described sharp-tailed embryos on that continent corresponding to the New World forms. What circumscribes their distribution is again difficult to decide; the absence of the suitable intermediate host, if they have to pass through one, would of course preclude them, but probably again other factors play a part. Wellman has lately brought forward some strong evidence that they can undergo a metamorphosis in ticks (ornithodoros moubata) and their distribution seems to coincide except apparently in British Central Africa, where, though the tick is very common, Daniels in some examinations on natives there found no filaria perstans. In the vicinity of the equator, Uganda, and the Congo the parasites are very frequent in the blood of the natives there, in some districts almost everyone having them. The following figures represent such infections in some of the parts I have studied them. Zanzibar and Mombasa, negative; Kavirondo at the east of the Victoria Nyanza, 0 per cent.; Wagandas in Entebbe, 50 per cent. infected; natives of the Sese Islands in the north-west corner of the lake, 86 per cent. infected; natives of Ankole, to the west of the lake, 7·8 per cent. infected; Alurs from Wadelai (Dr. A. W. G. Bagshawe), 8·4 per cent. infected; Nubians from Upper Nile, 6 per cent. infected. From this it will be seen that the Sese Islands in Uganda are a strong focus of infection, the prevalence decreasing to the west, the north, and entirely disappearing by the time the north-eastern shores of the lake are reached. On the western side of the continent it also prevails in many different parts. Mr. T. E. Rice at Ibadon in Lagos found 30 per cent. of the natives infected there, Dr. St. George Gray has informed me that it is fairly common in the hinterlands of Sierra Leone, Dr. Wellman reports it at Benguella, and I have seen it in slides from the Congo and the Nigerias.

A good deal more mapping out and general search for those latter two filariæ in different parts of the world is still required. There may quite conceivably be other species yet undiscovered—*for example* is the sharp-tailed one from New Guinea described by Sir Patrick Manson the same as filaria Demarquaii? The Malay States, Borneo, and Sumatra have not yet been tapped to quote only a few places. It is the tediousness of searching blood slide after blood slide for filariæ that keeps men from working at this subject, and then the further trouble of isolating villages and working them out in detail often adds insurmountable difficulties. Still I think you will agree with me that, after the figures I have collected and given you to-night, the subject of the distribution of all the three filariæ *is extremely* interesting, and if we merely limit ourselves to filaria nocturna alone, which after all is the only one that produces disease, we will still have abundant food for thought and abundant stimulus for research upon the unknown influences which allow it to spread in one place while limiting it in another. By focussing our attention on such a subject we may also indirectly lay bare some of the secrets that surround malaria, yellow fever, beri-beri, and many of the other tropical diseases, and by so doing may open up new fields for the prevention and better control of those scourges of mankind.

Bentinck-street, W.

LONGEVITY.—The death occurred at Brighton last week of the oldest inhabitant of the borough, Mrs. Ann Colwell, who had attained the great age of 101 years and seven months.

growths make their appearance, and early removal of the primary one often prevents their development entirely. Moreover, though surgeons not uncommonly become infected in the course of operations by pyogenic organisms and by the organisms of tubercle and syphilis, and though they must have run the risk many thousand times in the course of operations upon patients suffering from cancer, I am not aware of any single instance in which they have become infected. All the instances in which transplanted cancer germs have succeeded in growing have been cases in which the patients were suffering from cancer already, in whom it may be presumed the power of resistance had been already overcome.

One of the cancer problems is to discover in what this power of resistance may consist. It exists at first apparently in all alike. It must be present and well developed for some considerable time in the tissues around a cancerous growth, but it fails at last, and it fails much more quickly if there is some additional irritant present, such as a suture.

Wimpole-street, W.

TWO CASES OF URETERO-PYELOPLASTY

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THE operation of uretero-pyeloplasty is one which seeks to overcome a constriction at the junction of the renal pelvis and ureter by a procedure analogous to the better known "pyloroplasty"—viz., longitudinal incision through the stricture, followed by transverse suture of the wound. It is indicated in cases of distension of the renal pelvis from stricture at or about the uretero-pelvic junction, provided sufficient healthy renal substance yet remains to justify conservatism. Constriction at this situation may arise from trauma, from the contraction of an ulcer such as may result from the pressure of an impacted calculus, from the contraction subsequent to peri-ureteric or peri-nephritic inflammation, and it is also one of the two less rare sites of congenital stricture, the other being at the entrance of the ureter into the bladder. I regard, for reasons shortly to be stated, the two cases I am now recording to be instances of congenital stricture, leading in the one case to hydronephrosis, in the other to pyonephrosis.

CASE 1.—A female, aged 32 years, was sent to me at the Royal Infirmary with a swelling in the right side of the abdomen. For some months past she had complained of dull aching pains in the right loin, coming on at intervals of about ten days, and one month ago she accidentally discovered the swelling, which she stated had not appreciably altered in size since. She had never noticed anything unusual in the quantity or quality of her urine. The swelling was of about the size of a cocoanut, distinctly fluctuant, freely moveable in any direction, and easily replaceable into the right loin. The urine was acid, of specific gravity 1022, and contained no abnormal constituent. On Feb. 5th, 1907, under chloroform, I cystoscoped the bladder and found it quite healthy, nor were there any differences in appearance between the two ureteric orifices. As the kidneys had temporarily stopped secreting under the influence of the anæsthetic the character of the urinary flow from the two orifices could not be compared. A catheter passed easily along the right ureter for a distance of 11 inches, and was left *in situ*, no urine escaping from it. The patient was then turned over on to her left side and the usual lumbar incision for exposure of the kidney was made. The large cyst was readily exposed and incised, and about 30 ounces of a pale-yellow fluid escaped. The cyst was then separated and brought well up into the wound, when it was found to be the dilated renal pelvis, with the kidney, the calyces of which were comparatively but slightly affected, situated on its outer and posterior aspects. The ureter was readily found by means of the catheter still remaining in it, and which was seen to have passed as far as the junction of the ureter and the distended pelvis, where its further passage had been prevented by a very tight constriction. The ureter was of normal size and there were no signs of any previous peri-ureteritis. A small incision was made on the anterior surface of the pelvis, half an inch above the uretero-pelvic junction, and the constriction was examined from above. With some difficulty a fine wire probe was passed through it from above and the catheter was withdrawn from the ureter. The incision was then continued downwards through the stricture and along the long axis of the ureter for a distance of half an inch. There was no ulceration at the site of the stricture, nor did the mucosa exhibit any scars. This longitudinal wound was then sutured transversely, with two rows of fine catgut, the inner not intentionally including the mucosa. A large rubber drainage-tube was then inserted into the pelvis through the original incision into it and the kidney was fixed to the loin as high up as possible. The external wound was closed around the tube. Five days later the tube was removed and on Feb. 20th the external wound was completely healed. I last saw her on Nov. 12th and could feel the kidney, rather smaller than normal, firmly fixed to the loin. There had been no recurrence of the swelling and the symptoms had been completely cured.

The absence of any signs of cicatricial contraction or other cause to account for the constriction in this case, together with its exact limitation to the uretero-pelvic junction, incline me to regard it as of congenital nature. The absence of hydronephrosis until middle life shows that the constriction was not at first of severe degree. Later the kidney became moveable and consequently no doubt suffered from frequent attacks of congestion which sufficed to aggravate the constriction to an extent sufficient to lead to pelvic distension.

CASE 2.—A female, aged 21 years, was admitted to the Royal Infirmary on Dec. 17th, 1906, complaining of "pains in the back" and "muddy" urine. She had been told that her pains commenced at the age of three years, and she herself did not remember ever being free from them for any length of time. The change in the urine was noticed about three years ago and though slight at first it had steadily become more marked. She had been in hospital several times without material relief. On admission she located her pain to the upper lumbar region of the spine and could not say that it was ever more marked on one side than on the other. The pain always came on in attacks and usually during the night. The abdomen appeared to be tender and palpation was difficult, but I thought palpation over the left kidney was more painful and gave a feeling of greater resistance than that over the right. The urine was 1020, alkaline, contained albumin, no sugar, with a very thick deposit of pus. A radiogram showed an indefinite shadow in the left kidney region. On Dec. 28th I cystoscoped under anæsthesia and found the appearances of general cystitis. Apart from this the right ureteric orifice was unaltered, but that on the left stood prominently out like a pyramid and its margins were extremely swollen and acutely congested. The discharge from the right ureter was apparently clear while that from the left came irregularly and was very turbid. I at once exposed the left kidney from the loin, separated it from its adhesions to surrounding parts, and drew it well up into the wound. The pelvis and calyces were distended with pus. The kidney was incised along its convex border through a dilated calyx and the pelvis was thoroughly flushed out with saline solution. Three small calculi were found inclosed in the lowest calyx and were removed. The ureter was now exposed and was found to be of normal size, but exactly at the uretero-pelvic junction there was a narrow constriction. A small incision was then made in the anterior wall of the pelvis half an inch above this constriction and its upper aspect was inspected. It was treated as in Case 1 by uretero-pyeloplasty, but before closing the incision in the pelvis and ureter a bougie was passed downwards along the latter into the bladder to insure the absence of other obstruction. The pelvis was drained by a rubber tube passed through the original incision in the kidney substance and the organ was fixed to the lumbar wound, a tube being inserted also into the perirenal space below. Shock was rather severe for two days but afterwards the patient steadily progressed. The tubes were retained until Jan. 12th and she left for the convalescent home on the 30th with a small sinus, which finally healed on March 15th. She is now free from the old pains, is in good general health, and the kidney can be felt firmly fixed to the loin and of small size. There is still a small deposit of pus in the urine, which has been acid ever since the operation, but this is gradually diminishing. She can hold her urine for four hours, whereas formerly she passed it as often as every ten minutes.

I think it is probable that in this case also the stricture

THE VALUE OF CYTODIAGNOSIS IN PRACTICAL MEDICINE.[1]

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CASUALTY ASSISTANT PHYSICIAN AND MEDICAL REGISTRAR, THE GENERAL HOSPITAL, BIRMINGHAM; PHYSICIAN FOR OUT-PATIENTS, THE CHILDREN'S HOSPITAL, BIRMINGHAM.

I PURPOSE in this paper to describe a help to diagnosis which is of considerable value and clinical importance and which might be more extensively made use of than it is at present, as the examination required is one that can be performed by many medical men for themselves. By cytodiagnosis is meant the diagnosis which can often be ascertained by determining the nature of the cells occurring in serous effusion or cerebro-spinal fluid. I do not wish to take credit for having done any original work upon this subject, but while I was pathologist at the General Hospital, Birmingham, and since that time, I have had abundant opportunities of examining the different forms of cells which are found in certain serous effusions and by my observations I have been able to confirm most of the excellent work that has been done on this subject. I should like to take this opportunity to thank the honorary physicians and surgeons of the General Hospital for kindly giving me permission to make use of their cases for this paper. My thanks are also due to the house officers of the hospital for their help in collecting for me the materials from the wards.

It is only during the last eight years that the subject of cytodiagnosis has attracted any notice at all, and during this time only a very few people have taken advantage of it. No advance in the subject was made until 1900, when Widal and Ravaut published a very complete account and showed the relationship between the cytological appearances of the effusions and the clinical diagnosis. A most exhaustive investigation of the value of cytodiagnosis has recently been made by Dr. E. A. Ross at the Louis Jenner Clinical Laboratory, St. Thomas's Hospital, and his work is published in the Transactions of the Pathological Society of London for 1906. All pathological fluids of the body may be examined for the cellular elements they contain, but the fluids with which I propose to deal are pleural serous effusions, cerebro-spinal fluids, and ascitic fluids. Speaking generally, the cells found in all effusions and the percentage of each kind of cell to the total number vary in the same way in all these pathological fluids, according to the disease which produces the effusion.

In making a cytological examination it is necessary to obtain the fluid as soon as possible after it has been removed from the body. After a few hours the cells begin to degenerate and become in consequence very much more difficult to recognise. Some of the fluid should be centrifugalised gently and then the fluid poured off and a film made of the sediment. Care should be taken not to centrifugalise too long or too forcibly or otherwise many of the cells will be destroyed. It is much better to centrifugalise the fluid than to let it stand in a conical jar and then examine the sediment, for the cells degenerate very rapidly. After a film has been made it can be stained at leisure. The two stains I find most useful are Leishman's and Jenner's. The differential count should be made under the one-twelfth oil immersion lens and to get an accurate percentage of the cells 500 should be counted. In many instances, however, and especially in cerebro-spinal fluid of which only a small quantity can often be obtained, it is impossible to count so many on account of the scarcity of the cells. The differences in the percentages of the cells to each other in the various pathological conditions are often so great that usually such a large number of cells need not be counted.

The cells found in serous effusions and cerebro-spinal fluids may be any of those which occur in the blood, as often some blood becomes mixed up with the fluid in its removal from the body, while sometimes the exudation itself contains blood. The cells, however, which we have to consider from the cytological point of view are (1) the small lymphocytes; (2) the polymorphonuclear cells; and (3) the endothelial cells. The small lymphocytes are a little larger than the red blood corpuscles, but they vary considerably in size, and are characterised by a comparatively very large, deep staining, and spherical nucleus. The rim of protoplasm around the nucleus is usually very narrow. The polymorphonuclear cells are considerably larger than red blood corpuscles, usually circular in outline, and with a nucleus variously lobed, so that it may be horse-shoe shaped or resembling the letters E, Z, W, or S. There is a large amount of protoplasm containing minute granules, which give the name of "finely granular oxyphile" to the cell. In effusions these cells are often seen to have burst and their granules lying around. Sometimes they become very degenerated and their nuclei so swollen up that the cells are very difficult to recognise.

Endothelial cells differ greatly from either of the former, but even these in certain circumstances may be confused with small or large lymphocytes. The cells are very much larger than the previous two. The nucleus is large, oval, and slightly irregular in shape, staining as a rule not so deeply as the nucleus of the small lymphocytes. The protoplasm is abundant and the outline of the cell is irregular in shape. These cells may be difficult to distinguish from lymphocytes and also from cells derived from a malignant growth. Mitotic changes can often be seen in the endothelial cells.

When serous exudations or cerebro-spinal fluids are examined very few cells may be present in some cases, and often is this seen in the latter fluids. In health it is usually difficult to find cells in the cerebro-spinal fluid and the presence of many cells, whatever be their nature, is a clear indication of disease. In cerebro-spinal fluids not only the percentage of cells to each other should be ascertained but also any increase in their number must be noticed. Often there are degenerated cells, and other cells which cannot be classified under any of the three heads mentioned above, and so, for the sake of clearness, chiefly those cases are given in this paper in which the cytological count was not complicated by other forms of cells, which when present only occur in very small numbers, and have no practical significance.

Predominance of small lymphocytes.—A large number of small lymphocytes in a cerebro-spinal, pleuritic, or ascitic fluid means that the exudation is due to an irritative process, and that it is not due to any acute inflammatory condition. Thus, in a pleuritic effusion a high percentage of small lymphocytes would point to the condition being due to tuberculosis. This is a very important point, because often it may be very difficult to be certain whether a pleurisy is tuberculous in origin or not. In a well-developed pleurisy of tuberculous origin the differential leucocyte count of the effusion is very characteristic, as may be seen in the following four examples of the condition:—

Small lymphocytes	94·4	90·5	73·4	78·0
Polymorphonuclear cells ...	5·1	7·9	22·2	19·0
Endothelial cells	0·5	1·6	4·4	3·0

In the very early stages of the tuberculous pleurisy this definite cytological picture may not be quite so clear, as the percentage of the lymphocytes is usually not so high; but still they predominate. It is very rare, indeed, for the polymorphonuclear cells to be in excess of the small lymphocytes in pleural effusions, however acute the condition. It is in the tuberculous pleurisies that a cytological examination of the fluid is of such great value. A bacteriological examination might also be made, but the tubercle bacillus is very difficult to detect in a pleuritic effusion and often entails a considerable amount of labour. The absence of the tubercle bacillus in the film would not exclude the tuberculous origin of the disease, but the absence of lymphocytosis would. I have not yet found a lymphocytosis in a pleuritic effusion which was found to be other than tuberculous.

A difficulty arises in cytodiagnosis when the count shows about an equal number of small lymphocytes and polymorphonuclear cells in a pleuritic fluid, but in such a case the important cells to notice are the lymphocytes; and if there is a large number of them the condition is probably due to tuberculosis. The presence of such a large number of polymorphonuclear cells in these cases may be due to an extremely acute onset of the tuberculous pleurisy or to a secondary infection by another organism. In the cerebro-spinal fluid of a child a high percentage of small lymphocytes usually means tuberculous meningitis. A lymphocytosis is also found in locomotor ataxia and any syphilitic disease of the meninges. In five cases of tuberculous meningitis which I examined lymphocytes were practically the only cells present, while in two others they were 75 and 60 per cent. respectively. I should like to suggest operation, but it forcibly illustrates the utility of such a safe and simple surgical procedure where any one muscle or group of muscles is similarly affected by this form of intractable spasm.

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[1] A paper read before the Midland Medical Society on Oct. 19th, 1907.

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Eastbourne.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTE ON THE REMOVAL OF AN OPEN SAFETY-PIN FROM THE ŒSOPHAGUS OF A CHILD AGED FIVE MONTHS.

By DONALD R. PATERSON, M.D. EDIN.,

SURGEON TO THE EAR AND THROAT DEPARTMENT, CARDIFF INFIRMARY.

THIS interesting case with its happy issue[1] raises the question of the proper treatment of foreign bodies in the food and air passages and affords me an opportunity of again putting in a plea for more precise and modern methods of treatment in this important branch of surgery. I agree with Dr. J. S. Manson that in the case he reports it was impossible to get the pin up by means of a probang. But there is a method, unhappily almost entirely ignored in this country, which is scientific, accurate, and safe, by which the extraction of the body might be carried out. I allude to the direct method or œsophagoscopy. I have already[2] discussed its general technique, and in the case in question I need only say that the passage of an œsophagoscopic tube would at once disclose the relations of the foreign body in the gullet. Having ascertained the situation of the point of the pin—in this instance directed upwards—a long fine tube, such as that used in the Killian bronchoscopic forceps, could be passed over it and left *in situ*. Having thus protected the point, the straight forceps which I described in THE LANCET of July 21st, 1906 (p. 155), could be passed alongside of it and the other limb of the pin seized and drawn into the œsophagoscopic tube. If Dr. Manson will try the experiment through a Killian tube he will probably be surprised at the ease and safety with which it can be accomplished. The attempt "to push it down into the stomach and hope for the best" is not without risk, though one recognises that it is difficult to do otherwise when the armamentarium of most of our hospitals, not excepting the large teaching hospitals, is generally limited to a probang and a more dangerous coin-catcher. I have known serious damage done to the gullet by a probang and I have extracted sharp-pointed bodies which were so situated at the cardiac end of the œsophagus that an effort to push them down would inevitably have caused grave injury. On the other hand, an attempt to pull them up by a coin-catcher is often more dangerous. With small rounded bodies such as coins which can be localised by a skiagram its use may be justifiable, but where sharp substances such as pieces of bone lie in the gullet serious damage may be inflicted and cases have occurred when fatal results have followed a rent made in the œsophageal wall. But whether these efforts are successful or not is a matter of pure chance; they are done in the dark, and therefore to be discountenanced, for it is surely preferable to work under control of the eye.

These remarks apply with even more force to foreign bodies in the air passages. Their rational treatment makes but slow progress. A collection of 200 cases of bronchoscopy for foreign body made from medical literature from its inception nine years ago to the present time shows few, very few, from English sources. For this our teaching authorities have to bear some responsibility. The newer methods are not put into practice, and so lo[illegible]ons in our [illegible] centres think the only treatment is to lay open the trachea "and hope for the best," so long will this important branch remain a reproach to English surgery.

Cardiff.

A CASE OF ACUTE PULMONARY ŒDEMA.

BY W. B. SILAS, M.R.C.S. ENG., L.R.C.P. LOND.

IN view of the correspondence in the columns of THE LANCET it may be of interest to record another case of acute pulmonary œdema. The patient, a girl, aged 14 years, was brought to my notice on Jan. 4th with a slight tonsillitis. This was the fourth patient in that house who was affected with tonsillitis, but the affection, so far as the first two were concerned, was of a severe type and almost entirely unilateral in character. The patient to whom this note refers had nothing more than a slight congestion of the throat with a temperature of 99° F. Incidentally it was mentioned that during the last four weeks she was at times short of breath on exertion and occasionally puffy about the face and legs. The heart and lungs were examined and were then found to be normal; there was no œdema anywhere to be seen. A specimen of the urine was not sent on that day as requested but on the evening of the 5th; it was then found to be loaded with urates and about one-eighth albumin. As soon as the albuminous nature of the urine was discovered the patient, who had previously kept in her room, was ordered to bed and the case was treated as one of Bright's disease. On the 7th (the fourth day of my attendance on her) there was distinct puffiness of the face and both legs; fine crepitations were discernible in the lungs but only at the bases. That examination was made at 1.30 P.M. The quantity of urine collected in the previous 24 hours was about 12 ounces, but as there was diarrhœa that quantity was below the real amount passed. About four hours after that visit an urgent message came for me to go to the patient as she was much worse. She was then found sitting up in bed gasping for breath and extremely cyanosed, whilst from her mouth and nostrils a profuse frothy blood-stained fluid was pouring. A $\frac{1}{100}$th of a grain of nitro-glycerine was administered subcutaneously and as the case was regarded as one in which venesection was called for the patient was left for 20 minutes while I fetched suitable instruments. On my return she seemed better, but relapsed again, so from eight to ten ounces of blood were drawn off from the right median basilic vein. No real improvement followed the venesection, so two more hypodermic injections of nitroglycerine ($\frac{1}{100}$th of a grain each) were administered at intervals of half an hour. The patient died at 9.45 P.M., about four and a quarter hours after the onset of the attack.

The only thing which seemed to benefit the condition was the first hypodermic injection of nitroglycerine. The previous history of the patient was diphtheria three years ago and chorea about 15 months ago.

Southgate-road, N.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Diffuse Cancellous Osteoma of the Femur.—Tuberculous Endocarditis.—Effects of Calculi upon Photographic Plates in the Dark.—Malignant Disease of the Rectum.—Chimney-sweep Carcinoma.

A MEETING of this section was held on Jan. 21st, Mr. S. G. SHATTOCK, the President, being in the chair.

Mr. W. H. BATTLE and the PRESIDENT gave an account of a remarkable case of Diffuse Cancellous Osteoma of the Femur following a Fracture in [illegible] which similar growths afterwards developed in connexion with other bones. A section of the original tumour was shown with microscopical sections of the growth and several skiagrams showing the structure and position of the growths were also exhibited. The patient, a boy aged four years, was in St. Thomas's Hospital in 1901 for a tumour of the left femur. The

THE VALUE OF CYTODIAGNOSIS IN PRACTICAL MEDICINE.[1]

BY JAMES E. H. SAWYER, M.A., M.D. OXON., M.R.C.P. LOND.,

CASUALTY ASSISTANT PHYSICIAN AND MEDICAL REGISTRAR, THE GENERAL HOSPITAL, BIRMINGHAM; PHYSICIAN FOR OUT-PATIENTS, THE CHILDREN'S HOSPITAL, BIRMINGHAM.

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In making a cytological examination it is necessary to obtain the fluid as soon as possible after it has been removed from the body. After a few hours the cells begin to degenerate and become in consequence very much more difficult to recognise. Some of the fluid should be centrifugalised gently and then the fluid poured off and a film made of the sediment. Care should be taken not to centrifugalise too long or too forcibly or otherwise many of the cells will be destroyed. It is much better to centrifugalise the fluid than to let it stand in a conical jar and then examine the sediment, for the cells degenerate very rapidly. After a film has been made it can be stained at leisure. The two stains I find most useful are Leishman's and Jenner's. The differential count should be made under the one-twelfth oil immersion lens and to get an accurate percentage of the cells 500 should be counted. In many instances, however, and especially in cerebro-spinal fluid of which only a small quantity can often be obtained, it is impossible to count so many on account of the scarcity of the cells. The differences in the percentages of the cells to each other in the various pathological conditions are often so great that usually such a large number of cells need not be counted.

The cells found in serous effusions and cerebro-spinal fluids may be any of those which occur in the blood, as often some blood becomes mixed up with the fluid in its removal from the body, while sometimes the exudation itself contains blood. The cells, however, which we have to consider from the cytological point of view are (1) the small lymphocytes; (2) the polymorphonuclear cells; and (3) the endothelial cells. The small lymphocytes are a little larger than the red blood corpuscles, but they vary considerably in size and are characterised by a comparatively very large, deep staining, and spherical nucleus. The rim of protoplasm around the nucleus is usually very narrow. The polymorphonuclear cells are considerably larger than red blood corpuscles, usually circular in outline, and with a nucleus variously lobed, so that it may be horse-shoe shaped or resembling the letters E, Z, W, or S. There is a large amount of protoplasm containing minute granules, which give the name of "finely granular oxyphile" to the cell. In effusions these cells are often seen to have burst and their granules lying around. Sometimes they become very degenerated and their nuclei so swollen up that the cells are very difficult to recognise.

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A difficulty arises in cytodiagnosis when the count shows about an equal number of small lymphocytes and polymorphonuclear cells in a pleuritic fluid, but in such a case the important cells to notice are the lymphocytes; and if there are a large number of them the condition is probably due to tuberculosis. The presence of such a large number of polymorphonuclear cells in these cases may be due to an extremely acute onset of the tuberculous pleurisy or to a secondary infection by another organism. In the cerebro spinal fluid of a child a high percentage of small lymphocytes usually means tuberculous meningitis. A lymphocytosis is also found in locomotor ataxia and any syphilitic disease of the meninges. In five cases of tuberculous meningitis which I examined lymphocytes were practically the only cells present, while in two others they were 75 and 60 per cent. respectively. I should like to suggest technical knowledge, therefore inexperienced assistants should wear gloves. The skin of the patient was cleansed by treating it alternately with the spirit and biniodide lotion and the watery solution of biniodide of mercury for not less than three minutes, acting on the assumption that asepsis depended upon saturating the skin itself. Infection from the atmosphere might be better described as environment infection, for throat bacteria were coughed long distances and boots introduced into the operating-theatre much filth crowded with equine intestinal bacteria. Coughing audiences might be screened off and the air of the theatre might be improved by ventilation, but it was a costly process. In conclusion, Mr. Lockwood said that judging from the clinical results of his own operations he could not allow that ill results followed the use of dilute chemical antiseptic solutions.—Mr. T. H. KELLOCK said that they had heard a great deal about surgeons giving up the old methods of antiseptics, but he trusted in the use of mild antiseptics which up to the present time had not failed him.—Mr. LOCKWOOD then replied.

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[1] A paper read before the Midland Medical Society on Oct. 16th, 1907.

Dr. SAMUEL WEST read a paper on Nervous Phenomena in Pneumonia. He said that few cases of pneumonia ran their course without nervous phenomena of some kind. They generally occurred during the acute stage, were transient, and of toxic origin. Rigor was due to the sudden upset of physiological equilibrium owing to the acute onset of the disease and was single and severe. If the onset were less abrupt shivering might be repeated. In children, when replaced by fits and followed by unconsciousness it might suggest meningitis. Insomnia might be extreme and was likely to be followed by prostration, and opiates might be necessary. Hiccough was a rare but grave symptom. Delirium if active, as in delirium tremens, might end in great exhaustion and death. It was most marked in children and in drinkers and in apex pneumonia. If long continued it was of bad prognosis. Wandering at night might set in after the crisis and was then an indication for stimulants. The knee-jerk, normal for the first day or two, disappeared on the third or fourth day, remained absent till the ninth, and returned to the normal at the end of the second week. It stood in no relation to the crisis and disappeared early in bad cases and late in mild ones. Hughlings Jackson first described the absence of knee-jerk in pneumonia in 1894. Subsultus tendinum and muscular tremors occurred only in grave asthenic cases. Acute tympanites was a neuromuscular paralysis and of fatal omen. General cutaneous hyperæsthesia was rare but not so rare locally. Spinal irritation sometimes appeared as tremors or spasms produced by movement. Stiffness of the back and neck, retraction of the head, and arching of the back might suggest cerebro-spinal meningitis. The symptoms were only present in the early hours of the attack and disappeared on the second day or so. Transient paralyses of the limbs and face, aphasia, and eye disturbances might occur but were very rare. Meningitis which might start during the acute stage might last after it. It was often found post mortem when not suspected during life. Epidemic cerebro-spinal meningitis was frequently complicated with pneumonia and the spinal symptoms of pneumonia might simulate it, but the two diseases were distinct. Hemiplegia, except in the transient cases referred to, was due to thrombosis or embolism. Infective endocarditis might develop as in other specific fevers. Mental defects, mania, melancholia, &c., might follow pneumonia. As a rule they were recovered from in time. Peripheral neuritis might follow as in cases of diphtheria but, like them, ended in recovery. Nervous phenomena played a more important part in pneumonia than was usually assigned to them.—The PRESIDENT said that they had yet to learn the clinical aspects of the different forms of pneumonia. He agreed with Dr. West in regard to the importance of obtaining sleep in the circumstances indicated but pointed out the necessity of avoiding narcotics as far as possible. He related a case in which hiccough was relieved by a hypodermic injection of morphine. Concerning the use of alcohol in pneumonia he said that the longer experience he had the less he ordered stimulants.—Dr. F. DE HAVILLAND HALL remarked on the fact that head symptoms were particularly pronounced in cases of apical pneumonia.—Dr. E. CAUTLEY said that it was uncommon to find true pneumonia in children commencing with fits. In his opinion, by far the most usual symptom was vomiting in place of the rigor seen in adults. Nervous phenomena were rare and before accepting them as due to simple pneumococcal pneumonia it must be made clear that they were not due to influenzal pneumonia. He did not advise the administration of alcohol in pneumonia except to aged patients at the time of the crisis.—Dr. F. J. POYNTON said that he had noticed occasionally after pneumonia that there was an extraordinary slowing of the pulse which might drop to 40 or 50 beats per minute and that condition might last for a few days. He described two cases of pneumonia in which permanent hemiplegia had resulted.—Dr. WEST, in reply, said that alcohol was unnecessary in the treatment of pneumonia but in cases of dangerous collapse its timely administration was useful. The occurrence of hemiplegia after pneumonia was due, he thought, to an infective arteritis which was not limited to the brain. He knew of a case in which such infective arteritis had caused the loss of two fingers.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

The Unequal Distribution of Filariasis in the Tropics.

A MEETING of this society was held on Jan. 17th, Sir PATRICK MANSON, the President, being in the chair.

Dr. G. C. LOW read a paper on the Unequal Distribution of Filariasis in the Tropics, which is printed on p. 279 of this issue of THE LANCET.

Dr. L. W. SAMBON suggested that unequal distribution of filariasis was due to hyperparasitism.

Dr. R. T. LEIPER said that from observations which he had made on a recent expedition he was able to confirm Dr. Low's work in regard to the presence of filaria perstans in the blood of natives round Entebbe. When the adult form came to be examined it might be found that there were two or three species in filaria Demarquayi.

Dr. F. M. SANDWITH described his experiences in regard to filariasis in Egypt.

The PRESIDENT said that the paper showed how the more that was learned about filariasis the wider the field for investigation became. He did not consider that the propagation of the filaria was restricted by hyperparasitism. Until they studied the mature worm it was impossible to settle from the embryo the whole truth of the matter.

Dr. LOW, in reply, admitted the difficulty of identifying the species from the embryo and urged that there must be something more in the question that they did not understand to explain the distribution of filariasis.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The Chemistry, Pharmacology, and Therapeutics of Ergot, Strophanthus, Squill, and Digitalis.—Medical Student Life at Montpellier in the Middle Ages.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 17th, Dr. J. ALLAN being in the chair.

Dr. J. GORDON SHARP read a paper on the Chemistry, Pharmacology, and Therapeutics of Ergot, Strophanthus, Squill, and Digitalis, with special reference to recent research. Speaking first of ergot, he said that it was one of those drugs which was both praised and abused, but the best proof of its usefulness was to be found in the fact that it had found a place in all pharmacopœias. Although much work had been done on its chemistry not any advance had been made since Tanret described pure inert crystalline ergotonine till 1906 when Barger and Carr confirmed Tanret's work on ergotonine, and in addition they obtained Tanret's amorphous toxic ergotonine in a pure state and had succeeded in forming crystalline salts of the same. On account of its toxic action, which had been investigated by Dale, a Cambridge graduate working in the Wellcome Research laboratories, it was renamed ergotoxine. This toxic ergotoxine could be readily converted into the inert ergotonine, and conversely inert ergotonine could be converted into poisonous ergotoxine. Ergotoxine was a hydrated ergotonine, and Kraft, a German investigator, who, independently of Barger and Carr, isolated the pure toxic alkaloid, called it hydro-ergotonine instead of ergotoxine. Ergotonine in the pure state was inert, but it was just possible that in certain states of the tissues a small portion of it might be converted into potent ergotoxine. However, it was describes in detail three cases with the post-mortem appearances. But in this communication every case described followed chloroform administration. My case shortly is as follows:—

A well-developed, bright-looking, and apparently healthy girl, aged six years, was admitted to hospital for deafness owing to the presence of adenoids. On the morning of Nov. 13th, 1907, after having been prepared in the usual manner, ethyl chloride was administered and the adenoids were removed, the operation, including administration of the anæsthetic, taking about a minute; the child recovered completely and was then placed in bed. Towards evening she vomited twice but slept well during the night and no vomiting occurred. On the next day she complained of severe headache and of nausea. She retched a good deal during the day and vomited a few minutes after taking any food, so she was given some bismuth mixture in the evening. During the night she slept fairly well but vomited once, whereupon the medicine was repeated. On the 15th she complained of violent frontal headache and vomited immediately after taking anything by the mouth. Towards evening the pulse became rapid and small and the child felt very cold, so hot bottles were placed in the bed. During the night she slept fairly well but vomited twice after drinking a little milk. On the 16th the aspect of the child had completely altered during the past two days. She now lay in bed with her knees drawn up, taking no notice of anything, but answering when spoken to and complaining of great frontal headache and of pain in the abdomen; her eyes were very sunken and her face was somewhat pale, worn-looking, and drawn; in fact, her aspect resembled that of a patient who had suffered from some severe illness, such as typhoid fever, for some weeks. The child was very cold, her tongue was coated and dry, her pulse was quite feeble, very rapid and irregular; in fact, she was very ill. She had been given an enema simplex and was receiving bismuth mixture every four hours; she retained no food, vomiting immediately anything that she swallowed. It had been thought up to now that probably she was developing some intercurrent disease. However, her aspect and the continual vomiting made me suspect acid intoxication, so a sample of urine was obtained, which Dr. T. Houston kindly tested and found it to contain diacetic acid, thus confirming the diagnosis. She was now given rectal injections of 1 drachm of bicarbonate of sodium in 2 ounces of warm water every four hours, and during the night, also bismuth mixture and a little peptonised milk and water, this and the mixture containing 10 grains of bicarbonate of sodium to the dose, but both were vomited immediately after being drunk and so were stopped. On the 17th the child was distinctly better, the worn aspect had vanished, and the eyes did not appear so sunken. She looked brighter and felt easier and had no headache or pain in the abdomen; the pulse was still rapid but regular and better in quality. During the early part of the night she had vomited twice, but not since she was not given any food by the mouth, receiving rectal feeds of 4 ounces of peptonised milk containing 20 grains of bicarbonate of sodium every four hours. After 6 P.M. she was given peptonised milk in half-ounce quantities by the mouth which she retained. This was therefore gradually increased in quantity as no vomiting occurred, the rectal feeds being continued during the night. On the 18th there was no vomiting, the child looked brighter and better, and did not complain of pain anywhere. The pulse was slower, steadier, and improving in quality; the tongue was becoming clean. The rectal feeding was now discontinued, the patient being given 5 ounces of peptonised milk every two hours by the mouth; in the evening this was replaced by ordinary milk. On the 19th the child was improving rapidly; there was no vomiting and the pulse was normal. The urine tested on this day was found to be free from diacetic acid. The subsequent history was uneventful. The temperature during the illness never rose above 99·8° F., nor fell below normal.

This, then, appears to be a case of acid intoxication following ethyl-chloride anæsthesia, which when recognised and treated appropriately had a fortunate termination, though on the third day after the operation the little patient was so ill that this, coupled with the fatal terminations in the recorded cases following chloroform administration, made one give a very gloomy prognosis. In view of the able manner in which Mr. Campbell has described the whole subject of chloroform poisoning I will refer the reader to his paper and content myself by quoting as an explanation why acid intoxication should follow ethyl-chloride administration the suggestion made by Dr. V. G. L. Fielden, the anæsthetist to the hospital, that the halogen group occurs both in chloroform and in ethyl chloride. In conclusion, I have to thank Miss Tate, the matron, for many of the notes on this case.

Belfast.

A NOTE ON THE DEVELOPMENT OF SECONDARY NODULES IN SUTURE SCARS AFTER OPERATIONS FOR THE REMOVAL OF CANCER.

BY C. W. MANSELL MOULLIN, F.R.C.S. ENG.,
SENIOR SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL.

IN THE LANCET of Nov. 9th, 1907, Mr. Charles Ryall called the attention of the profession to the very grave risk of cancer infection taking place during the performance of operations for the removal of cancerous growths, and instanced many cases in which it seemed to be obvious that such infection had occurred. One of the examples brought forward was the well-known frequent recurrence of the disease in the suture cicatrices after operations upon the breast, and several striking instances were mentioned in which infection had taken place around a laparotomy wound even when the operation had been merely of an exploratory character. A case that has been recently under my care illustrates this point well, but at the same time suggests that the mode of transference of the cancer infection is not of quite such a simple character as is usually believed. The sutures must bear a part of the blame, perhaps the greater part; but there is something more than the mere conveyance of a cancer cell from one spot to another by the needle or suture employed.

The patient, a man 48 years of age, was sent to me with the history that he had suffered from chronic gastric ulcer for the last 18 years, and that lately, in spite of medical treatment, the attacks of pain and vomiting had become more frequent. Cancer had supervened upon the old ulcer, as it so often does, and at the operation a tight stricture of the pylorus was found with some disseminated nodules scattered over the serous surface of the stomach. Posterior transmesocolic gastro-enterostomy was performed and the patient made an uneventful recovery. Six months later I saw him again. He was much better so far as pain was concerned and was considerably stouter, but there was a double row of cancer nodules on either side of the laparotomy wound. Two sets of sutures had been inserted: one, of stout catgut, interrupted, passing through all the layers of the abdominal wall except the skin; the other, of finer catgut, continuous, through the skin only. Practically all the suture points of the former series were infected; none of the latter. It was evident that cancer cells from the peritoneal cavity had invaded the wall wherever the parietal peritoneum had been pierced by a suture. The sutures had not carried the cancer germs in, for they had never been near the growth; but either by perforating the serous layer or by acting as irritants they had helped the development of the invading germs to such an extent that each point had become a cancer nodule. The immediate source of infection was in all probability the nodules noted on the serous coat of the stomach, which were constantly rubbing against the anterior abdominal wall. The line of the laparotomy incision itself seemed to be intact between the two rows of nodules.

The same explanation, it seems to me, is the more rational one in those cases in which cancer recurs at the suture points after operations for mammary carcinoma. It is not that the cancer germs are carried in by the needle or suture mechanically at the time of the operation and left to grow in the puncture made, but that they are more widely distributed in the surrounding tissue interstices than is apparent at the time, and only develop, or perhaps develop first, at those points where the resistance of the tissues is lowered by the presence of an irritant such as a suture.

That healthy tissues do possess some power of resistance to the growth of invading cancer germs is obvious. The distribution of cancer germs from a primary focus must begin at a very early date, but it is a long time before secondary said that as the anæsthetists had not the after treatment of operative cases they only to a slight extent realised what a troublesome complaint post-operative vomiting might be. He had been using a method, suggested by MacArthur, of giving the patient frequent drinks of pure cold water right up to the administration of the anæsthetic, and this method had been entirely successful in nine cases, partially successful in 19 cases, and had had no result in 12 cases, out of the 40 patients who had been treated in this way.—Mr. PRINGLE said that he had noticed when administering anæsthetics that the less the patient was cyanosed during the administration the less vomiting there was afterwards, so that it was important to let the patient breathe a certain amount of fresh air.—Dr. T. P. C. KIRKPATRICK said that with regard to the preparation of a patient he did not look on abstinence from food as of such importance as thorough purgation some time before the anæsthetic was administered. The patients who usually gave most trouble with post-operative vomiting were those who suffered from more or less chronic constipation. Occasionally after chloroform anæsthesia vomiting became so serious as to threaten the patient's life; but this was exceedingly rare after ether.—Dr. W. I. DE COURCY WHEELER said that he had tried the open method of administering ether and had found it very simple and the anæsthesia perfect. The patients never became cyanosed, but he had not had enough experience of the method to say whether the vomiting was less frequent. It was particularly suitable for old or fragile persons. Alcoholic patients who were difficult to anæsthetise with ether vomited less than others; if the anæsthesia was begun with chloroform and continued with ether the vomiting was far worse.—Sir THOMAS MYLES said that he himself had been under every anæsthetic known. He had always insisted on having a cup of tea before the operation, and he was well purged out. He had never vomited or had a fit of sickness. He was inclined to think that the sickness was due to something inherent in the patient.—Mr. TAYLOR said that it had been his habit to give morphine either immediately before the anæsthetic or before the patient left the table; less anæsthetic was then required and there was less vomiting.

Sir THOMAS MYLES read a short paper on a case of Exophthalmic Goitre which he believed to have been cured by a diet of milk obtained from thyroidectomised goats. The patient was a married woman, 25 years old, and the symptoms had been developing for more than a year. All the well-marked features of the disease were present and there had been a progressive loss of strength and colour. The goats were operated on by Professor Mettam of the Veterinary College and when, two days later, the little wound in the neck had healed the goats were sent to the patient who resided in the country. At the end of a month the improvement was very marked and at the present moment the enlargement of the thyroid was barely perceptible and the exophthalmos had disappeared. For the last few months the milk diet had been supplemented by the use of Merck's tablets and by the administration of small doses of iron and arsenic.—Mr. TAYLOR said that the method had been tried on the continent some years ago and a powder made from the milk of thyroidectomised goats could be bought, but the professors on the continent had not spoken much in its favour.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The annual meeting of this society was held at Manchester on Jan. 17th.—Dr. A. J. Wallace (Liverpool) was elected President for 1908, and the other office-bearers were duly elected.—Dr. E. O. Croft (Leeds), the retiring President, gave a short valedictory address in which he discussed "The Woman of the Future from a Gynæcologist's Point of View," in the course of which he suggested picturing in mind a typical healthy woman in the more or less distant future, and estimating the probability of her enjoying an immunity from many of the physical and mental disaffections as known to the gynæcologist of the present day. The gynæcologist of that day would require the command of a much higher knowledge of prophylaxis and of the conditions of normal health, and such knowledge would have to become an integral part of his mental equipment. The indications of such a development were referred to and exemplified. Rapid advances were liable to be associated with exuberances of rapid growth and feeble vitality. These exuberances were temporary hindrances and were more liable to form in the process of mental than physical development. They chiefly appeared in the form of eccentricities of various kinds. The various classes of gynæcological disease were reviewed in the light of their ultimate avoidance. The large class of inflammatory affections which were mainly associated with microbial infection of varying degrees were to be looked upon as avoidable, as also were many of the diseases of pregnancy and abnormalities of labour. The eradication of the venereal infectious diseases was not being dealt with at all at the present day. It was to be hoped that a more common-sense view would be taken of the matter in a more enlightened future. The prevention of puerperal infection seemed to be a difficult lesson in spite of its simplicity. It was suggested that the ultimate solution of the question would be in the hands of the suffering women-kind. When they themselves fully realised the position they would demand the remedy, and the demand would be more quickly met. With regard to the possibility of dealing with the apparently hopeless conditions of mal-development, the suggestions of Dr. J. W. Ballantyne and the subject of eugenesis were referred to. There was no clue to the prophylaxis of the new growths of the female organs, such as cystic disease, fibroids, and cancer. Referring to fibroids, the brilliant results of a curative kind obtained by operation during recent years, while of enormous immediate value, had practically paralysed all research into the etiology and nature of these growths. More work was being done regarding cancer, but the high degree of technical skill required of the operator and the pathologist had rather tended to create a chasm between the two which was difficult to bridge. Both were liable to be lacking in the opportunity for the observation of the living habits and phenomena of the disease as it progressed in the patient.

HARVEIAN SOCIETY.—A meeting of this society was held on Jan. 23rd, Dr. G. A. Sutherland being in the chair.—The evening was devoted to the showing of clinical cases and pathological specimens. Dr. Sidney P. Phillips showed: 1. A case of Splenic Anæmia in a Child. The liver, spleen, and lymphatic glands were enlarged and the blood showed the usual signs of anæmia but no leucocytosis.—The case was discussed by Dr. Sutherland.—2. A case of Landry's Paralysis in which recovery had taken place.—Mr. W. H. Clayton-Greene showed: 1. A case in which Rupture of the Liver had occurred from abdominal injury. An operation was performed within seven hours of the accident and recovery followed. 2. A specimen of Cirsoid Aneurysm of the Arm and Forearm. The arm had been amputated owing to the extensive involvement of the vessels. This was discussed by Mr. V. W. Low.—Dr. Willcox showed: 1. A case of Greatly Enlarged Lymphatic Glands on Both Sides of the Neck which he regarded as due to lymphadenoma, with tuberculous infection superadded, the latter having been proved by investigations of the opsonic index. The case was discussed by Dr. Sutherland. 2. A case of Enlarged Liver and Spleen with Leucodermia. This was regarded as cirrhosis of the liver.—Dr. F. Langmead discussed the case.—Dr. Langmead showed a case of Third Nerve Paralysis, which was discussed by Dr. Sutherland.—Dr. D. W. Carmalt-Jones showed a case of Arteriosclerosis with a Vascular Lesion giving rise to a crossed sensory lesion.—Mr. Low showed a case of Charcot's Disease of the Knee-joint with spontaneous fracture of the tibia on the same side. There were well-marked signs of tabes dorsalis.—Mr. T. Crisp English showed: (1) A case of Charcot's Disease of the Ankle Joint, which was discussed by Mr. Kelly; and (2) a specimen of Large Fibroma of the Breast.—Mr. Lawrence Jones described (1) a case of Musculo Spiral Paralysis; and (2) a specimen of Ureteric Calculus.—Mr. S. Maynard Smith showed a case of Injury to the Brachial Plexus followed by a root paralysis which recovered after operation.—The case was discussed by Dr. Willcox.—Mr. E. Morris showed a skiagram of a Supernumerary Thumb.—Dr. C. Singer described the drawings, microscopical and pathological specimens, of a case of Exophthalmic Goitre which had recently been under his care.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 22nd, Dr. W. Hunter being in the chair.—Dr. C. H. Cattle and Dr. J. R. Edward showed a man, aged 35 years, who had made a good recovery after operation and drainage of an Abscess of the Lung in the Left Infra-scapular Region. The exact mode of origin of the condition was uncertain but it was most probably a sequela of pleuro-pneumonia. Although he at one time expectorated from 12 to 18 ounces of pus per diem was of congenital origin, the symptoms dating back as they do to the early age of three years. An alternative supposition is that the primary condition was renal calculus with impaction of the calculus in the upper end of the ureter and hydronephrosis; subsequent infection would lead to pyonephrosis, ulceration around the calculus would cause it to be loosened and drop back into the dilated pelvis (no stone was ever known to be passed), and the healing of the ulcer would bring about cicatricial contraction of the uretero-pelvic junction.

Manchester.

SEVERE SPASMODIC CONTRACTION OF A FINGER CURED BY STRETCHING THE MEDIAN NERVE.

BY JAMES ADAMS, M.D. ABERD., F.R.C.S. ENG.

A WOMAN, aged 45 years, a widow who earned her living by needlework, came under my observation in November, 1905, for extreme contraction of the middle finger of the right hand. She gave the following history. In December, 1902, she pricked the thumb of her left hand and it became swollen, tender, and inflamed, and it suppurated. As it did not improve but on the contrary got much worse she went to University College Hospital, London, in January, 1903, and remained there for two months, all the fingers and hand becoming involved in what was evidently a septic infection. The fingers and hand were freely incised and drained and the patient was discharged in March with drainage-tubes still in. She returned to the hospital in the following May with the wounds unhealed and the mischief spreading further and amputation was performed at the middle of the forearm. The surgical registrar of the hospital, Mr. O. L. Addison, has sent me the report of her case. He says: "The patient was admitted to University College Hospital with a septic infection of the palmar sheaths and cellulitis of forearm following a poisoned wound of the thumb. The arm had to be amputated to prevent further extension of the suppuration."

In February, 1905, the middle finger of the right hand began to contract, and in November the patient was admitted under me to the union infirmary with the finger badly contracted. There were no signs of disease in the finger. With much force and some difficulty I could extend the finger fully but it gave her great pain to allow me to do it and when freed the finger at once returned to its state of rigid contraction with the tip firmly fixed in the palm. Before admission the finger had been treated in various ways without success and after admission I tried internally anti-rheumatic and anti-gouty medicines and iodide of potassium in large doses; also locally I ordered hot brine baths, liniments, ointments, massage, &c., as well as applying splints to the palmar surface by which I could keep the finger extended, but all without the least benefit. It was very painful to the patient to have it kept in a position of complete extension and it also proved useless, for when the splint was removed the finger at once re-contracted. After six weeks' treatment with no result the patient begged me to amputate the finger as it was so inconvenient to her, besides preventing her from earning her living. Accordingly, in January, 1906, I removed the finger at the metatarso-phalangeal joint with the head of the metatarsal bone. The wound healed normally and quickly and in February she returned home to her work with a useful hand and with the rest of the fingers in a normal condition.

For six months this continued, but in August the ring finger began to contract and in spite of treatment became as bad as the middle finger had been, and in November she was readmitted in order to have this finger also amputated. The condition, appearance, and symptoms were identical with those of the other finger. It was in a state of marked tonic contraction with its tip fixed and kept firmly in the palm. By no effort on her part could she move it, and I could only extend it by using much force and giving her great pain; on my releasing it the finger returned at once to its vicious position like a strong spring set free. The finger was not swollen, red, or painful, and its sensation was normal, and the other fingers were normal in every way, as were the hand, the forearm, and the upper arm. The patient's general health was excellent, her appetite was good, and she slept well. She is a placid, non-neurotic type of woman, dark complexioned, well nourished, and is active and industrious.

To remove a second finger from the hand of a woman of this class, already deprived of her other hand, would be indeed a serious misfortune for her. Instead of again putting her through a course of treatment I showed her at a meeting of the Eastbourne Medical Society, where she was examined thoroughly and with much interest by about 20 members who were present. A suggestion was made that stretching the median nerve might be beneficial and I readily acquiesced in this, for I was very reluctant to amputate. In December, 1906, I operated. I cut down at the junction of the middle and lower third of the upper arm, making a three-inch incision in the course of the nerve, and at once came on it lying in its normal situation. I separated it from its bed, took it up with my forefinger and thumb, and stretched the distal portion forcibly for four or five minutes, and then the proximal end for the same time. The wound healed kindly and the operation was simple and easy, taking only a short time to do. While under the anæsthetic the finger could be readily extended as was the case in a patient of Professor Nussbaum to whom I shall again refer. Before my patient had recovered from her anæsthesia I put the finger on a palmar splint and kept this up for three weeks, removing it twice a day for passive exercise. At the end of this time I ordered the splint to be kept on by night only for another fortnight and then left it off altogether. For nearly a month the patient had numbness in some of the fingers and disordered sensation in parts of the hand, and, curious to relate, the numbness was in the two fingers supplied by the ulnar nerve—viz., the little and ring fingers—there being no numbness in the thumb and forefinger. Brown-Séquard refers to a similar occurrence as regards sensation when on stretching the sciatic nerve in guinea-pigs the part of the foot innervated by the anterior crural nerve became anæsthetic and sometimes even the leg on the opposite side to that of the operation became also anæsthetic. In one case there were an incomplete paralysis and anæsthesia in the right leg after considerable stretching of the sciatic nerve on the left side. And he adds: "It is clear that the spinal cord is modified by the stretching of a nerve" (Holmes's "System of Surgery," Vol. II.). After leaving off the splint there was no contraction of the finger or tendency to contraction, and three months after the operation I had the satisfaction of showing the case again to the local medical society with the finger cured and the patient possessing a useful hand.

In December, 1907, the patient came to see me and she could bend and extend the finger normally and there was no tendency to contraction; and as a year has elapsed since I stretched the nerve the cure may be regarded as permanent.

The etiology of the case is obscure and I can only state its negative side. It was not a Dupuytren's contraction nor an osteo-arthritic finger, neither was it inflammatory nor a sequel of inflammation, nor gout, nor rheumatism, nor an example of neuromimesis. The tissues and joints of the finger I amputated were all healthy. The contraction was certainly not organic but was a true spasm and became more violent the more that one attempted to oppose it.

I can find no instance of stretching the median nerve having been done in England for contraction of a finger. Callender relates a case of stretching it for neuralgia, and Morton for athetosis, in which both median and ulnar nerves were stretched with success. The nearest case to mine which I have been able to find is that by Professor Nussbaum. He describes operating on a tuberculous girl, six years of age, in which in the course of a resection of the elbow for ankylosis at an inconvenient angle some traction was exercised upon the ulnar nerve and a spasmodic contraction of the fourth and fifth fingers which had hitherto existed was in consequence completely cured. Professor Nussbaum relates at length in the same article a successful result of stretching the ulnar nerve, and the various branches of the brachial plexus in the axilla for extreme spasmodic contraction of the hand, forearm, and upper arm accompanied by anæsthesia of dorsal aspect of the forearm in a soldier, aged 23 years, the condition being the result of traumatism. In this patient, as in mine, under an anæsthetic all spasmodic action ceased.

Had I stretched the nerve when the patient first came under my treatment I have no doubt that I should have saved the middle finger from amputation, as I have now done the ring finger. No doubt the rarity of such a form of spasmodic contraction in a finger partly accounts for the rarity of the

the surgery of insanity, and Dr. Woolsey on the surgery of the spine; the subjects are treated very satisfactorily.

Where all are so good it is a little invidious perhaps to single out any individual article for special praise: but we may perhaps mention that we think Dr. Eisendrath's paper on fractures is especially good.

Handbuch der Gynäkologie. By Various Authors. Edited by J. VEIT. Second revised edition. With numerous illustrations. Vol. I., pp. 836. Wiesbaden: J. F. Bergmann. 1907. Price M.16.60, or 16*s.* 9*d.*

SINCE the first edition of this work appeared four of the contributors have unfortunately died—namely, Gebbard, Gessner, Löhlein, and Viertel—and for this edition their places have been taken by Fritsch, Frommel, Nagel, and Winternitz. This volume deals with the prevention of infection in gynæcology, displacements of the uterus, and fibromyomata of that organ. The first section, on the prevention of infection, is written by K. Franz of Jena. For the disinfection of the hands he recommends a modification of Fürbringer's method and the use of rubber gloves. The risk of infection *from the skin of the patient during the* operation is prevented by covering the patient entirely with a sterile covering to an opening in which the edges of the incision in the skin are fastened by clip forceps. Catgut sterilised by cumol is recommended as an ideal suture material whenever it can be used.

The article on the normal and abnormal positions of the uterus is contributed by Otto Küstner of Breslau. It contains a very complete account of the symptoms and treatment of all the displacements of the uterus, especially the operative treatment of prolapse of that organ. The coloured drawings depicting the various stages of different operations are exceedingly good, as are also the numerous drawings of sections of the pelvis in the different stages of prolapse of the uterus. R. Meyer of Berlin discusses the anatomy and origin of myomata and fibromata of the uterus. The author apparently favours Ribbert's theory of the origin of fibromyomata from young muscle cells embryonic in character in so far as they are young, and he states that all grades of development can be traced between such young muscle cells and the cells composing small growing fibroid tumours. The important question as to the mode of origin of adenomyomata of the uterus is very fully considered. The etiology, symptoms, diagnosis, and prognosis of these tumours are considered by the editor who also describes the palliative treatment and the operative treatment of such growths when undertaken by the vagina. The electrical treatment is described shortly by R. Schaeffer of Berlin.

The last two sections, the most valuable in the work, are contributed by R. Olshausen of Berlin and deal with the various abdominal operations which may be performed for uterine fibromata and the diagnosis and treatment of pregnancy when complicated by the presence of such growths. The relative value of the different modes of carrying out the abdominal operations is discussed in detail, and the conclusion is come to that abdominal supravaginal amputation is as a rule preferable to the operation of total hysterectomy in these cases. To anyone who wishes to read a judicious and able account of the risks which a patient may or may not run with a pregnancy in a uterus containing fibroid tumours we can strongly recommend this last article in the volume. The author's immense experience enables him to point out very clearly the important problems involved in the treatment of these cases.

This second edition well maintains the high standard of merit attained by the first and this volume is a very valuable addition to the German literature on gynæcology.

LIBRARY TABLE.

A Text-book of Clinical Anatomy for Students and Practitioners. By DANIEL N. EISENDRATH, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois; attending Surgeon to the Cook County Hospital, Chicago. Second edition. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 535. Price 21*s.* net.—This second edition of Dr. Eisendrath's Clinical Anatomy is said to have been "thoroughly revised" but we regret to find that mistakes are still numerous. The illustrations, though beautifully executed, are in several instances technically incorrect; for example, on p. 175, the commencement of the inferior vena cava is represented as taking place to the left of, and almost on a level with, the umbilicus; next, on p. 185, only three synovial sheaths are allotted to the extensor tendons of the wrist and fingers, whereas there ought to be six, while one of the compartments is labelled as being the "common tendon-sheath of the extensors of the middle, ring, and little fingers." Again, Fig. 37, p. 121, showing "surface markings of principal structures of neck *and of thorax in child," is, we consider, valueless, for the* outline of the sternum, the ribs, and the clavicle is omitted, the ascending aorta is placed too far to the left, and the innominate artery is twice as long as it ought to be. In the section on the Abdomen there are again some errors. The union of the cystic and hepatic ducts does not take place near the lower border of the first part of the duodenum, as shown in Fig. 73, and the duodeno-jejunal flexure is not usually situated below the lower pole of the left kidney, as appears in Fig. 69. The book is well bound and printed on good paper but in our opinion is still in need of revision.

The Office of Midwife (in England and Wales) under the Midwives Act, 1902. By STANLEY B. ATKINSON, M.A., LL.M. Cantab., M.B., B.Sc. Lond., of the Inner Temple, Barrister-at-Law. London: Baillière, Tindall, and Cox. 1907. Pp. 123. Price 3*s.* 6*d.* net.—Dr. Atkinson has done a considerable service to all those interested in the working of the Midwives Act, 1902, in writing this little book. He has gathered a large amount of very useful and interesting information. In the first part he traces the evolution of the midwife from the period when women were licensed by the bishops or their chancellors to practise midwifery, up to the time of the institution of the Central Midwives Board. He informs us that Bishop Bonner in the year 1554 is supposed first to have granted these licences. The explanation given of this early ecclesiastical control is the necessary presence of the midwife at what is the first and not infrequently the last breath of human life. Midwives were instructed carefully by the clergy as to the necessity, the manner, and the exact words of emergency infant baptism. The author gives a most interesting review embracing the evolution not only of the midwife but also that of the man-midwife, the early development of lying-in hospitals, and the progress of midwifery in the nineteenth century. It will no doubt be a matter of surprise to those medical men who have no special knowledge of the subject to learn that it was only as late as the year 1852 that the Royal College of Surgeons of England obtained a supplementary charter enabling it to examine "persons" for a diploma, Licentiate in Midwifery of the Royal College of Surgeons of England, and it was not until the Medical Act, 1886, Section 2, became law that a triple qualification in medicine, surgery, and midwifery was essential before the registration could take place of the would-be medical practitioner. In Chapter II., on the Prospects and Present Position of Midwives, Dr. Atkinson points out how few midwives are likely to be left in practice in some parts of the country if the local supervising authorities strictly put into force the powers conferred femur had been broken by a simple fall in April; splints were removed three weeks later on account of *extensive swelling of the thigh which was said to have* reached three times the size of the opposite one; there had been some diminution in size, but at the time of operation, in November, 1901, it still measured 15 inches in circumference, twice the size of the opposite limb at a corresponding point. *Examination with the x rays appeared to* confirm the diagnosis of osteo-sarcoma. It was the only growth to be found on the skeleton and his general health was satisfactory. Amputation at the hip was followed by a good and rapid recovery. The family history was good at that time, but a *few months later his mother underwent* amputation of the thigh for osteo-chondroma of the femur, while another child, a boy, aged three years, is now (January, 1908) in a hospital with a growth of his femur following a fracture; from the account given the case is a similar one. On June 9th, 1903, *the subject of the* communication was again taken to the hospital for a growth of smaller size affecting the lower end of the right femur; this presented characters similar to those of the original growth but did not prevent his getting about. When again admitted to hospital in March, 1907, *the growth of* the right femur had disappeared, leaving no trace. There was, however, a tumour of the tibia present which dated from an injury 12 months before, due to a fall on the pavement. An incision had been made into this (the scar of which remained) and a diagnosis of *sarcoma given. The* tumour had diminished in size and there had been less pain afterwards. There had been a change also in the appearance of the head, which was enlarged and bossy, due to a thickening of the outer table. There were also small bony growths of the ulnar bones in no way resembling the characters of inflammation or of sarcoma. By means of the x rays the tumour of the tibia could be clearly defined, and although the outline of the tibia could be distinctly traced through it, it was not invaded by the growth, which was distinctly circumscribed and of bony structure, resembling an osteoma. After giving the account of the case Mr. Battle and the President made reference to the various conditions which might cause a difficulty in the diagnosis of tumours of the long bones following injury, the chief difficulty being met with when there was a resemblance to periosteal *sarcoma*. A case of traumatic subperiosteal hæmatoma in which there had been a development of bone which gave egg-shell crackling on manipulation was *related, the specimen* being in the museum of St. Thomas's Hospital. The femur was the bone affected and amputation had been done at another hospital *on the supposition* that the case was one of hæmorrhagic sarcoma. There was a history of improper feeding. Reference was made to cases published in a lecture by one of the readers of the paper (Mr. Battle) which appeared, with illustrations, in The Lancet of August 27th, 1904, p. 580. *In that lecture* examples were given of excessive formation of callus after fracture when too much *movement of the* fractured ends had been permitted *or when the* patient was the subject of locomotor ataxy. A case now under observation of a similar condition following fracture in a man the subject *of general* paralysis of the insane was also adduced. The characters of the tumour produced in a long bone which was affected by osteitis deformans confined *to that* bone were pointed out. The great difficulty sometimes experienced in making a diagnosis in necrosis, if the sequestrum was small and the *x rays* failed to *show* it, was drawn attention to, whilst, finally, allusion was made to the well-known case of leontiasis ossea in which the fibula was *occupied* in part by a large bony mass similar to that which *affected* the head and face bones. A case of localised enlargement of bone reported by Mr. Bilton Pollard *was also* mentioned. Finally, the great difference between the tumours which appeared in this case and the varieties of cancellous osteomata was pointed out, it being considered that from a clinical point of view the growths which formed the subject of this communication constituted a distinct and separate *type*. To the naked eye the tumour consisted of a finely cancellous osseous tissue, the interstices of which were filled with adipose medulla. In the latter there were strands of proper medullary tissue comprising finely and coarsely granular myelocytes, lymphocytes, and *erythrocytes. No* histological *marks of inflammation* were present and the growth must be classed as a cancellous osteoma. Mr. Bilton Pollard had described under the title of "hypertrophied callus of the tibia and fibula" a *fusiform* formation which followed an injury. The limb was amputated on the supposition that the disease was sarcomatous. In this case, *however, the original bone was replaced by the new formation*, and the interstices of the cancelli were occupied with cellular connective tissue, without a trace of fat or proper marrow; the lesion for this reason did not bear classifying as a cancellous osteoma but was rather an *inflammatory or irritative hyperostosis. The tumour* on the femur of the child's mother fell histologically into Virchow's group of osteoid chondroma. The growth of osteomata in her two children became thus an example of the heredity of benign tumours, which in the case of chondromata *and osteomata was so striking and well established.* A further matter of interest in the history of the boy was that bony tumours afterwards grew around other bones and that one of these disappeared spontaneously. That around the tibia appeared after an injury. The only comparable case in *this regard* of which Mr. *Battle* and the *President* knew was one recorded by Abernethy in which osseous formations ensued after local injuries, some of which formations spontaneously disappeared.

Dr. W. O. Meek read a paper on "Tuberculous Endo*carditis*" based on a pathological examination of two cases of miliary tuberculosis.

Dr. H. A. Colwell showed some photographic plates which had been placed in contact with sections of vesical calculi in the dark. After development a more or less *faithful* picture of the calculus was in the majority of cases obtained, which, however, showed that the action upon the silver salt was confined to certain strata of the calculi. Thus the nucleus, which consisted in each case *of comparatively* pure uric acid and was compact in character, *produced* no photographic effect. On the other hand, layers of calculi, which were of more porous consistency and which also consisted of uric acid in combination as well as uric acid itself, gave positive results. Phosphatic *portions of the* calculi were without effect except when mixed with urates. The external layers of a *predynastic* Egyptian calculus lent by the President from the collection of the Royal College of Surgeons of England also gave a positive result, the nucleus being without any apparent effect.

Mr. Cecil W. Rowntree read a paper on a case of Malignant Disease *of the Rectum* in a boy, aged ten years.

Mr. Walter G. Spencer showed a case of Chimney-sweep Carcinoma.

MEDICAL SOCIETY OF LONDON.

The Use of Chemicals in Aseptic Surgery.—Nervous Phenomena in Pneumonia.

A meeting of this society was held on Jan. 27th, Dr. J. Kingston Fowler, the President, being in the chair.

Mr. C. B. Lockwood read a paper on the Use of Chemicals in Aseptic Surgery. He said that at the present time attempts were being made to conduct surgery without the use of chemicals, but there were many surgeons, himself among the number, who still used chemicals. Whatever means surgeons adopted the aim was the same—namely, to banish bacteria from the field of operation, from everything brought in contact with the wound, and from the wound itself. Nothing short of that would ever content him. As far as possible heat was used by everyone to kill bacteria and when heat could be properly applied its effects were asepsis. A long series of tests performed regularly for 15 years led to the conclusion that bacteria seldom reached wounds from anything to which heat could be properly applied. Wound infection came from the hands and person of the surgeon and his *assistants, from* the skin of the patient, and from the atmosphere. Mr. Lockwood said he used what was commonly known as spirit and biniodide of mercury lotion which was more correctly described as a solution of mercuric iodide in iodide of potassium. Alcohol was a powerful germicide and had the *additional* advantage of penetrating and removing the cutaneous grease. His method was to cleanse the hands in the usual way, soak them for not less than two minutes in spirit and biniodide lotion, and transfer them repeatedly from that lotion into a watery solution of biniodide of mercury 1 in 2000. *The effect* was to cause the biniodide to enter into a close alliance with the skin but not into chemical combination with it. It could be demonstrated that the skin contained an appreciable quantity of mercuric iodide after this method had been used. The plan, however, required care, accuracy, and publication is a worthy product of the *entente cordiale* which binds together all nations in the world of science. Dr. Osler's Text-book of Medicine is probably known to most of our readers and as we have reviewed it through six editions there is no need to allude at present to the matter of the book but only to the manner of its presentation. We may say, in a word, that Dr. Osler's work lends itself to translation admirably, and has been admirably translated. Indeed, many French students might read it and were it not for the title-page think it to be a French treatise. This we suspect to be due to Dr. Osler's exceptional knowledge of pure English and ability to say exactly what he means in plain and well-balanced phrases which leave his translators no doubt of their only possible counterpart in French. The result is that the translation is almost literal and the success of the work from a French point of view is made greater by the clear manner in which the author arranges his sections, which entirely agrees with the French method of teaching. Dr. Marie in a little prefatory eulogy of Dr. Osler refers to him as "né au Canada, et par conséquent de nationalité anglaise"; possibly "nationalité britannique" would be a more acceptable term to many of our fellow-subjects. English students might do well to buy their text-book in this French form, as it would improve both their medicine and their French, and we can assure them that medical works written in that language afford the easiest French that a medical man can find to read.

JOURNALS AND MAGAZINES.

The Annals of Tropical Medicine and Parasitology. Vol. I., No. 3. November, 1907. London: Williams and Norgate. Liverpool: At the University Press. Pp. 207, illustrated. Price 7*s.* 6*d.* The first paper in the present number is a continuation of the communication Concerning Certain Parasite Protozoa observed in Africa, by the late J. Everett Dutton, M.B. Vict., John L. Todd, B.A., M.D. McGill, and E. N. Tobey, A.B., A.M., M.D. Harvard. It deals with parasitic protozoa found in some other mammals than those described in the first part of this communication, with others found in birds, reptiles, fishes, amphibia, and in arthropoda. Although these parasites are not apparently connected with any disease occurring in man and the descriptions are in themselves more or less incomplete and disconnected, the recording of the observations made will probably prove of considerable value in the future. It may well be that some of these parasites may be found to live in the human body. At any rate, facts connected with the life-history of this class of parasites in animals other than man will very probably serve as a guide in the study of human parasites. The matter contained in the communication, however, is of such a technical and specialised nature that it would be out of place to deal with it here at any length. Dr. C. W. Branch of St. Vincent contributes a valuable and interesting paper on Yaws in the West Indies. Dr. Branch, who has had a wide experience of the disease, is definitely inclined to the view expressed by Mr. Jonathan Hutchinson that "yaws" is identical with "syphilis." He admits, however, of some doubt on this point. His attitude is more or less completely expressed in the following passage: "If 'yaws' is not 'syphilis' then there is still abundant indication that the treatment is the same and we should insist on the early and persevering use of mercury; for the time for treatment of 'syphilis' is in the early secondary stage, and by inference the same must be true of 'yaws.'" Dr. Branch criticises adversely what Sir P. Manson says with regard to "yaws." Sir P. Manson stated that the primary sore, the affection of the fœtus, the adenitis, the exanthem, the alopecia, the absence of itching, the iritis, the affection of the permanent teeth, the bone and eye affections, the congenital lesions, the polymorphism of the eruption, the nerve lesions, and the gummata of "syphilis" are all wanting in "yaws." Dr. Branch states definitely that there is no doubt whatever about the occurrence of the primary sore. He is equally conclusive in his contradiction of all the other points with some slight exceptions, which he attributes to the difference in susceptibility between black and white races of men. He deals exhaustively with the "frambœsial" eruption and he brings much evidence and many arguments to show that this is identical with the papillomata, condylomata, and rhagades of "syphilis" Dr. Anton Breinl contributes a short note on the morphology and Life-History of Spirochæta duttoni. Dr. Breinl's conclusion is that just before the crisis of the disease the spirochætæ seem to disintegrate, several of them coiling up into skeins, the majority of which are distributed in the spleen. Some of them become encysted and break up into several small bodies, out of which the new generation of spirochæta is evolved. The first part of a communication on the Cytology of the Trypanosomes, by Professor J. E. Salvin-Moore and Dr. Breinl, forms the last article in this number of the Annals. A preliminary account of the observations relating to the Trypanosoma gambiense contained in the present paper was published in THE LANCET of May 4th, 1907, p. 1219. In the Annals a more exhaustive account of the morphology and life cycle of Trypansoma gambiense is given and Trypanosoma brucei and Trypanosoma equinum are also dealt with. The paper is very fully illustrated. Among other things, the authors suggest very strongly that the life cycle of Trypanosoma gambiense at any rate is complete in one host only and is in no way dependent for its completion upon the transference of the parasites into the blood of any other host. It would seem, in fact, that the transference by flies in the case of sleeping sickness may have no more significance with respect to the life cycle of the parasites than in the case of the transference of dourine from horse to horse by means of flies. The transference of sleeping sickness in fact when it is brought about by flies is in the nature of a direct inoculation of blood, and this inoculation might well be, and probably is, brought about by other means as well as by flies.

IN the *British Journal of Dermatology* for November, 1907, Dr. J. D. Rolleston makes an interesting communication upon Herpes Facialis in Diphtheria. His observations were based upon 1370 cases of that disease which had been verified bacteriologically, and of these 4·2 per cent. developed herpes on the face. In the great majority of cases it was labial but the cheeks, chin, and nostril were occasionally attacked. The sexes were about equally affected and its incidence increased in frequency until the twentieth year. It was always an early symptom and was not definitely related to the same side of the face as that on which the diphtheritic process was present in the fauces. In Dr. Rolleston's experience it is more likely to occur in the more severe cases, although Oral regards it as a favourable sign. Dr. Rolleston agrees that it occurs more frequently in non-diphtheritic angina than in diphtheria, as he has observed it in 13·1 per cent. of the former class of case, which comprised quinsy, Vincent's angina, and herpes of the fauces.

The West London Medical Journal.—The most important of the original communications in the January number of this periodical is perhaps that by Mr. W. Sampson Handley on Chronic Appendicitis in Women. The author points out that this condition differs from acute appendicitis in that the peritoneum is not affected and is of opinion that it is a frequent cause of right-sided "ovarian" pain in women. Dr. J. A. Mansell Moullin writes on Uterine Fibroids and apparently holds that operation is called for in all cases; and Dr. Samuel West contributes *a clinical lecture on Pericardial* not a point of great practical import. Dr. Sharp said he believed that ergotoxine was the one active alkaloid contained in ergot, although Dale believed that it had not the action on the heart that was attributed to crude ergot nor did it produce convulsions as did ergot. It produced all the other actions at least of ergot, including gangrene. The adult dose was $\frac{1}{100}$th or $\frac{1}{50}$th grain (0·0006 or 0·0012 gramme) for a single injection, or $\frac{1}{12}$th to $\frac{1}{6}$th grain (5 to 10 milligrammes) in the 24 hours. In small doses there is a rise of blood pressure, while after very large doses there is a fall with dilatation of the peripheral vessels just as with the rise in pressure there is constriction of the same vessels. This paralysis affects the junctions of the motor fibres of the sympathetic with the muscles—the so-called myoneural junctions. In fact, with large doses ergot and ergotoxine paralysed the very parts which adrenal stimulates. This fact had been seized upon and it had been practically employed by Dale in the standardisation of ergot preparations. The action of ergot and ergotoxine being on non-striped involuntary or plain muscle its effect could be well observed on the uterus. The action was both direct on the muscle and indirect through the sympathetic. In small doses it stimulated and contracted; in large doses it paralysed and inhibited or relaxed. This paralytic action was alone through the sympathetic. The muscle fibres suffered no paralysis, neither did the cerebro-spinal nerves supplying the uterus. It was now known that both effects depended on one alkaloid—namely, ergotoxine, and it was only a question of dosage. It was important from a practical standpoint to remember that after paralysis through the sympathetic the uterus still readily responded to mechanical or electrical stimulation. Dr. Sharp said that the alkaloid was the best preparation to employ when it was necessary to raise the blood pressure rapidly. In all other cases the liquid extract was preferable. He said that he had found it to be quite active at the end of 12 months. The dose generally given was too large. The limit of single doses to cause uterine contraction in connexion with labour was half a fluid drachm. The benefits of ergot were indirect rather than direct, for when the drug was given to expel foreign bodies from the uterus the tonic contractions which it set up might by expelling these put the uterus in the best condition in which nature could repair the damage done. In Addison's disease, in neurasthenia, in chilblains, in nervous disease, or wherever the vascular tone was wanting, ergot in small doses might do good indirectly by improving the tone. In regard to strophanthus, squill, and digitalis Dr. Sharp said that his own experience confirmed that of Dixon and Haynes that many preparations of strophanthus were below the standard but he disagreed with them as to the relative toxicity of the three drugs. Strophanthus when given under the skin was much more toxic than when administered by the mouth, but squill and digitalis were not so suitable for hypodermic injection, hence they could not draw parallel conclusions. Strophanthus was not an indirect diuretic like digitalis. Its diuretic action was direct but uncertain. It might relieve dyspnœa of cardiac origin. Squill was a good adjunct to digitalis but it was not of itself a heart remedy of great value. Digitalis he regarded as the only real heart tonic. He had shown that the tincture remained active for at least 13 months. When the pressure was very low, as in cases of extensive dropsy, it acted more rapidly than was generally believed. In one case he had known it to act in nine hours and in other cases from 12 to 16 hours, setting up active diuresis.

Dr. O. C. Gruner read a paper on Medical Student Life at Montpellier in the Middle Ages. The paper was illustrated by a number of lantern slides prepared from old drawings. The aspect of the city was first described with some minuteness and emphasis was laid on the clerical character of the university. Illustrations of the teaching of students, including one of a necropsy and some of out-patient diseases, were shown and a short account of this class of teaching was given. The clinical teaching of this University was that which made it famous. After reviewing some of the social conditions and illustrating the domestic side of medical student life an account was given of the ceremony of conferring of degrees. Quotations from an actual speech were given to illustrate the religious character of the degree ceremony in those days.

Mr. R. Lawford Knaggs read a paper on Angulation of the Sigmoid Flexure.

Mr. H. de C. Woodcock showed three cases with Calmette's Ophthalmo-reaction. He said that in 100 cases he had found that a positive reaction is not necessarily found in severe tuberculous infection. Also the reaction was present in some people not considered tuberculous, in people in full work and without illness. He had tried the inoculation of a blistered surface; it had answered very well and he was satisfied with it. He had not heard of its use anywhere but at Armley Hospital. He showed a chart demonstrating the great value of cryogenin in the high temperature of pulmonary tuberculosis.

Mr. J. F. Dobson showed a short and thickened Appendix, showing a Diverticulum at its Base, removed from a man who had had two attacks of appendicitis. A tag of omentum was adherent to the diverticulum.

Dr. T. Churton and Mr. H. Littlewood showed a case of Stenosis of the Œsophagus in a child, with skiagram by Dr. L. A. Rowden.

Dr. A. D. Sharp showed a patient with a Simple Neoplasm in the region of the left vocal process, right lateral pharyngitis, and marked hypertrophy of the lingual tonsil.

Dr. A. L. Whitehead showed an Eyeball excised for growth from a case in which Calmette's tuberculin serum test gave a positive result and the opsonic index was subnormal.

Dr. T. Wardrop Griffith showed a Heart from a patient who had been under his observation for 12 weeks prior to his death. At the necropsy very extensive vegetative endocarditis had been found affecting the aortic segments, leading to obstruction at the orifice, to insufficiency of the valve, and to aneurysm of the sinus of Valsalva.

Dr. Allan showed: (1) A Heart much hypertrophied and dilated showing a bulging of the wall of the left ventricle due to a growth in the wall, probably gummatous; and (2) the Right Lung of an infant, aged eight months, showing several cavities in the apex.

Mr. H. Wales showed an Anencephalic Monster.

Dr. E. F. Trevelyan showed a case of probable quiescence of an Intracranial Tumour occurring in a lad, aged 18 years. Six months previously he had suffered from severe headache, vomiting, and ocular paralysis. The general symptoms had entirely subsided but the eye symptoms still persisted.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Surgery.

Grafting of the Fibula to the Tibia.—Post-anæsthetic Vomiting.—Exophthalmic Goitre.

A meeting of this section was held on Jan. 17th, Mr. Seton S. Pringle being in the chair.

Mr. R. Atkinson Stoney read notes of a case in which he had Grafted the Fibula to the Tibia. The patient, a boy, aged seven years, was admitted to the Royal City of Dublin Hospital on Nov. 26th, 1905, suffering from acute osteomyelitis of the tibia; he had been ill for ten days and a huge abscess had formed involving the whole of the leg from the knee to the ankle. The abscess was opened immediately and the diaphysis of the tibia was found to be completely stripped of its periosteum. The necrosed tibia was removed by two operations, in January and in April. By April, 1906, the sinuses had closed and an involucrum had formed in the lower and upper parts of the leg, but there was a gap of about one and a half inches between the two ends, due to destruction of the periosteum, as the result of the virulence of the original infection. An operation was performed in which the neck of the fibula was cut across and the upper end of the lower fragment was implanted into the upper end of the involucrum of the tibia. Firm union had now occurred and the boy was able to run about without the aid of a stick, though there was considerable shortening as the result of over a year's loss of growth while the illness lasted and the ends of the tibia were not in contact. The operation was a modification of one described by Hahn in 1885, and was suggested by a case reported by Professor E. E. Goldmann of Freiburg in The Lancet of Jan. 13th, 1906, p. 82. There was no tendency of the ankle to turn outwards.—Mr. Pringle said that the case was, so far as he knew, the first of the kind reported in Ireland, or at any rate shown at the Academy. He believed it was the only line of treatment which was likely in such a case to leave a useful limb.

Dr. Gunn read a paper on Post-anæsthetic Vomiting. He patient is sitting, K when the patient is in the dorsal or lateral decubitus, while the dummy cup L receives the screw-plug M when D and K are in use. These funnels are guarded by fine meshed metal diaphragms to prevent glass dust entering when the tube breaker is employed. Fig. 3 shows the cylinder which is used when N_2O is to be administered. It is provided with three-way valves. The lever B being at *0* air is respired; at *4* the inspiratory and expiratory valves C and A are put into action; when turned further to-and-fro breathing is allowed. The gas is admitted through the tap at the distal end of the bag. When ethyl chloride is to be used concurrently with N_2O the sponge-holder G is inserted and the anæsthetic is introduced through D or K. For the N_2O and ether sequence anæsthesia can be induced as above and then the N_2O cylinder exchanged for the general anæsthetic cylinder or, what is simpler, the last-named can be used throughout, to-and-fro breathing being allowed from the outset. The ether attachment shown in Fig. 4 is extremely ingenious and easily controlled. It is screwed into K and on turning the screw V the ether passes down and wets the sponge. The receiver is fed by apertures controlled by Z. It is made of metal and glass so that the ether is always in view.

FIG. 2.

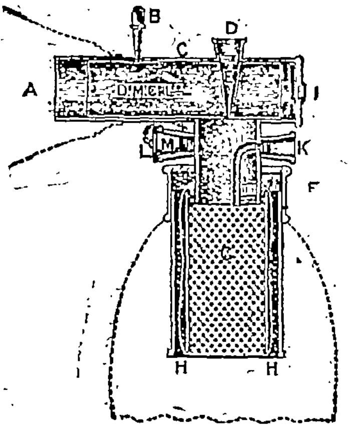


FIG. 3.

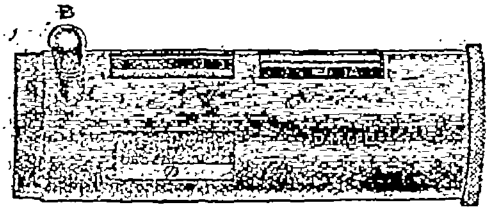
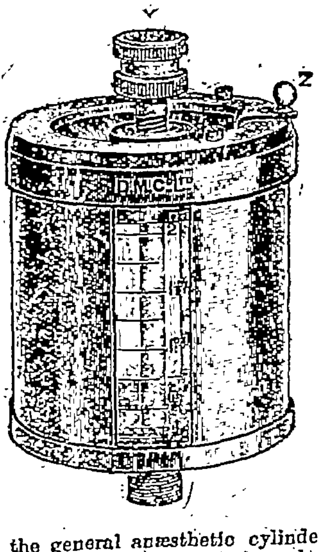


FIG. 4.



It is suggested by the inventor that for chloroform and its mixtures the anæsthetic should be placed in this receiver and be allowed to pass drop by drop at any desired rate upon the sponge; when so used the bag must be detached. It is to be pointed out that no breath contamination takes place, so that there need be no waste by anæsthetic residues. Mr. Vernon Knowles has modified Dr. Dudley Buxton's gag by introducing a double action release catch so as to be uppermost whichever side the gag is used. By the pressure of a button the ratchet is at once freed. It works extremely well and can be easily manipulated by either hand holding the gag. This specially designed stand which holds the little glass capsules of ethyl chloride is most convenient and should be appreciated by all who use this anæsthetic.

DIAGRAMS FOR TESTING BINOCULAR VISION AND FOR USE IN THE TREATMENT OF SQUINT.

WHEN an object is viewed with both eyes an image of it is produced on each retina. In consequence of the fusing of these images persons who possess binocular single vision see only one object and not two, but this faculty is not infrequently impaired owing to a want of harmony in the motility or refraction of the two eyes and a certain amount of binocular double vision is the result. A similar effect is produced if one eye is slightly displaced by pressure with the finger. Binocular single vision is an essential condition of stereoscopic vision or the perception of depth in solid bodies or curved surfaces, and its presence or absence may accordingly be tested by means of stereoscopic pictures. We have received from the publishing house of Wilhelm Engelmann, in Leipsic, a very convenient set of 20 pairs of diagrams selected for this purpose by Dr. W. Hausmann, together with a holder in which they may be placed at various distances apart indicated by a millimetre scale. The diagrams are of a simple kind, consisting only of circular and rectilinear figures and dots partly black on a white background and partly the converse of this. The two diagrams of each pair are on separate cards measuring about 2 inches by 3 inches. They can be viewed in any ordinary stereoscope, but for accurate work a special form of stereoscope can be obtained from Mr. Felix Tornier, Königsplatz 6, Leipsic. It allows ready movement of the cards in several directions and is provided with tinted glasses to equalise the images when there is a difference in the visual acuity of the two eyes. The price of the 20 pairs of cards is 2 marks and that of the special stereoscope is 11 marks.

THE REPORT OF THE COMMITTEE OF KING EDWARD'S HOSPITAL FUND APPOINTED TO SUGGEST MEANS FOR SECURING PROTECTION AGAINST FIRE IN HOSPITALS.

THIS report was briefly noticed in THE LANCET of Nov. 30th last but the subject is of such importance as to demand fuller consideration than was then given to it. The following is the text of the Appendices A and B.

A.

POINTS WHICH SHOULD BE BORNE IN MIND BY HOSPITAL COMMITTEES WHEN FRAMING REGULATIONS.

1. It is important to have some arrangement for summoning those who should be alarmed. In arranging the method for alarm it is necessary to avoid startling the patients unnecessarily. *Police whistles* distributed are worth consideration and would have the effect of summoning police aid as well. Every endeavour should be made, however, only to disturb the affected area.

2. Each building containing patients should have means of immediately dispatching information to the nearest fire brigade or police station and the nurses or others in charge should be instructed as to the proper mode of instantly sending for this external aid without waiting to see whether their own local appliances are sufficient or not. If the hospital is not on the telephone the staff should know where the nearest fire alarm post in the street is located and how to use it. This information should be given on *the* card of printed regulations. In order to save expense an offer might be made to the fire brigade authority to allow a public fire alarm to be placed at the hospital gate, which would be available for use by the public as well as by the hospital officials. If the hospital is on the telephone, the London fire

the greatest difficulty occurred in localising the abscess, which was then treated like an empyema.—Mr. R. Wood showed a female patient the subject of Myocarditis and Dropsy. Much improvement had followed the local application of tincture of strophanthus and belladonna over the heart.—Mr. H. Bell Tawse read a paper on Some Complications and Dangers of Nasal Surgery. He pointed out the mishaps which might occur in dealing with the middle turbinate and emphasised the importance of having free access to it by preliminary removal of deviations and spurs, advocating Killian's submucous resection as the best all-round method of dealing with them. Ethmoidal curetting for nasal polypi and ethmoidal suppuration was exhaustively discussed and cases were cited to illustrate such complications as necrosis of the frontal and superior maxillary bones, injury to the cribriform plate, and suppurative meningitis. He looked on the operation as unjustifiable in anyone over 60 years of age. He considered that in many cases of frontal sinus suppuration the dangers of radical operation outweighed the advantages, but hoped some means of preventing disasters like osteo-myelitis of the skull and meningitis would soon be found. Operations on the maxillary antrum were shown to be very free from complications and such post-operative sequelæ as dry rhinitis, ozæna, infection of healthy sinuses, middle-ear trouble, and the nervous breakdown which occasionally occurred during a tedious after-treatment were briefly reviewed.—The paper was discussed by Mr. W. M. Willis, Mr. J. Mackie, Mr. A. R. Tweedie, Dr. Hunter, and others, and Mr. Tawse replied.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Jan. 9th, Dr. George Williamson, the President, being in the chair.—Dr. J. F. Christie showed cases of Lupus Erythematosus, Erythema of the Face, Luetic Skin Lesions of the Face, and Pemphigus Vulgaris.—Dr. A. W. Mackintosh, for Dr. G. M. Edmond, showed a case of Cerebral Tumour with a history of four and a half years. He also showed cases of Hodgkin's Disease and of Peripheral Neuritis.—Dr. A. R. Galloway showed three cases illustrating Cataract, a case of Moderate Myopia with fundus changes, and a case of Optic Atrophy. He also showed a well-marked case of Persistent Pupillary Membranes.—Dr. C. H. Usher exhibited drawings of a somewhat similar case.—Dr. P. Howie showed a case of Telangiectasis of the right axilla and upper arm. This patient had recently suffered from a suppurating gland in the right axilla which opened through the centre of the tumour without the occurrence of hæmorrhage.—Dr. G. Rose showed several cases of Congenital Dislocation of the Hip and of Club Foot. He also showed a case of Infantile Paralysis involving the quadriceps extensor cruris.—Dr. F. Kelly, for Mr. H. M. W. Gray, showed cases of Resection of the Elbow for tuberculous disease and injury, and two cases of extensive burns treated by preliminary scrubbing under an anæsthetic with subsequent dusting with equal parts of carbonate of bismuth and boric acid.

Reviews and Notices of Books.

Surgery, its Principles and Practice. By Various Authors. Edited by WILLIAM WILLIAMS KEEN, M.D., LL.D., Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Vol. II. With 572 text illustrations and nine coloured plates. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 920. Price 30s. net.

WE welcome the appearance of the second volume of this valuable system of surgery. The subjects dealt with in it include the bones, joints, muscles, and tendons; orthopædic surgery; and the surgery of the lymphatic system, the skin, and the nervous system. Dr. E. H. Nichols of Boston has contributed the chapter on Diseases of the Bones and he commences with a useful account of the structure of bone, for it is on the peculiarities of its structure that the special characteristics of the pathology of diseases of bone depend. We agree fully with the author that the correct interpretation of x ray photographs of bones is exceedingly difficult and this applies both to traumatic conditions and to those lesions resulting from disease. The author puts it well: "In cases in which the clinical diagnosis is difficult, the x ray examination is simply one of several means which must be employed, each of which must be given its relative value as a method of diagnosis. In some cases not only is diagnosis by the x ray difficult, but the x ray examination may be absolutely misleading. In other words, the x ray is an enormous advantage in the diagnosis of lesions of bones, but its value has been greatly over-estimated, and the possibility of its giving an entirely erroneous impression must not be overlooked, especially in medico-legal cases." This extract expresses very clearly the value and the dangers of the x rays as a diagnostic aid. The account of the diseases of bone is good but rather too brief.

Dr. D. N. Eisendrath of Chicago has written on Fractures. This is the most important article in the book and occupies more than 200 pages; it is clearly written and leaves little to be desired. The Surgery of the Joints has been divided between Dr. Nichols, who has written on the pathology, and Dr. R. W. Lovett, who has taken the rest of the subject—i.e., the clinical part. There is little need for comment but in the account of the signs of early tuberculosis of the hip-joint it should have been mentioned that one cause of the loss of the gluteal fold is the flexion of the joint which is always present. Even in a healthy hip a very little flexion of the hip-joint entirely obliterates the fold. Later, of course, the atrophy of the muscles makes more marked the flattening of the hip.

Dr. Eisendrath's article on Dislocations is almost as good as his article on fractures and the illustrations are excellent. The only criticism which we have to make is that there is no good reason why passive movement of a joint after reduction of a dislocation should be delayed for a fortnight. The sooner passive movement is commenced the better, for delay can only favour the formation of adhesions. After the fortnight's rest we are told that 15 minutes' passive movement twice a day is required. No such energetic treatment is needed if gentle passive movement has been started early, and though at first the movement is not free from pain the total amount of pain felt is much less than when passive movement is delayed for a fortnight.

Dr. J. F. Binnie's short article on the Surgery of Muscles, Tendons, and Bursæ contains all that is required. We are glad to see that he rejects entirely the "hernial" theory of a "ganglion." It is a collagenous degeneration in connexion with a tendon-sheath, occurring probably in a synovial fringe. Dr. Lovett has undertaken the section on Orthopædic Surgery. It is often difficult to say with exactness what should, and what should not, be included under this head. Here we find caries and other deformities of the spine, infantile paralysis, congenital dislocations, club-foot, and rachitic deformities. A very good account is given of Lorenz's method of treating congenital disease of the hip. Dr. F. H. Gerrish has contributed the chapter on the Surgery of the Lymphatic System. The most important portion of this section is that which deals with elephantiasis; it is well illustrated.

The fact that the chapter on the Surgery of the Skin and its Appendages is by Dr. John A. Fordyce is sufficient to guarantee that it is well written. In the account of rodent ulcer the value of radium certainly deserves mention, as in the hands of many the radium treatment has displaced most other forms of treatment for this condition. The value of ionic medication of many cutaneous abnormalities should at least have been referred to. The remainder of the volume is devoted to the Surgery of the Nervous System, Dr. W. G. Spiller writing on the pathology of the subject, Dr. George Woolsey on the surgery of the nerves, Dr. F. X. Dercum on traumatic neurasthenia, hysteria, and insanity following injuries, Dr. Da Costa on and mop are likely to prove of much greater value. Fire- and sand-pails ought certainly to be placed at points in readiness. Clothing and spare blankets should be distributed in various parts of the building for the patients' use in an emergency and not concentrated in one store to which access might be impossible. Asbestos blinds or curtains might be fixed ready to be drawn across staircase or corridor openings or on the several landings round the lifts; this would tend to localise a fire and check draught and smoke while the lift was in use for the removal of patients.

APPENDIX B.

Clause 1.—Frequent drill can alone prevent confusion in the event of an outbreak.

Clause 2.—A calm demeanour in the staff and the assurance that means are being adopted for their safety are most necessary to obviate panic amongst the patients.

Clause 3.—Especial care should be exercised that persons of a suitable temperament only are selected for this most important duty of conveying the patients to a place of safety. A cheap form of smoke-mask might well be kept in each of the patient's lockers. In addition to the superintendent and deputy of the staff brigade there should be a first and second in command of each ward who in the event of a fire in their particular ward should, under the general superintendent, take the command of the staff and direct the removal of their patients till their ward was cleared. These should be taught the best possible exit in varying circumstances in the event of their ward being threatened.

The report should be of value in leading those responsible for the safety of others under their charge to review the risks to which their particular buildings are subjected. The suggestion of the Commissioners in the body of the report that they should be consulted as to the site and details of any proposed new hospital deserves consideration, though this is practically done in London by the County Council. The insistence of the Commissioners as to absolute cleanliness should be, in the case of hospitals, unnecessary.

General remarks.—In the construction of buildings used as hospitals the following points are generally observed and cannot be too strongly insisted on:—1. The use as far as possible of incombustible materials. 2. The division of the building into more or less disconnected sections. 3. The avoidance of long corridors. 4. The provision of emergency exits. 5. The avoidance of all air spaces in floors, and round door and window frames, which last should be solid, not hollow as is necessary when sliding sashes are used. 6. The use of fire-resisting paints, care being taken that the woodwork is first thoroughly dry; such paint not to contain zinc chloride, as is sometimes the case, the fumes from which, given off when burning being insupportable by human beings. 7. The use of distemper and lime-white as a protection to woodwork. The avoidance of tarred felt and wood boarding beneath the slates. The use of small pipes and radiators now in vogue for the circulation of hot water minimises the risk of fire travelling along the channels hitherto necessary for the larger pipes. In any case in all troughs and channels, for pipes or wires, baffles should be placed to check the advance of fire by such means. We may refer our readers on these points to an article published in THE LANCET of Jan. 31st, 1903, p. 314, shortly after the Colney Hatch disaster.

In this connexion we are reminded that on Feb. 31st, 1903, at a meeting of the Metropolitan Asylums Board the working committee presented a report on the provision of water for protection against fire in the 29 hospitals, asylums, and institutions under its charge. Out of these 29 institutions eight, or over 27 per cent., were found to be more or less deficient. It would be interesting to know that these defects have since been remedied.

MEDICINE AND THE LAW.

Disposal of Infected Bodies.

A SOMEWHAT unusual application was recently made to the Birmingham magistrates by a solicitor on behalf of the Birmingham medical officer of health. He asked for an order to remove the body of a man from a private house to the mortuary. The body in question was that of a married man, 27 years of age, who died on Jan. 9th from consumption of the lungs, an infectious disease. The widow, who was left with three children, resided with another family of three at a back house in Bordesley, and therefore there were seven persons living in the same room where the body lay uncoffined. Evidence was given by the assistant medical officer of health of the city, who stated that it was necessary for the body to be removed. The widow, who gave her consent to the course which it was proposed to take, was trying to collect 30*s.* in order to pay for the burial. The magistrates made an order for the removal of the body to the mortuary. It is enacted by Section 142 of the Public Health Act, 1875, that where the body of one who has died from any infectious disease is retained in a room in which persons live or sleep, or any dead body which is in such a state as to endanger the health of the inmates of the same house or room is retained in any house or room, any justice may, on a certificate signed by a legally qualified medical practitioner, order the body to be removed at the cost of the local authority to any mortuary provided by such authority and direct the same to be buried within a time to be limited in such order; and unless the friends or relatives of the deceased undertake to bury the body within the time so limited and do bury the same it shall be the duty of the relieving officer to bury such body at the expense of the poor rate but any expense so incurred may be recovered by the relieving officer in a summary manner from any person legally liable to pay the expense of such burial. Any person obstructing the execution of an order made by a justice under this section is liable to a penalty of £5. When the local authority has provided a mortuary this section applies but where the Infectious Diseases (Prevention) Act, 1890, has been adopted the justice may order the body to be removed to any available mortuary. By Section 8 of the Infectious Diseases (Prevention) Act, 1890, it is provided that no person without the sanction in writing of the medical officer of health or of a registered medical practitioner shall retain unburied elsewhere than in a public mortuary or in a room not used at the time as a dwelling-place, sleeping-place, or workroom, for more than 48 hours, the body of any person who has died from any infectious disease. And by Section 10 of the same Act it is provided that where the body of any person who has died from any infectious disease remains unburied elsewhere than in a mortuary or in a room not used at the time as a dwelling-place, sleeping-place, or workroom for more than 48 hours after death without the sanction of the medical officer of health or a registered medical practitioner, or where the dead body of any person is retained in any house or building so as to endanger the health of the inmates of such house or building or of any adjoining or neighbouring house or building, any justice may on the application of the medical officer of health order the body to be removed at the cost of the local authority to any available mortuary, and direct the same to be buried within a time to be limited in the order; and any justice may, in the case of the body of any person who has died from any infectious disease, or in any case in which he shall consider immediate burial necessary, direct the body to be so buried. Unless the friends or relatives of the deceased undertake to bury and do bury the body within the time limited by such order, it shall be the duty of the relieving officer of the relief district from which the body has been removed to the mortuary, or in which the body shall be, if it has not been so removed, to bury such body and any expense so incurred may be charged by the relieving officer in his accounts and may be recovered by the board of guardians in a summary manner from any person legally liable to pay the expenses of such burial. The principles of the common law (i.e., apart from statute law) with respect to the rights of burial were laid down by Lord Chief Justice Denman, as follows:—

> Every person dying in this country and not within certain exclusions laid down by the ecclesiastical law has a right to Christian burial; and that implies the right to be carried from the place where his body lies to the parish cemetery. Further, to use the words of Lord Stowell, "that bodies should be carried in a state of naked exposure to the grave would be a real offence to the living, as well as an apparent indignity to the dead." We have no doubt, therefore, that the common law casts on some one the duty of carrying to the grave, decently covered, the dead body of any person dying in such a state of indigence as to leave no funds for that purpose. The feelings and interests of the living require this, and create the duty. ...... It should seem that the individual under whose roof a poor person dies is bound to carry the body decently covered to the place of burial; he cannot keep him unburied, nor do anything which prevents Christian burial; he cannot therefore cast him out, so as to expose the body to violation, or to offend the feelings or endanger the health of the living; and for the same reason he cannot carry him uncovered to the grave.—Reg. *v.* Stewart, 12 A. & E. 773.

upon them by the Act—namely, that after April 1st, 1910, no woman may habitually and for gain attend women in childbirth unless she is certified under the Act. In Part II. the provisions of the Act are very fully considered and in Part III. are given the rules framed under Section 3 of the Act for its proper administration, and approved by the Privy Council. The book concludes with a very interesting literary appendix. Dr. Atkinson is to be congratulated upon having written a most useful book containing a large amount of information on the subject of midwives and the Midwives Act not readily to be obtained elsewhere.

Hazell's Annual for 1908: A Cyclopædic Record of Men and Topics of the Day. Edited by WILLIAM PALMER. London: Hodder and Stoughton. 1908. Pp. 604. Price 3s. 6d. net.—*Hazell's Annual* has an established reputation amongst year-books and there is as much information as usual in the 600 pages of the present issue. The political section is carefully compiled and there are a great many facts of value to men engaged in a hundred kinds of commerce. A somewhat curious effect is produced by the fact that this book is absolutely alphabetically arranged; thus we find in juxtaposition the headings Costa Rica; County Councils Association; Crane, Walter; Cremation; Crete. Such medical information as the book contains is trustworthy and includes a brief review of the outstanding medical events of 1907, written with knowledge, and an obituary list of distinguished medical men. We venture to suggest that the Royal Society of Medicine might find a place in a list of "Scientific Societies and Institutions" which claims to give particulars of "the more important and active" of these bodies, even though the list "does not pretend to be exhaustive." The Royal Society of Medicine is most certainly both as important and active as, let us say, the Palæontographical or Ethnological Societies.

A Treatise on Surgery. By GEORGE RYERSON FOWLER, M.D., Examiner in Surgery, Board of Medical Examiners of the Regents of the University of the State of New York; Emeritus Professor of Surgery in the New York Policlinic; Surgeon to the Methodist Episcopal Hospital; Surgeon in Chief to the Brooklyn Hospital; Surgeon to the German Hospital. Containing 888 text illustrations and four coloured plates, all original. London and Philadelphia: W. B. Saunders Company. 1906. Vol. I., pp. 722. Vol. II., pp. 714. Price £3 3s. net.—It requires no small degree of courage for a surgeon nowadays to undertake the writing of a treatise on surgery. Even text-books for students are now large, but a complete treatise on the science and art of surgery is indeed an enormous undertaking. The amount of time which these volumes must have taken must have been very great, for the work is fully ahead of the present day, and the references which the author gives show that he is conversant with the chief current literature. The most striking point about the work is the wealth of illustration and we meet with none of the old illustrations which have done duty so often before. Here they are all original and they have evidently been chosen with great care. A few points call for criticism. It is stated concerning retropharyngeal abscess that "with the exception of the rather rare form of the latter resulting from phlegmonous inflammation of the submucous tissue or suppurating lymphadenitis of a retropharyngeal lymphatic gland, retropharyngeal abscess arises almost exclusively from Pott's disease in the cervical region." This statement does not give a correct idea of the relative frequency of the causes of abscess behind the pharynx; in this country at least the cases not due to caries form a large proportion of the whole. No hint even is given that the abscess can be drained very satisfactorily through an incision behind the sterno-mastoid. In the description of the operation of wiring a fractured patella the author says, "irrigation must not be employed." Whether irrigation should be used or not depends on the solution employed; a strong irritating antiseptic would be harmful but hot normal saline solution could do no harm. In the description of Pirogoff's amputation the section of the os calcis is described as being made through the plantar incision, and then it is said "or from behind forwards and downwards, according to Günther's modification"; this description can only apply when the os calcis is sawn from above after the ankle-joint has been opened. But these are only small matters and we approve highly of the work as very suitable for anyone in general practice who wishes to keep abreast with the present position in surgery.

On Osseous Formations in and about Muscles due to Injury. By ROBERT JONES, F.R.C.S. Edin., and DAVID MORGAN, M.B.—This monograph consists of a reprint of a series of articles which appeared in the *Archives of the Roentgen Ray* during 1905 and 1906. Gathered together in this form we have a very valuable treatise on this subject, embodying as it does a synopsis of all the cases which have been recorded of this condition by observers at home and abroad. The present state of the pathology, diagnosis, and treatment of the disease is very fully related and not the least attractive part is the series of some two dozen radiographs taken from the more interesting of the cases which came under the observation of the authors themselves. These have been reproduced in a manner which is worthy of much praise. We are not aware if the monograph is obtainable in the ordinary way but we can commend it to the careful study of those who are fortunate enough to receive a copy.

A Primer of Psychology and Mental Disease. By C. B. BURR, M.D. Third edition. Philadelphia: F. A. Davis Company. 1906. Pp. 183. Price $1.25 net.—This manual has already passed through two editions and in the preface of the present volume the author states that he has re-written the parts dealing with the various insanities to bring them into line with the more modern classification of mental disorders. The book seems to have been written primarily for "use in training schools for attendants and nurses," but Dr. Burr has also endeavoured to adapt it for the medical student and practitioner. It is most difficult to embrace the requirements of both the lay and the professional reader, for either the book must be too technical for the former or too elementary for the latter, and this is rather the case in the present manual. The opening remarks of the psychological portion presuppose some knowledge of the subject, otherwise they would be almost unintelligible, for the descriptions are very condensed. Certain important subjects seem to be omitted—for example, we can find no special remarks about attention. The second part of the book is devoted to a brief description of insanity. The author largely follows Kraepelin's classification and some of his accounts of the various mental disorders are lucid. In others the subject-matter is so condensed that the student will have difficulty in grasping the important points. For example, in paranoia the author does not point out that the characteristic mental attitude of the patient is that the delusions become progressively more systematised throughout the illness; it may be implied in the description but it is not definitely stated. The chapters devoted to the medical and nursing management of cases are good and they will be found very helpful to the beginner. In fact, this remark applies generally to this manual, for it may be said fairly to fulfil its object which is that of an elementary account of "mind, normal and diseased."

La Pratique de la Médecine. Par W. OSLER, Professeur Royal à l'Université d'Oxford. Traduction Française sur la 6^e édition, par les Docteurs M. SALOMON, chef de Clinique à la Faculté, et LOUIS LAZARD, ancien interne de l'Hôpital de Rothschild. Préface du Dr. PIERRE MARIE. Paris: G. Steinheil. 1908. Pp. 1224. Prix Fr.25.—This interesting

see the liquid in the bottle. Here is the liquid; here is the vaporiser, and the vapour is discharged into the nose, and with a little practice it can be inhaled into the lungs. As my lord said, there is nothing special about the design of the spray and, so far as the apparatus concerned as a vaporiser, the only thing there is special about it is the care with which it is constructed, so that it shall produce vapour and not spray, vapour being the thing which is required for this purpose. No doubt the most valuable part of the remedy is this liquid, which was the discovery of the plaintiff's brother.

Mr. Justice RIDLEY: You say it is vapour and not spray?

Mr. DUKE: Vapour and not spray; it produces a vapour. The plaintiff understands the mode of operating it, and I daresay in the course of his evidence he may be able to show the distinction of it, but practically this produces a dry product; it produces a vapour, the dampness of which you do not discover. Of course, it must be damp because the particles of the liquid are dispersed very finely, but if you discharge it against blotting-paper I think you will find that instead of damping the blotting-paper so that you see the wetness upon it it will leave the blotting-paper with an appearance which you could barely distinguish, if you could at all, from its previous appearance. It scatters the particles of the fluid into a very fine state of distribution. As I was saying, I have no doubt apart from the care in the mechanical production of the vaporiser which is necessary for the efficient action of that apparatus, the most valuable part of Dr. Tucker's remedy is the liquid, the constituents of which he discovered and the constituents of which the defendants seek to discuss here. They profess to have discovered what the constituents are. I am not concerned to know whether they have or not, but they profess to discuss them here; and I suppose if the plaintiff had a valuable discovery and had an effective remedy, so far as any special knowledge the plaintiff had, if they are able to establish their proposition, if they do not destroy the plaintiff's character, at any rate destroy to some extent, or impair the value to him of the remedy which he is selling under circumstances which I will tell you, that is not a very material matter. That is the treatment, as it is called, which the plaintiff deals in. The plaintiff, for several years after his brother had made what he regarded as his discovery in the composition of the liquid which is used in the treatment, was engaged, under his brother's supervision, in the business part of the transaction of dealing with the remedy in the United States. In the year 1899 he came to England with a power of attorney from his brother—his brother had had an agent in this country—and either practically established or took over the business of selling this specific in this country, and since the year 1899 the plaintiff has made it his business to sell this specific in this country. His mode of dealing with the specific and the mode of carrying on business is what is first of all assailed in the libel which the defendent has published. His dealings are alleged by the defendant to be fraudulent—at least, the defendant does not condescend to any detail of any charge of fraud, but he says the plaintiff's dealings are such that it is fair comment upon him to say that his dealings are fraudulent. I do not quite understand myself how it can be a fair comment upon a man to say that his dealings are fraudulent unless they are fraudulent, and it may be that in the course of this case some submission may have to be made to my lord, and my lord's ruling obtained as to whether it is possible for a defendant who has alleged fraud and fraudulent dealing against another man to come into court and say, "Well, whether your dealings are fraudulent or not it is a fair comment upon you to say that they are fraudulent dealings." This is the position among others which the defendant in this action has taken up. I shall have a word or two more to say to you about that later, but it is an astounding position, and fatal, of course, to the reputations of all men who happen to be assailed if it is enough to come into court and say, "Well, I consider your dealings are fraudulent, whether they are fraudulent or not."

The plaintiff came to this country with his brother's power of attorney in 1899. Since that time he has had, and has used, the exclusive right of supplying his brother's remedy. Gentlemen, when I come to read the libel to you in this case you will see that the defendant in this case when he published his libel did not know anything about the plaintiff. Let me tell you this, which I shall follow up presently: The plaintiff has never advertised this remedy in the newspapers.

It is a common thing that specific remedies, whether they are valuable or whether they are spurious (there are valuable remedies and there are spurious remedies) are advertised in newspapers, and mere rubbish is passed off which is quite useless in some cases—at least, so it is said, and probably quite truly said, and the public are defrauded by that means. The plaintiff has not advertised, and does not advertise, in the newspapers. He has a pamphlet written, I think, by Dr. Tucker; and he has some terms of dealing which I shall show you presently, and he has instructions for the use of the inhaler. The use of the inhaler is simple enough if you understand it, but if either of you tries for the first time to inhale into your lungs a vapour through your nose you will find you need a little practice to do it; it is not quite so simple as it might be. There is a natural indisposition of the internal organs to receive anything from the outside; at any rate, it is not simple without instructions. The plaintiff has this pamphlet which is here, about which presently he will go into the box and be cross-examined. He has the terms of business which are here and he has instructions for the use of the specific, and he has a considerable number of agents whom he appoints for the purpose of selling his remedy, and, as far as one can see, those are the methods of honest business. Besides the pamphlet to which I refer and the other papers and the services of the agents, he has the recommendation of persons who have become informed of the usefulness of the specific and who largely recommend it, and by those means, without advertisement in the newspapers, without any other resort to the means of publicity than those I have mentioned to you, the plaintiff since the year 1899 has built up, as he will tell you, a large lucrative business. There is one other thing which I ought to tell you which lies at the bottom of the plaintiff's methods of business. When an applicant desires to try this specific he receives it for a fortnight on trial gratis. I know this speech will sound to you, or may sound to you—it will not justly when you know the facts—as something of the nature of a puff or panegyric on the plaintiff's business. Gentlemen, the plaintiff has not sought to come here and I am bound to tell you everything that will show that this attack on the plaintiff is groundless. The plaintiff, upon an application for this specific, supplies it for a fortnight on trial and all that happens with regard to it is contained in the terms of business which are here. Perhaps I might hand them up, because I shall have to refer to them. At the end of the pamphlet, after Dr. Tucker's account of the remedy and recommendation of it, there is a memorandum. Perhaps I had better read the whole of it, because I do not know quite where it is suggested the fraud on the part of the plaintiff lurks in these business dealings: "Memorandum. 1, Time of trial, two weeks in United Kingdom only. 2, Price of treatment, consisting of Atomizer, wood case, and four ounces of fluid, £3." I have something to say to you about that presently; it is said to be a high price. It would be a high price if the specific were rubbish, but if the specific is, as I think I shall show you by overwhelming and unquestionable evidence, a specific which defeats the oncoming attacks of asthma, the specific is, of course, of very great value, and the discoverer of it, and those who exercise his rights, are entitled to the reward of having possession of them. "3, To be paid for at end of two weeks, if satisfactory. 4, If not satisfactory at the expiration of the trial, the outfit, with what fluid there may be left, to be returned by Parcel Post. 5, One half-ounce of fluid will be sent with the Atomizer for trial, which is not included in the four ounces. 6, No more fluid will be sent for trial; you will be careful and not spill it. Keep a cork in nozzle of Atomizer when not in use. 7, If you do not wish to continue the treatment after two weeks' trial, return the Atomizer, with what fluid there may be left; if you desire to continue the treatment, remit £3. 8, As soon as the treatment is paid for I will send you two ounces of fluid by post, and the other two ounces on application when needed. The fluid precipitates a sediment by long standing, which is liable to choke the liquid tube, which will explain why only two ounces are sent at one time. 9, After the four ounces of fluid is exhausted it will cost you eight shillings per ounce, which lasts from two to four months. 10, Extra bulbs for the Atomizer, 2*s.* each. 11, Extra liquid tubes, 2*s.* each. Atomizer to be sent in to have the tube adjusted properly. 12, Cash must accompany all orders for fluid, bulbs, and tubes. 13, When sending telegrams, give initials and sufficient address. 14, Postage to foreign countries to be paid by patient. (Signed) A. Q. Tucker.

Effusion. Two cases of Empyema in which recovery took place after simple aspiration are recorded by Mr. Herbert W. Chambers.

University College, London, Union Magazine.—The December issue of this magazine does not contain any directly medical material. There are, however, several references to the adventures of medical members of the College in connexion with the celebrations of the Brown Dog's effigy, a theme which seems to have moved the writers to outbursts of rhyme, no doubt on the principle that "si natura negat, facit indignatio versus."

St. Thomas's Hospital Gazette.—A Presidential Address, delivered by Dr. J. J. Perkins before the Medical and Physical Society of the Hospital forms the main substance of the December issue of this journal. Dr. Perkins reviews the history of our knowledge of tuberculosis as an infective disease and points out that evidence is accumulating in favour of the origin of many cases in an intestinal infection by bacilli of bovine origin. An abstract of some remarks made by Dr. J. B. Leathes in opening a discussion on Diabetes gives an interesting summary of some recent work by Pflüger on this subject, the tendency of which is to discard the theory of a pancreatic secretion as at fault in this condition, and to revive the view propounded of old by Thiroloix and others that the disturbance following pancreatectomy is really due to interference with nerves which control the glycogenic function of the liver.

Guy's Hospital Gazette.—A clinical lecture by Dr. W. Hale White published in the December number of this magazine deals with the diagnosis of an abdominal swelling which presented the characters usually associated with a pancreatic cyst. Dr. Hale White points out that this is a rare condition, only one case of a single cyst having occurred in 6708 necropsies (there were also one case of hydatid of the pancreas and two of smaller multiple cysts). The tumour in this instance proved to be a sarcoma growing from the back of the abdomen but its point of origin was not exactly determined. In the January issue is published a clinical lecture by Mr. A. W. Ormond on Injuries to the Eye, in which he records two cases successfully treated by the Haab magnet.

London Hospital Gazette.—The medical matters dealt with in the December number of this magazine are rather fragmentary in form. The first article is part of a clinical lecture by Mr. J. Hutchinson, jun., on Umbilical Hernia and a later contribution is a continuation of Dr. F. J. Smith's review of the medical aspects of the recent Workmen's Compensation Act. The clinical supplement contains an abstract of some remarks by Dr. J. Biernacki on Diagnosis of Common Fevers but except in the case of diphtheria the summary is so brief as to afford little help.

St. Mary's Hospital Gazette.—A paper read before the Hospital Medical Society by Dr. Reginald H. Miller deals learnedly with acute poliomyelitis and some allied conditions, notably polio-encephalitis, which is suggested as a cause of some cases of rapidly fatal illness occurring in institutions. The use of such terms as "polio-encephalomyelitis" and "the cerebello-rubro-spinal system" suggests that the neurologists are running the dermatologists close in the matter of polysyllabic nomenclature.

The Broad Way, or Westminster Hospital Gazette.—The editorial notes in the December issue of this gazette are chiefly devoted to the "Brown dog" disturbances. Serious medical matter is only represented by a continuation of Lieutenant C. G. Browne's paper on the treatment of syphilis in the army, the value of iodipin being here noted, as well as that of the Zittman treatment in obstinate cases, while the suggestion is made that intramuscular injection might be more often employed in out-patient practice.

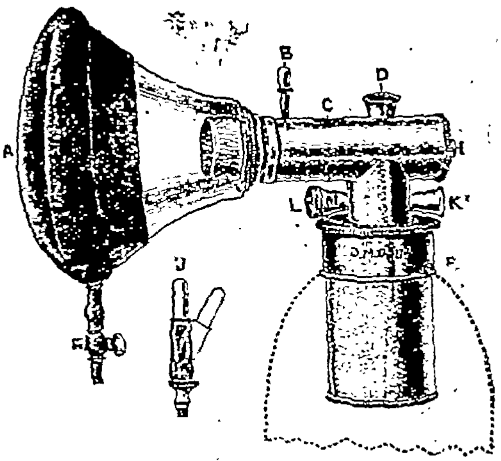
St. George's Hospital Gazette.—With the December number is included a good portrait of Sir T. Clifford Allbutt who is an old St. George's man. An interesting account is given by Dr. H. D. Rolleston of the methods of medical education prevalent in America; apparently a smaller amount of systematic lectures is inflicted on students there than here, but more laboratory work is required. The system of examination is also different and Dr. Rolleston seems to think that on the whole it is better than ours.

New Inventions.

THE IMPROVED "IDEAL" INHALER FOR ETHYL CHLORIDE AND OTHER ANÆSTHETICS.

THE features of Mr. Vernon Knowles's inhaler (made by the Dental Manufacturing Company, Lexington-street, London, W.) are: 1. Its adaptability for the use of ethyl chloride alone, with nitrous oxide, ether, chloroform, or mixtures of chloroform and ether. 2. As it gives complete control of the amount of anæsthetic given it increases the safety of the patient. In the case of chloroform it does not supply a measured quantity of vapour but allows the anæsthetist to use the drop method which with skill gives a fairly accurate dosage. 3. The extremely wide bore supplied prevents any distress in breathing. 4. The apparatus is so constructed that its component parts can be rapidly dissociated and sterilised. The apparatus consists of a celluloid face-piece fitted with studs. Two air pads of small and large sizes are supplied which are attachable to the studs and thus do not get out of position when once adjusted. One face-piece can be made in this manner to suffice for children and adults. The face-piece fits on to the apparatus and has a collar with two milled rings which prevent its rotation. The horizontal arm, that which carries the face-piece, is provided with two valves, one for air and the other for the anæsthetic; as the former is closed the latter is opened, and these enable the anæsthetist to give the anæsthetic slowly and gradually. The handle or lever which controls these valves unscrews and allows the inner barrel to be withdrawn for cleansing. Two inner barrels are supplied, one for use when nitrous oxide is employed, the second for all other anæsthetics. These barrels when out of use are kept in closed metal cases which prevent them becoming soiled. The outer valve C (Figs. 1 and 2) is placed between the lever B which works the valves and D the feed-funnel which communicates with the sponge-holder G. It will be seen in Fig. 2 that a space (H H) surrounds the sponge-holder and this insures free respiration even when the sponge is in position. As the patient's exhalations pass around the sponge there is less liability to its freezing than was the case when all the air had to pass through the sponge saturated with ethyl chloride or other anæsthetic. The feed-funnel D is used when the

FIG. 1.



dried up or sediment may deposit, as has been pointed out; but a few drops of it produce the vapour which is required, as I understand, and so it is not a thing which is rapidly used. In the year 1906, as it is said, Cushing died and he died somewhat suddenly. His death is said by the defendants, and I daresay truly, to have been the subject of an inquest before one of the London coroners. The defendants have produced newspaper extracts and things of that kind which make it pretty clear that Cushing's death was the subject of an inquest before one of the London coroners. What took place there I have no means of knowing except at second hand. It may be that the defendant will tell you whether anything occurred there which would have justified inquiry with regard to Mr. Tucker or with regard to this specific. Nothing could have taken place there which would justify an attack upon Mr. Tucker, because Mr. Tucker obviously could not be a party on an inquiry as to a death, which is what is the nature of an inquest, and he was not a witness and had no sort of notice or knowledge either of the death of Mr. Cushing or of any inquest upon him; but the defendants say that the inquest took place and I will tell you presently what further they say about it. All I ask you to bear in mind is that Mr. Tucker had nothing to do with the inquest and was not present there, so that whatever took place there, the proceedings being *ex parte* as far as Mr. *Tucker is concerned, could only have* been ground for some inquiry with regard to Mr. Tucker or with regard to his specific. In that state of facts it was that some time afterwards, I think two or three months afterwards, the defendant published in his newspaper the libel which is complained of in this action. I will read it to you.

Mr. ELDON BANKES: Would you mind reading it from THE LANCET?

Mr. DUKE: I do not mind using THE LANCET.

Mr. ELDON BANKES: I will hand you some copies of it.

Mr. Justice RIDLEY: Have I got it?

Mr. DUKE: Your lordship has it in the pleadings.

Mr. Justice RIDLEY: I should like to see it in THE LANCET. (Same handed to his lordship.)

Mr. DUKE: If your lordship will refer to page 701 you will see it before you at the bottom of the left-hand column.

Mr. Justice RIDLEY: Is it correctly set out in the pleadings?

Mr. DUKE: Yes, I think so.

Mr. Justice RIDLEY: It is much easier to read in the statement of claim.

Mr. DUKE: Yes; but my learned friend wants it from the paper and if I can oblige my friend I will. Gentlemen, in the course of this case, which is not likely to end before lunch, I expect you will have opportunities of reading this again, but I will read it to you. It is under the heading of "Notes, Short Comments, and Answers to Correspondents," where attention concentrates for the incidents which can be effectively put in a small space.

QUACK ADVERTISEMENTS.

> In the course of an *inquest held at the beginning of the year it was* stated that a labourer who had died from consumption had been using *Dr. Tucker's Asthma Specific Inhaler, for which* he had given, according to a newspaper report which has reached us, 3 guineas, while the material with which he sprayed himself cost him 8s. an ounce.—[Note the words "sprayed himself."]—Dr. F. J. Waldo, the coroner, rightly stigmatised this kind of dealing as a fraud, and it is a humiliating thing for journalists to remember that such frauds could not be committed with any profit to the quack save with the coöperation of the press. A correspondent has recently sent us a collection of advertisements of so-called proprietary medicines which he had cut from papers of reputation in the country, inviting our opinion of them. Our opinion is that the misery wrought by quacks must be unknown to a good many proprietors of newspapers, or they *would hardly* share with the quacks the plunder extracted from the public, mainly from the sick poor. *The remedy is in the* hands of the public, who have only to signify their displeasure, at reading in their journals invitations to be *robbed* and *poisoned*, to find those invitations immediately cease. But the public are largely uninstructed and credulous, and, alas, those *responsible* for the conduct of many of our journals take no trouble to enlighten them. They prefer to regard all protests against quack advertisements as emanating from the narrowness of the medical profession. This is certainly a convenient faith, but how it can be truly held by educated people passes our comprehension.

That is the libel. It is open to everybody who pleases to discuss quack remedies, to discuss specifics, to say in proper and moderate language that it is not in the public interests that any kind of specific for the treatment of any ailment should be sold by anybody who is not a registered medical practitioner; it is quite open to any man who likes to discuss those facts in any moderate and proper terms and with any strength of criticism; but I submit to you, and I believe you will hear it is the law of this country, that you may not accuse a man of fraud, of fraudulent dealing, of being one of a class of people who poison and rob the credulous poor, without having substantial warranty for the charges you make; and of substantial warranty for the charges which are contained in this very gross libel upon the plaintiff when you come to examine what the defendants have set up in their defence in this action I think you will find there is not a shadow. Just let us see for the moment before I part from this what it is said. It is said, as you will observe, that this kind of dealing—that is, the plaintiff's kind of dealing—is to be rightly stigmatised as a fraud; and it is said that the people with whom the plaintiff is classed are people who plunder, who rob and poison the credulous poor; and that all that is published by way of statement and observation with respect to the specific which I have been describing to you, with respect to the business which I have been describing to you, carried on in the manner which I have mentioned to you, and with regard to the plaintiff who will shortly go into the box before you. I told you that it was pretty apparent that the editor of THE LANCET, or the person who wrote this on behalf of the defendant, knew nothing about Mr. Tucker and his specific. Let us see whether he knew anything. Do you notice that what he says is that it was correct to say that the man whose body had been the subject of the inquest had bought a liquid with which he "sprayed himself." If he knew anything about this remedy he must have known perfectly well that the man did not spray himself, that it was quite untrue and a gross misrepresentation of the fact, and that this was a treatment which produced a vapour, and not very palpable vapour. He must have known that. Then do you notice that he describes Mr. Tucker as one of a class of quacks advertising in the public newspapers who are the public nuisance and danger he mentions there. I must do the proprietor and editor of THE LANCET the justice to suppose that they did not gratuitously make a false charge against the plaintiff of being a quack who advertised in the newspapers and by means of newspaper advertisements. You see he says "plunder the public"; so that when you look into this before you hear anything from the defendant it is pretty clear that he did not know anything about Mr. Tucker or his remedy. My clients were quite willing to suppose that that was so. Mr. Tucker did not at once become aware of what had been published in THE LANCET. If need be he will tell you how he ultimately became aware of it; it was brought to his notice. Then his solicitors, Messrs. Venn and Co., of whom Mr. Venn is the representative, wrote a perfectly proper letter to the editor of the defendant's paper—a long letter. I am going to read it to you because it was written by a man, Mr. Venn, whom I will call before you, who was in a position to say that his life, which had been practically impossible as a professional man because of constant attacks of asthma, had been restored to him as the comfortable life of an ordinary person by the use of this specific, and who naturally wrote with some detail and with some little warmth about this matter. But he wrote a letter which enabled the *defendant*, if the defendant did not desire wrongfully and oppressively to crush the plaintiff, and *wrongfully* and *oppressively* to hold him up to odium, to retrace his steps. This is the letter of *the 9th of May, 1907, to the Editor of THE LANCET*: "Sir,—Mr. A Q. Tucker, of 'Onaway,' Half Moon-lane, Herne Hill, has consulted us *respecting* a *paragraph* headed 'Quack Advertisements' appearing in your issue of the 9th March last, which has very recently come to his notice. Our client is the general manager in England for Dr. Tucker and has a considerable personal and direct interest in the sale and distribution of the atomizer and specific. The statement with reference to the inquest and to the sale of the inhaler (or atomizer) and the spraying material (or specific) that 'Dr. J. F. Waldo, the Coroner, rightly stigmatised this kind of dealing as a fraud,' and the use of the word 'quack' in connexion with Dr. Tucker"—he is the plaintiff's brother—"are the subject of very serious complaint by our client. *No* opportunity of being present at the inquest was given to our client. Had he been present he *would have been* able to satisfy the Coroner that the charge of fraud, if in fact such a charge was made, was absolutely without foundation. Our client has not seen any report of the inquest which supports your statement that the Coroner attributed fraud or blame to brigade should be called by telephone *and* by fire alarm post in the street. The following slip should be posted near the telephone, if any:—

"IN CASE OF FIRE."

Ring up in the usual way.
Say "Put me on the fire brigade."
When answered: say—
"Fire at   Hospital,   street," &c.—*and* any detail that your presence of mind dictates, viz.: Large—small—roof—basement—&c.

3. The regulations of the hospital should provide organisation that will immediately stay "panic" and guide the patients to safety. If alternative staircases are not available, anything like a "cul de sac" where several are accommodated, particularly on upper floors, requires special attention and consideration.

4. Every hospital should have within its walls some "first aid" apparatus to deal with the outbreak. As the probable position of any outbreak can generally be foretold, the risks should be located and studied beforehand. Roof, kitchen, storerooms, cupboards, heating places, workshops, laundry, &c., are examples of likely danger points. Fireplaces and guards, gas fittings (especially swinging gas fittings), curtains, rubbish collections, and places where candles and matches are used near clothing and bedding, should also be studied. Fire drills adapted to the special danger of the particular hospital should be quietly arranged periodically. This location of risks is the essence of effective fire drill. Certain of the staff should be detailed to handle the hospital fire appliances, and they should *know* this is their job. They should be so selected that some will always be present. The whole number should periodically be summoned to the different "fire risks" for drill. An ordinary mop and bucket will prove useful in the early stages to splash water and anyone can use them. Should the fire be due to electricity or upset of oil, be careful in applying water, but rather endeavour to smother with sand or wet blanket till the brigade arrives.

5. Printed instructions should be posted up freely, so that all are reminded that fire is a possible contingency. These instructions should deal with all the foregoing points, with any additions or amplifications appropriate to the particular hospital or to its appliances.

B.

POINTS WHICH SHOULD BE REMEMBERED BY THE STAFF WHEN AN ALARM TAKES PLACE.

1. On the discovery of a fire or on smelling smoke the staff and employees should not run about aimlessly or shout or shriek, &c., but quietly think and act on the instructions for raising the alarm.

2. The first object is to prevent "panic" among the patients and visitors, if any.

3. If the fire brigade has been called the actual fire damage should not be much in the thoughts of the staff. It is imperative to see to the removal of patients who are in danger to safety, which is, as a rule, out of the smoke area, and preferably outside the building involved if a comparatively small one, or into a separate block if a large one. In a densely smoky atmosphere a wet flannel over the face is beneficial.

4. Those detailed for appliances should go to their duty at once and endeavour to check the progress of the fire. It would be as well also for someone in authority on the spot to detail those who are to remove patients and also those who are to receive them and see to their proper clothing and comfort.

N.B.—As far as the details of the actual steps to be taken when an alarm takes place are concerned the printed regulations drawn up by the individual hospital and the periodic fire drills should ensure that *every member* of the staff knows what is his or her duty in the event of an alarm of fire.

While all will be able to appreciate the points emphasised by such authorities as the Commissioners—both formerly chiefs of the London Fire Brigade—we have ventured to add a few comments arising from a perusal of the suggestions made therein.

APPENDIX A.

Clause 1.—Police whistles may not be without merit, though to many they are indistinguishable from cab-calls. Automatic thermometric alarms might be useful if fixed in store rooms, workshops, and places removed from the constant presence of the attendants, such alarms to ring, say, in the porters' lodge or engine room where someone is always on duty. From this point there should be telephonic communication with the rest of the building and with the nearest fire stations. There are several of these automatic fire alarms in use throughout the country, those operated by the expansion of a metal slip possibly being preferred. As an example the following is a description of one of the best known alarms—viz., "The Pearson Automatic Fire Alarm." At certain points where the risk is considered greatest or where there is the least chance of detection a small instrument is fixed called a thermostat, with this contact is made and an electrical circuit is formed by the expansion of a small metal strip capable of being so finely adjusted that a connexion can be made at any desired temperature. These are wired in parallel on looped circuits connected to an indicator. Should any undue heat occur where the thermostat is fixed a bell rings and the position of the one affected is shown on the indicator. At the point at which the indicator is fixed, say the porters' lodge, one of three courses may be adopted: 1. A private telephone can be installed by the General Post Office for an annual charge of, say, 40*s.* to 60*s.* direct to an indicator at the nearest district fire station. 2. A wire may connect to the central office of the fire alarm company, where a duplicate indicator receives the alarm consecutively with the indicator at the hospital. The operator then telephones by a private wire to the nearest fire station. 3. Communication may be made to the fire station by the regular telephone service as explained in the committee's report.

Direct communication with the fire station is preferable for a hospital where there is someone always on duty near the telephone and indicator, as all delays or misunderstandings incident to the telephone are avoided. This direct system is adopted by several London hospitals independently of the automatic alarm. Instantly on pressing a button or lifting the telephone receiver a shutter falls on the indicator at the fire station giving the name of the hospital, while a bell rings till the call is answered. Should the call be at night the fireman on duty presses a lever which rings a bell in each of the men's rooms, and at the same time switches on all lights. At once an engine and an escape are turned out. While this is being done he calls up the central fire station of the district and by telephone gives notice of the fire. The central fire station then gives notice to the other district stations in its circuit, thus: On the ceiling of each district station are fixed a red and a green electric lamp; by pressing one or two buttons at the central station all bells are set ringing at the district stations called and either one or both of these lights are switched on, red for an engine or green for an escape. The men hurrying down at once see what is required and all help to despatch the team wanted. Meanwhile, instructions as to the locality of the fire are received by telephone. Thus within a minute of the call five or six engines with escapes can be sent to a fire without denuding any one station of its resources. Each central office is in direct communication with the headquarters in Southwark, which can instruct other central stations should it be necessary to send more help from their district branches.

Again, electric bells might be fixed from various points, say from the nurses' duty rooms, to ring in connexion with fire indicators at some such point as above mentioned. Such bells should be tested daily and batteries examined.

Clause 2.—These suggestions are distinctly good. Flare-lights, such as are in use in the navy for lighting buoys at sea when thrown to a man overboard, might be fixed at several prominent external points and fired by triggers in the building. These flares might be partially inclosed in metal boxes, perforated with the word "Fire." Or, again, steam or pneumatic whistles might be fixed externally to each ward or section. Direct communication with the nearest district fire station by a special wire and bell is the best and surest way. We understand that in America for a moderate annual fee any large building can be placed in direct communication with the nearest district station. In the station is a large dial round which are the names of the institutions connected with the station. A bell rings and a pointer moves round the dial and stops at the name whence the call came, which is answered back.

Clause 3.—Everything depends upon organisation if panic is to be avoided. Those in authority should confer with some responsible fireman whose opinion is of value as to possible risks and the best methods of organising the staff. The staff should be trained and drilled at their work, not forgetting the practice of the removal of members acting as patients properly clad. Many students and others associated with hospitals might gain valuable experience in this work by joining one of the many suburban fire brigades, if only for a short time. Alternative staircases are now mostly provided in new buildings owing to the action of county councils and local authorities. Those patients whose powers of locomotion are most defective should have preference of others as to the most favourable position for exit in the event of an outbreak.

Clause 4.—A point requiring very serious consideration is a difficulty with regard to training a fire staff owing to the heavy charges made by some water authorities for breaking the seal of a fire hydrant, thereby tending to prevent efficiency in the staff and the testing of the hose and valve. In some cases the annual charge for these mains is such as to prevent the connecting up of fire appliances provided in new buildings. If hand grenades or tubes containing chemicals are relied on practice is necessary in the use of them. There is a knack in directing their contents to the right spot which is not to be acquired on the first attempt during moments of excitement. The suggested pail of water specific, together with a suitable spraying instrument, could be obtained from any chemist at a cost of *8s.* to *9s.* (*c*) Advertisements of so-called proprietary medicines." That was the defence which they put in at that time. Let us understand what was the meaning of it. What they had said was: Your, Mr. Tucker's, system of dealing in this specific is a system of fraudulent dealing. The only defence, as I understand the law—but I am speaking with unfeigned respect to what you will hear from the Bench in the matter—the only defence which a man can effectually make when he has accused another man of a system of fraudulent dealing is to say: you were guilty of a system of fraudulent dealing. That defence the defendant has not dared to make, did not dare to make then, and has not dared to make now; but he has played round it to suggest the defence which he dare not honestly raise.

Mr. Justice RIDLEY: He says that the fraud suggested by the coroner is the fraud arising out of *the fact that there is* a Government stamp on the inhaler.

Mr. DUKE: So he says.

Mr. Justice RIDLEY: That is right, is it not, Mr. Bankes?

Mr. ELDON BANKES: No, my lord, not quite.

Mr. DUKE: I do not quite know. It is ingenious and it may be a little subtle, but we shall get to the bottom of it.

Mr. Justice RIDLEY: *That is the first part of* it, but there may be something more in it. I think there is another element in it under the head (*b*).

Mr. DUKE: Yes; I was going to take them seriatim and see what he does say. I was suggesting at the moment that it is not enough unless there is an allegation that there is a fraud.

Mr. Justice RIDLEY: Then that fraud is quite a different fraud from that which is suggested in the article.

Mr. DUKE: Absolutely, *and it is not the plaintiff's fraud.*

Mr. Justice RIDLEY: That will be for the jury. It is quite true. I must not say that.

Mr. DUKE: I have to point out what is the nature of the issues which are raised here, and how it is attempted to get rid of the consequence of an open and deliberate charge of fraud upon the plaintiff in his system of *dealing in this specific.* A charge of a fraudulent system of dealing, a charge of plundering the public by means of dishonest advertisements, and of poisoning the public—poisoning the credulous, ignorant people. That is the charge. Now I am going to see what he says about it, to see what excuse he has got; because justification he does not pretend he has got, although he will have to before he is going to get out of this matter. He says it was fair comment—that is to say: "Yours was a fraudulent system of dealing" was fair comment upon this. There was an inquest held, says he; it was proved at the inquest that a man called Cushing was a labourer, and that he had been using an inhaler for which he gave three guineas, and a fluid for which he gave eight shillings an ounce; that he was suffering from advanced consumption, and that the coroner said that he had had a number of cases where the people had been deceived by the Government stamp upon proprietary articles, and that the Government ought to stop it because it deceived people into supposing, which was not the fact, that the Government gave some sort of voucher for the value of the article on which the stamp was. Then he goes on to speak of the other matter which was outside of the *inquest, that the* plaintiff sells the inhaler and the specific at the price at which he in fact sells them, and that other people who may be rascals for all I know—I am not going to try their character—other people of whom he has given us a tremendously long list, who advertise in the papers all sorts of remedies—I am not going to mention one of them—which have all sorts of *notorieties—that* those people are fraudulent quacks. You follow that my client's apparatus and liquid are expensive, and other people publish fraudulent advertisements of quack medicines; and then he says: If that is true, if Cushing did in fact die of consumption after he had been using your asthma specific for about two years, and if he in fact paid the price we mention for it, and if the coroner said that the use of the Government stamp deceived poor people and ought to be stopped, and if you do sell this stuff at a high price whereas the ingredients could be bought at a low price, and if other people publish fraudulent quack advertisements, then we, the proprietors of THE LANCET, are entitled to say about you, the *plaintiff, that you* carry on a fraudulent business, you rob, you poison the public, and to hold you up to odium in that way. Anything less like the charge they made than the materials upon which they sought to justify it would be hard to see. I venture to say that it would be *impossible that a charge* of carrying on a fraudulent business by fraudulent dishonest methods could be supported upon what is suggested to have *taken place* at this inquest and what is suggested to have been said by the coroner.

It may be these defendants, if they go so far, will call the coroner. I desire to speak with respect of every man who holds a public office in this country. For my part I cannot imagine that any coroner, whether in London or in the remotest part of England, who was inquiring into the death of a man who *died of consumption,* could have felt himself justified, in the absence of some other man about whom he knew nothing, in declaring that he found *that other man* guilty of being a fraudulent rascal, carrying on a fraudulent business, and robbing and poisoning the public. I cannot conceive that any coroner would forget the instincts of judicial office—a minor judicial office—or the instincts of *fair play among men, so far as* to say such a thing as that about a man whom he had never seen, with regard to a specific of which probably he did not know, under circumstances which were not before him for trial; but we shall see. I say that because the defendants, not being apparently satisfied that the pretended defences which are set up in what I have read to you would clear them of the attack of which they had been guilty towards the plaintiff, on Nov. 21st last, after a lapse of four or five months, in which they could *make honest and patient and unprejudiced inquiry,* and could find out whether the man carried *on his* business as a respectable firm of solicitors had told them he did carry it on, by this method of not selling these articles except upon trial, or at any rate offering them for trial in order that people might know what they were *doing*—after having four months for ascertaining that, I will tell you what they did. *They did not* amend their defence by saying that they regretted they were wrong, or by saying they found they were right, and that the plaintiff did carry on a business by fraudulent means. No, they added a little more venom to this pretended plea of fair comment—a plea which was an abuse of the right of pleading, a plea of matters which if they were to be pleaded to attack the plaintiff's character ought to be pleaded as matters of fact and not as matters of statement in the plaintiff's absence. But they went on to add that the plaintiff's specific was used by Cushing according to the plaintiff's printed directions—that was harmless enough—and that the coroner said "Tucker's asthma specific appears to be an American thing. ...... Gentlemen, this is what I call a quack remedy. ...... Anyway, *gentlemen,* the remedy is a fraud." Four months after they had delivered their defence and seven months after they had published their libel they said they had discovered that the coroner had said that this was a quack remedy and that the remedy, meaning Tucker's asthma specific, is a fraud, and then they *left* it there. They do not venture to say: *This* is a pretended remedy, it is *spurious,* it is ineffective, or anything of that sort; but they say that the coroner said this. They cannot shelter themselves behind the coroner. They have said: "You, Tucker, the plaintiff, carry on a fraudulent system of business." That is one thing they have said, and they have said these other matters and they *cannot shelter* themselves behind such a statement as that, if it was ever made, which I take the liberty of doubting, if it was ever made by a person who had no right to make it, because he had not had the people before him upon whose conduct it was suggested he proceeds to pass this severe censure. But that is the way in which they have left it, and so they say that if the coroner in fact said that this was a *quack remedy and that* he regarded it as a fraud, if he said that in his privileged position—rather, I think, by way of abuse of a privileged position, but that is beside the mark—if he said that then we, the proprietors of THE LANCET, are entitled to take our newspaper and to publish to the medical profession among whom you have numerous customers, that you, Tucker, who deal in England in this remedy, carry on your business by a fraudulent system of dealing, that you are the representative in England of a man who is a quack—*that* is, this medical man in America—and that your remedy *itself* is a quack remedy and a fraud. If they think *they* can shelter themselves behind anything, whether it was *said* or it was not said, or behind the coroner, they will find themselves, I believe, grievously mistaken *before* they have done with this case. But upon those issues they have *left this case to be tried.* They have taken care to avoid giving Mr. Tucker an opportunity of *dealing* as he would have been glad to

TUCKER *v.* WAKLEY AND ANOTHER.

IN the High Court of Justice, King's Bench Division, at the Royal Courts of Justice, on Wednesday, Jan. 15th, before Mr. Justice RIDLEY and a special jury, the case of TUCKER *v.* WAKLEY and ANOTHER came on for hearing. Mr. H. E. DUKE, K.C., and Mr. F. E. SMITH (instructed by Messrs. F. VENN and Co.) appeared for the plaintiff. Mr. J. ELDON BANKES, K.C., and Mr. HUGH FRASER (instructed by Messrs. POTTER, SANDFORD, and KILVINGTON) appeared for the defendants.

Mr. F. E. SMITH opened the Pleadings.

Mr. DUKE: May it please your lordship, gentlemen of the jury: As you have heard from the opening of the pleadings by my learned friend, this is an action brought to recover damages for a libel published by the defendant in his newspaper of the plaintiff in regard to the plaintiff's business and with regard to the plaintiff's character—of his business and as a man. The plaintiff has been carrying on the business, which I will mention to you more particularly in a minute or two, in London and throughout England for now something like eight or nine years. He has carried it on as he and his customers, I think you will find, thought reputably; he has carried it on with very considerable profit to himself, and he has carried it on, as I think I will satisfy you, beyond any sort of question, with very great and conspicuous benefit to people who have dealt with him—not to a few people but to great numbers of people, and, as you will see, if those averments are true with regard to the plaintiff, it is an exceedingly serious matter that he should be publicly accused of selling a remedy which is a fraud and selling it fraudulently and being a man whose dealings are fraudulent dealings. Those are the charges, with other charges, which the defendant, who is the registered proprietor of THE LANCET newspaper, did not hesitate, now many months ago, to launch against the plaintiff without, so far as I am able to see, any knowledge of what the plaintiff's remedy was; without any knowledge, so far as I am able to see, of what the plaintiff's mode of business was; without any knowledge of whether his business was honest or whether his remedy was beneficial. The defendant having made those charges in his newspaper, launched so long ago, has followed them up and persisted in them, and he is here, as I understand, by his counsel, and I suppose, by evidence, to seek to justify himself in what he has done. THE LANCET, as you know, gentlemen, is what is called an organ of the medical profession. It is a newspaper very well known, and, I should say, in the general way very well conducted. It deals with subjects of medical science and it deals also with the professional and class interests of doctors, as a profession and as a class, and their substantial and pecuniary interests. It is warranted in protecting those interests by every legitimate means, and you will have to ascertain in the course of this case whether there can be any sort of warranty in the championing of the professional and class interests of any profession, no matter how eminent, in dealing with a man who deals in a remedy in the manner in which the plaintiff in this case has been dealt with. I shall have to tell you something about the commodity the plaintiff sells. He sells it merely as a commodity; he does not pretend, and has never pretended, that he was the inventor of it, or that he is a man of medical skill, or that it is anything else than a specific for the treatment of a well-known specific ailment. It is a specific for the treatment of asthma. I daresay all of you have either experienced in yourselves or in your families, or have seen in other people, the disease of asthma. It is a paroxysmic disease which attacks the respiratory organs suddenly, or with some little warning, which disables the patient while the paroxysm lasts, and undoubtedly weakens his system and becomes chronic and is a source of very great misery and suffering to people who are subject to it. It is a well-known and perfectly specific ailment, with well-known and specific symptoms, an ailment which I think we all know is generally treated by something rather in the nature of mechanical than medicinal means—the inhalation of some sort of remedy. These are matters of common knowledge. I daresay you are well aware that in some cases powders are burnt and the patient inhales the fumes of them to arrest the spasmodic operation of this ailment. In other cases cigarettes of a herbal character, datura stramonium, are smoked by the patient. I mention these things because we all see them in every-day life if we happen to come into contact with persons who are suffering from asthma. Those are the kind of remedies which are well known. With regard to those I think it will appear in the course of this trial that medical men fail to deal with asthma by medicinal appliances which go to affect the physical system and the constitution of the patient. I think you will find that the remedy generally has to be some simple and mechanical remedy applied to deal with the symptoms. The remedy in which the plaintiff deals, which he sells and has sold, is a remedy called "Dr. Tucker's Asthma Specific." I will tell you about Dr. Tucker presently. He is the brother of the plaintiff, a medical man of good position and repute at Mount Gilead, Ohio, in the United States. I will tell you presently how it comes that this remedy is in existence and in use, but that is the name of the remedy, "Dr. Tucker's Asthma Specific." It consists of a liquid and a vaporiser for the purpose of converting that liquid into vapour which the patient can inhale through the nose into the throat and lungs. I think I mentioned to you that Dr. Tucker, who discovered the proper ingredients for the liquid which is here in question, is himself a physician and the brother of the plaintiff. The plaintiff will tell you that Dr. Tucker, after he had entered upon his practice as a medical man, found himself subject to repeated and distressing attacks of asthma to such an extent that he was not able to carry on his practice continuously, and that Dr. Tucker thereupon applied his knowledge and skill towards the endeavour to discover a remedy for his own treatment in order that he might live the life of an ordinary professional man and not be disabled by these spasmodic attacks of asthma which continually came upon him, and he produced the liquid which is here in question. There are matters in regard to the composition of that liquid which are raised upon the pleadings in this action and which I will mention to you presently. They seem to me to be wholly irrelevant to the gross and grave charges which this defendant has thought fit to launch against the plaintiff, but as they are put upon the pleadings I shall deal with them in their order. I may say to you now that the plaintiff himself has no personal knowledge of the constituents of that liquid and he has never sought to ascertain. It was not his business to know. As to the other item in the treatment, the vaporiser, that is an article of a not unusual kind, but a very efficient article of a not unusual kind. I dare say you know that by applying a blower of some kind to some tubes in connexion with a bottle you are able to produce a spray. In this case the vaporiser and the inhaler is not an article which produces a spray. A spray which is injected into the air passages and falling into the lungs would cause distress, probably, and not relief, according to one's ordinary notions of the mode in which you can deal with the lungs. This is a vaporiser and not a spray-producing apparatus. It is produced by a firm at Boston, I think, in the United States, appointed and employed for the purpose by Dr. Tucker, the plaintiff's brother, and every one of the vaporisers is examined by Dr. Tucker himself and examined also by the plaintiff, who has a great deal of practical knowledge of this apparatus. It is quite a common-place apparatus in its way. Its particular value arises through its particular efficiency from the care with which it is manufactured and with which it is inspected. Here you have it (producing same). A vapour arises, which you cannot see probably. Two or three compressions of the bulb here discharge a body of vapour which is produced from the liquid in the bottle.

Mr. Justice RIDLEY: Those are very common things.

Mr. DUKE: Very common things indeed.

Mr. Justice RIDLEY: I can get it at a chemist's shop. I have one in my room at the moment, not like that, but a simple one that I was ordered by the doctor when I had a bad throat.

Mr. DUKE: That is probably called a spray.

Mr. Justice RIDLEY: Yes, I think it was called a spray. You fix it into a bottle.

Mr. DUKE: That is the type of thing which produces a spray. This apparatus produces a vapour which is intended not to be deposited on the throat in the way a gargle is, but to be inhaled into the lungs.

Mr. Justice RIDLEY: The one I had was fixed into a bottle containing the liquid.

Mr. DUKE: Yes; that is done here. Your lordship can

Mr. Justice RIDLEY: That was an instance which came under my observation; I daresay there are others.

Mr. SMITH: Your lordship will hear evidence, no doubt.

Re-examined by Mr. SMITH.—I understand that in your pre-Tucker days, if I may so express it, you had several poisons recommended to you by the medical faculty?—Sir William Jenner fed me mostly on arsenic and other doctors have given me chlorodyne. I could not tell you the name of any doctor who has given me that, but I believe chlorodyne is mostly laudanum.

Mr. Justice RIDLEY: But although they are poisons, in minute quantities they are perfectly well recognised by doctors; so is strychnine.

Mr. SMITH: Yes, so I understand.

Mr. ELDON BANKES: Yes.

Mr. Justice RIDLEY: That is the poison which is in Fellows's syrup.

Mr. SMITH (to the Witness): As for cocaine, I will just ask you one question. Was cocaine prescribed to you for asthma or not?—It was a suggestion which a doctor once made to me for hay fever as a relief.

It was rather suggested by my learned friend that you showed some unusual degree of care in your use of this atomiser; was that so?—Absolutely no.

Is it an instrument which it is easy to use either with great care or with negligence?—I should have thought you could only use it in one way, and it could only be a question of the amount of use, and I have never shrunk from using it as often as ever I wanted it—I mean three or four times an hour.

You might pinch that rubber ball carefully or negligently, but beyond that is there any way of using it carefully or negligently?

Mr. ELDON BANKES: It is a question of frequency.

The WITNESS: I understood the question was a question of frequency, and as far as frequency is concerned I used it as frequently as ever I wished to and I have never exercised the least care.

Mr. SMITH: When you first began to use it in order to deal with these night attacks what was the frequency of the use you had to make, roughly?—It might be three or four times in half an hour or even oftener, but the relief comes so quickly that you do not want to go on using it for hour after hour because, so far as I am concerned, relief always comes very quickly. You would not go on using it for hours because the relief is so quick.

Mr. ELDON BANKES: Unless you have got the cocaine habit.

Mr. SMITH: Is that my friend's suggestion?

The WITNESS: I do not follow that.

Mr. ELDON BANKES: We will discuss it afterwards.

The WITNESS: I have not got the cocaine habit from the use of it so far as I know.

BERTRAM EARL of ASHBURNHAM, *examined by* Mr. SMITH.—Would you mind telling us how old you are?—Not at all; 67 years old.

Have you for some years past suffered from asthmatic or quasi-asthmatic trouble?—Yes, for five or six years past at least.

What has been the nature of your attacks?—Very violent attacks of breathlessness.

Does it come on in the day or in the night time?—Principally in the day; it never comes on at night; it comes on in the daytime, and never when I am at rest, and I think that is what distinguishes it from true asthma.

It does not come on when you are lying down but when you are up in the day?—Yes.

During those years have you had almost constant trouble with it?—Constantly in bad weather, yes.

Have you tried many treatments?—A good number of different kinds, yes.

What treatment, for instance, have you tried before you tried Dr. Tucker's?—On one occasion I was advised to go to the waters of Mont d'Or in France, said to be very good arsenical waters, and afterwards a course of Nauheim baths here in London, but neither of them did me much good; they were both beneficial to the general health but of no benefit to the special complaint.

Have you consulted many doctors?—Yes, several.

I take it generally you have tried all kinds of remedies?—Practically speaking I should think all recognised remedies, and all under medical advice.

I want to take you back to a year or two ago. Do you remember having an acute attack in London a year or two ago?—It was a year ago last November or December possibly.

I am not sure whether you were on your way from the Continent. Were you in London on a visit?—I had promised to come here to attend the debates on the Education Bill. London is a place which disagrees with me, as a rule, in winter, and I keep away from it as much as I can, but I was obliged practically to be here and I was rather afraid I should have to go on account of this complaint.

You tell us you had a severe attack during that time?—Yes. "Attack" is not perhaps the proper word for it because I was not laid up, but I was constantly suffering.

Breathlessness?—Breathlessness.

Did you consult anyone?—I consulted Dr. Mitchell Bruce of Harley-street.

Was that the first time you had been to see him?—No, off and on I had seen him for a good many years—I daresay 20 years, or more perhaps.

What advice did Dr. Mitchell Bruce give you?—Dr. Mitchell Bruce gave me a tonic to take internally but for the breathlessness he said he could only recommend Mr. Tucker's cure.

Had you heard of Mr. Tucker's cure before?—Yes, I had been advised by a doctor in Paris about two or three years before to try it.

I do not know whether you recollect who that doctor was?—His name was Müller, a French doctor.

Did Dr. Mitchell Bruce tell you where you could get Dr. Tucker's cure?—He told me it could be procured from Mr. Tucker himself; it was not sold by any chemist.

Did you know his address?—No, and Dr. Bruce could not tell me.

How did you find it?—Dr. Bruce advised me to go to various chemists, and he said possibly I might be able to find it, but he could not be sure.

To take it shortly, you did in fact, I think, find it from some chemist?—I found it from Messrs. Savory and Moore.

Did you go to Mr. Tucker's house in Herne Hill the same day that you were successful in obtaining the address?—I took the train at once from Victoria Station and went down to Herne Hill.

Whom did you see at Mr. Tucker's house?—I saw a lady.

I think she showed you the atomiser?—She showed me the atomiser and gave me some explanation of it, and probably allowed me to try it, but that I cannot distinctly remember.

Did you take it on this trial system or did you buy it outright?—I bought it outright.

do not know whether y knew of the trial system?—I knew of the trial system.

Since then what use have you made of the atomiser and this specific?—I have used it constantly, except in very fine, warm weather. In summer I get on, as a rule, without it, but at this time of the year I am never without it, especially when I am in London.

What has been your experience of its effect on your breath troubles?—It remedies them absolutely.

To what extent during the attacks which you have had since you have got it have you used the specific?—Whenever I have been able to. I have always used it.

Whenever you have had an attack?—Whenever I have had an attack.

Have you ever experienced the slightest ill-result from using it?—No, never the slightest.

Has your experience been or not, that the effect wears out with frequent use?—No, quite the reverse. I think that I am distinctly better than I was a year ago. I am not cured and do not pretend to be, but I am distinctly better.

How long does an ounce of specific last? That is 8s. worth, is it not?—I cannot recollect the price exactly.

Never mind the price. Do you recollect about how long one lot of it lasts?—A very long time, but I could not exactly tell you how long. I think I have only once had to buy any more since I first got it. It lasts for a very long time.

So that you are still using the same atomiser and you have had one renewal of the specific?—I think I have had one renewal of the specific. I do not like to be sure because I am on my oath, but I can only recollect one.

So that a year's treatment or over a year's treatment cost you a little over £3?—Yes. I may say I still have a bottle which has not been opened yet.

General Manager, 'Onaway,' Half-Moon Lane, Herne Hill, London, S.E." Whatever else may be said about those terms they are perfectly explicit; there is no sort of possibility of mistake about them. Mr. Tucker says to people who desire to be purchasers of this specific: "Now the price will be so much, if you buy it; you can try it for a fortnight, and if you find it is not useful in your case or it is not what you desired to have, send it back, and there will be an end of the matter"; and he states what the other prices will be. That is the memorandum of the terms of dealing. The person who desires to purchase, or, at any rate, to try the specific, finds in the pamphlet or with the pamphlet a little form to be filled up with his name, address, and the particulars of the symptoms from which he is suffering with a view to seeing roughly whether the man who sends for this apparatus appears from what he says to be really suffering from asthma, because, of course, Mr. Tucker does not want these unusual terms of dealing, this supply of apparatus, and the remedy without payment for a fortnight, to be made the means of imposition. He wants to know a little about the applicant and the application, and so he has a schedule of questions here which the applicant can fill up and will fill up if he desires to have the apparatus on trial, and of course will not fill up if he chooses to send his £3 and knows all about it. Then on the back of the form of questions is this form: "Patient will fill out this blank. Asthma case of," so-and-so; then "Post Office," so-and-so; "box," so-and-so. "Number and street. County or shire. Province or country. Date," this undertaking to be signed by the person who sends in his application to have the specific and the apparatus. "At the expiration of the 2 weeks' trial, I, the undersigned, agree to pay for the treatment or return the Atomizer, and what fluid there may be left by mail charges prepaid." Then there is a space for the signature. That is the ordinary way of carrying on this business which is attacked as a fraudulent concern.

Mr. Justice RIDLEY: I do not quite follow this. The front part of that paper seems to be directed to inquiring whether the remedy has been found efficacious—some of the questions at all events: "Does the remedy generally give you relief?" Does that allude to other remedies?

Mr. DUKE: That refers to question 9: "What remedy are you now using to relieve the attacks? 10. Does the remedy generally give you relief?"

Mr. Justice RIDLEY: He signs this paper before he gets the medicine?

Mr. DUKE: The applicant signs this before he gets the vapouriser and the fluid on trial, and if he chooses to sign this and gives them particulars about himself, which are, at any rate, some kind of guarantee to Mr. Tucker that he is a man who really does want to treat himself with a view to dispelling or preventing attacks of asthma, and to whom the treatment may be of some use, upon receiving this signed, Mr. Tucker sends out the vapouriser and the supply of fluid, and there is a period of a fortnight during which the applicant makes his trials if he wants without incurring any sort of liability, and with the right at the end of the time, whether he does it fairly or not, of packing the thing up in a parcel and putting it into the post with the proper parcel postage upon it and sending it back to Mr. Tucker and saying "Good-bye," or leaving him without saying "Good-bye"—merely returning it. This is the mode of carrying on the plaintiff's business, and the result of the various methods to which I have referred, the distribution of the pamphlet, the employment of agents, and this method of free trial of the remedy in order that the proposing purchaser may know himself upon what terms he is dealing, have undoubtedly been very successful to the plaintiff. Up to the present time since he came to England in 1899 more than 25,000 of these appliances have been supplied. There have been more than 25,000 purchases. Something like half of them have taken place during the last three years, so that you see the mode of doing business which the plaintiff pursues has had this success, that there has been a gradual progress during the earlier part of the time and an increase in the last three years, a very rapid increase indeed, and up to the present time a very large sale. The plaintiff will tell you that, sending out this apparatus and the fluid in the way he does, in about one case in five of the cases where the apparatus and fluid are sent out the applicant returns them and there is an end of that matter. He finds that he is not pleased or that he cannot use it or that for some reason or other he does not consider it is worth his while to buy. He may find that you can buy a spray apparatus or a spray producer at the chemist's very cheap and that you can buy something from which a spray can be produced very cheap, and he may not think, on looking at it, that the thing is worth the money. It is impossible to say what are the reasons why in about one in five of the cases where these applicants come to the plaintiff the applicant does not follow the matter up but in the course of this fortnight of trial sends the thing back and has done with it. In the case of the other four-fifths, what the plaintiff finds by experience is that they go on using the specific, that they give their repeat orders for the fluid, and that they give their repeat orders because things have got worn out in the course of time for the vapouriser, and he will tell you that he has upon his books very considerable numbers of customers who have been customers for many years and who go on keeping the inhaler by them and keeping the specific by them in order, if there are symptoms of the recurrence of asthma, to prevent or cut short the attack. It is a very remarkable circumstance in this case that a very considerable number of the purchasers of this specific who have been purchasers for long periods of time are members of the medical profession. Owing to what has taken place in this case I shall have to bring before you, not very willingly on their part, some members of the medical profession who will tell you for what reason they have been buying this specific for years. One of them is Sir Stephen Mackenzie, the most eminent specialist, I understand, in diseases of the respiratory organs. I do not suggest that Sir Stephen Mackenzie wants to come here to give evidence on behalf of the plaintiff—I must withdraw that, I am told that Sir Stephen Mackenzie is now out of this country. It is sufficient for the present to say that a customer who has been a purchaser of this specific for years is that eminent man, and there are great numbers of other doctors. We have subpœnaed them, and I am told that in the course of this trial we shall put them into the box to hear whether there is any other explanation of their repeated orders for this commodity except that it is an honest remedy in their experience of it. There is a list, I am told, of upwards of 250 medical men in this country and on the Continent who have been buyers of this specific, which is attacked by THE LANCET apparently on behalf of the medical profession because THE LANCET regards it as necessary in the public interests and in the interests of the medical profession. You will have to consider how that may be. It is not limited to that considerable body of medical men; if it becomes necessary to go into the matter my client will take some of the letters of the alphabet in his list of customers and can give you the names of persons of undoubted character and undoubted position who habitually for long periods have been using this remedy.

Mr. Justice RIDLEY: It does not effect a cure so that you can finish with it.

Mr. DUKE: I am told that the only mode in which you can cure asthma is by preventing the attack and that the liability to the attacks of asthma is as constant as the liability to catch cold but that the symptoms when they show themselves can be dispelled by the use of this specific. Gentlemen of the jury, that is the nature of the plaintiff's business and the mode in which it has grown up and the extent to which it has come; and as you will see, if the plaintiff is unjustly attacked the attack is very serious upon him in his material interests, just as it is with regard to his character and reputation. Having mentioned these matters to you I will come to the particular incidents out of which the attack which has been made sprang and the attack itself, and the defence which is sought to be set up here for making the attack and persisting in it. In February, 1904, a man of the name of Cushing sent in to Mr. Tucker a form in which he requested to be supplied on trial with the specific. He described himself as of Queen's Buildings in the Borough, as of the age of 39 years, as being by occupation a fitter, and said he had asthma for seven years, and that it had begun through his having bronchitis, and he went into a good many particulars with which I need not trouble you now. Then on the back of the form he stated his case as the case of Alfred Cushing and gave the address again and did not sign the terms, but although he did not sign the terms the specific was forwarded to him and in due course he became a purchaser, and from time to time between February of 1904 and the latter part of the year 1906 he obtained some additional supplies of the fluid. The plaintiff will tell you to what extent. It is not a thing which rapidly exhausts itself, but it may get

Mr. SMITH: I think you commenced your life by teaching at a public school?—Yes.

Did you, after various other occupations, help your brother in his work in the United States?—I did.

What is your brother's name?—Nathan Tucker.

In what part of the United States does he carry on his profession?—In the State of Ohio.

What assistance were you giving him?—I took the commercial side of the business and was introducing the remedy.

During what years were you attending to the commercial side of the business?—From 1889 to 1899.

Ten years?—Ten years.

During that time were you ever brought into contact with people suffering from asthma in selling these things?—I was travelling from city to city picking out extreme cases and giving them a two weeks' trial free.

So that you were brought constantly in touch with people suffering from asthma?—I was.

I want to ask you a few questions about your brother. Of what age is your brother now?—He is 70.

Where did he study medicine?—At the Bellevue Hospital Medical College, New York City.

Do you recollect how long he was there?—He was there two years.

Where did he go after that?—That was his last medical college.

What was the first one? I want to have the medical course he went through.—He spent two years in Northern New York.

Mr. Justice RIDLEY: What is Northern New York?

Mr. SMITH: Just explain that.—There is the State of New York and the city of New York. Our home was 200 miles north of New York city.

Did he study medicine there?—He studied medicine there.

Mr. ELDON BANKES: At his home?—Under a Dr. Allen for three years.

Mr. SMITH: Is that a common course to adopt in the United States?—It was at that time.

It was some considerable time ago?—It was in 1866 that he finished his course.

He spent three years as you have told us with Dr. Allen in Northern New York and after this he went to the Bellevue Hospital Medical College at New York?—Yes.

You have told us he was there for two years?—Yes.

What was the length of time necessary in order to graduate at Bellevue Hospital?—At that time they allowed a person to graduate with two full years provided he entered at a certain standard which was accomplished by the three years' previous study.

With that qualification two years actual course at the hospital was sufficient to justify graduation if the examination were passed?—Yes.

Did your brother graduate?—He did.

With the degree of Doctor of Medicine?—Yes.

I think that was on the 1st March, 1866?—Yes.

Will you tell us about the college? What is the standing of this college?

Mr. ELDON BANKES: I object to all this.

Mr. DUKE: We will leave it for cross-examination. I do not think it will be suggested that Dr. Tucker is not a reputable man in the United States.

Mr. Justice RIDLEY: We cannot go into the history of the college unless Mr. Bankes wants it.

Mr. SMITH: I think your brother commenced a general practice as a physician in 1866?—He did.

Where did he commence practising?—In Mount Gilead, Ohio.

For how long did he continue to carry on a general local practice?—Up till about 1890, and then this business took his attention and he followed this speciality.

What special line do you mean?—Diseases of the respiratory organs, asthma, bronchitis, and so on.

Do you know how he first came to specialise in these diseases?—It was the result of 20 years' experimenting on himself that he obtained this remedy.

How was he led to commence those experiments?—By the extreme suffering that he underwent.

Do you recollect when he first began to suffer from asthma in a severe form himself?—It was about 1870 that the asthma became very severe. There were slight attacks previously to that.

From 1870 to 1890 did he suffer almost continuously from the disease?—Yes, for months at a time he never could lie down.

Mr. ELDON BANKES: I do not want to interpose as to anything that is relevant, but does this matter?

Mr. DUKE: I think this is material.

Mr. Justice RIDLEY: You can take this generally.

Mr. SMITH: I will take it as shortly as I can.

Mr. Justice RIDLEY: I do not think you have gone too far at present.

Mr. SMITH: During those years from 1870 to 1890 you have told us he was experimenting on himself. I want you to tell my lord and the jury with what result?—He kept getting worse for some years. I think for the first ten years he kept getting worse and then he changed his ideas as to the cause of asthma and commenced treating it directly as a local trouble.

The general view of the profession being——

Mr. ELDON BANKES: We cannot have that from this gentleman.

Mr. SMITH: At any rate, your brother formed the view at that time that it was a local trouble?—He did.

Which did he discover first, the specific or the atomiser?—The specific was discovered before this atomiser was discovered.

Having got this specific what was the object of the atomiser?—He wanted an atomiser which was durable and which would produce a perfect vapour, and that led him to experiment with this atomiser until it was produced.

Why is it important to have a vapour and not moisture?—Because it must be inhaled through the bronchial tubes into the lungs, and if it were not vapour it could not be done.

Mr. ELDON BANKES: You do not suggest a vapour is not moisture?

Mr. DUKE: Of course, in a scientific sense it is a moisture, but it is not a coarse moisture.

Mr. Justice RIDLEY: It is a fog.

Mr. DUKE: I should think that describes it quite accurately.

Mr. SMITH: Do you recollect when it was that he evolved the atomiser in its present form?—It was about 1891 or 1892 that this instrument was produced, but not exactly as it is now. Substantially it was the same.

Have you examined other atomisers which are in use?—Yes.

It is said that one just like yours can be bought at any chemist for a very small price. Have you seen any of these which you have tested in any chemists which resembles yours?—I have not.

If you are asked about it you will be able to point out differences?—I would.

Differences in the product, in the result?—Yes.

What is the distinction between a spraying instrument and your atomiser?—A spray would fill the throat with a quantity of liquid. This instrument of ours converts that liquid into a vapour. I can soon show that better, perhaps, than describe it.

Mr. Justice RIDLEY: I suppose it is turned into minute particles so that you cannot see it, but it must be there.

Mr. ELDON BANKES: You can see it quite clearly if you hold it up to the light.

Mr. SMITH: May the witness do it?

Mr. ELDON BANKES: The pamphlet says that you are not doing it properly unless you see the smoke coming out of your mouth. (to the witness) That is so, is it not?—No, it is not strictly true, but partially true.

Mr. Justice RIDLEY: Is that in the pamphlet?

Mr. DUKE: I think it is in the directions, not in the pamphlet.

Mr. SMITH: (To the witness) What is that spray which you have there?—This is another atomiser.

Is that as good a one as you know, apart from yours?—It is as to the product produced; it is all that you could ask for; but the quantity in volume is almost infinitesimal.

As compared with the other?—As compared with mine.

Mr. ELDON BANKES: Would you mind identifying that. Is that Oppenheimer's?

Mr. SMITH: You call that Oppenheimer's atomiser, do you not?—That is the name by which it is known.

Mr. Justice RIDLEY: Is that going to produce spray?—It produces a vapour, but in very, very small quantity. If I had some of the medicine here I could charge it and show you, but I do not suppose any of you could see it, it would be so fine.

Show us yours.—(The witness illustrated the working of the atomiser.)—I am in a bad position, a dark corner. I do not know whether you can see it very well.

him. It appears to us extremely unlikely that the Coroner would have done so in our client's absence" (a very proper observation, I should think). "Will you be good enough to refer us to the newspaper report upon which your remarks were based? We enclose a pamphlet issued by our client. On page 80 you will find a memorandum of the terms on which the atomizer and specific are supplied to probable purchasers." That is the memorandum which I read to you. "You will see that the atomizer and a sufficient supply of the specific are sent on trial without payment or deposit, the only liability being *to* return them within two weeks if not found satisfactory. Payment is only required if the applicant retains them. The atomizer and specific are both of a very special nature. As to their efficiency we refer you to the pamphlet enclosed. They have been used and recommended by numerous members of the medical profession in the United Kingdom. Our client's business is a large and increasing one. He opened a London office in 1899 and has *since 1902 resided* and carried on business at his present *address. The business* has been honourably conducted throughout. Dr. N. Tucker is a regular graduate of the Bellevue Medical College of New York City, U.S.A., and is legally authorised to practise as a physician in the United States and to use the titles of Doctor and M.D. He has practised as a physician at Mount Gilead, Ohio, for about 27 years. The atomizer and specific are not advertised in the public press. A sense of justice and right feeling should, we think, have led you to communicate with our client before making the offensive and injurious remarks contained in the paragraph complained of. Had you done so you would have received such information as would, we are convinced, have shown that there was not the slightest ground for adverse comment. A grave injury has been done to our client, both in reputation and in property, and we, on his behalf, request you to make what reparation is possible by publishing an ample apology for the injurious statements and a withdrawal of all imputations. We have our client's instructions to commence proceedings for obtaining legal redress if such an *apology* and withdrawal are not published, at latest, in your issue for the 18th inst."; that gave him nine days. "We shall be obliged by your acknowledging the receipt of this letter." Now, gentlemen, if the plaintiff's business is such a business as I have described to you, if his terms of dealing are in truth those terms of dealing which were laid before the defendant in the memorandum, if *this* specific is in any degree an honest preparation, what was the business of the defendant when the defendant got that letter *showing him* in what position he had placed, not only the plaintiff, but him, the defendant himself? His business was, as he knew nothing, apparently, about Mr. Tucker or Dr. Tucker, or the specific, or the mode of dealing which he had reprobated in such unsparing terms, to find out what were the facts and if he was going to continue to attack Dr. Tucker and Mr. Tucker and the specific and the mode of dealing, to *do it* upon knowledge. That is just what he did not do then and what he has never done since. With that knowledge before him *on* May 13th the editor of THE LANCET wrote this letter to the plaintiff's solicitors:—

> DEAR SIRS,—The statements that a labourer who *had* died of consumption had been using an inhaler which cost £3 3s. and a spray at 8s. an ounce were made at an inquest reported in the *Morning Advertiser* on January 2nd, 1907. We should like *to* know which of them you challenge. The documents handed to the City coroner bore the title, "Dr. Tucker's Asthma Specific." The City coroner is reported to have said "It is a quack remedy," and "*It is a fraud*"; we expressed our *view of* this language upon the statements before us.

That is not true. They did not express their view of that language; they say: It is a fraudulent system of dealing; it is rightly stigmatised as a fraudulent system of dealing; and they themselves took the responsibility on themselves of classifying the plaintiff in this action with the rogues who they said plundered and poisoned the public. You will remember the terms of the libel. That is what they have done and they write to us: We should like to know whether a labourer who had *died of* consumption had been using an inhaler which cost £3 3s. and spray at 8s. an ounce. Suppose it were true that a labourer who died of consumption had bought an inhaler for £3 or £3 3s. and had bought a fluid at 8s. an ounce how far would that go to establish a fraud upon anybody? If the labourer had been deceived by Mr. Tucker into buying something then, of course, Mr. Tucker could be stigmatised as having been fraudulent in his dealings. Nothing of the sort. They supposed, apparently, that if it be true that Alfred Cushing, after trial of this specific for a fortnight, bought the apparatus at the price at which he was told he could have it and afterwards bought a new supply of the fluid at the price at which he was told he could have it, that warrants them in declaring that the plaintiff's business is rightly stigmatised as a fraudulent system of dealing and that the plaintiff and the inventor of the remedy itself are to be classed and stigmatised in the way in which it is done in this libel. My clients could not accept that mode of dealing with this matter, and *on the 14th of May they followed* up this. They pointed out, as the newspaper, the *Morning Advertiser*, seems to have led them to point out, *that upon the newspaper* expressions which the defendant produced he was wrong. It was quite immaterial whether he was *right or wrong*, but this further letter was written on the 14th of May: "We have to-day seen the report of the inquest appearing in the *Morning Advertiser* for January 2nd, 1907. Replying to your letter, the statement made at the inquest respecting the price of the inhaler and spray was misleading by reason of the omission of any reference to the terms on which the articles were supplied to purchasers. The coroner's remark: 'It is a quack remedy,' is not in accordance with fact. It *seems* clear to us, from the report, that the coroner's final remark, 'But it is a fraud,' did not relate to the inhaler and spray. We *mentioned in our previous* letter that our client had no opportunity of being *present* at the *inquest.*" At some time or other those newspaper *paragraphs* will be read to you; but apparently the coroner had said that it was very wrong on the part of the public authority in this country to allow specific remedies which were not prescribed by doctors, but which could be bought at a shop, to be sent out under a Government stamp, and that that was a fraud, that it led people to suppose that the Government vouched the value of the remedy. Something of that kind the coroner appears to have said, but we shall hear. On the 21st of May, having got those two answers, instead of an honest attempt either to be in a position to justify these charges or a withdrawal of them the plaintiff's solicitors wrote and *said*: "*Referring to* our correspondence with the editors, we are instructed by Mr. A. Q. Tucker to commence proceedings against you in respect of defamatory statements contained in your issue of 9th March last, page 701, and shall issue the writ to-morrow. Please send us the name of solicitors who will accept service of the writ on your behalf," and then this action was begun. Now, I will tell *you shortly* what the defendant has done in this action with a view *either to* mitigate or to aggravate the injustice which upon the *facts* which I have stated to you, I venture to say it is perfectly clear he has done Mr. Tucker. He came to deliver his defence *on July 9th*, last year, and what he said in his defence—the substantial part of it, and the only part which is material to the observations I have to address to you—was: "The said words are fair *comments made bonâ fide* without malice and in the honest belief that they were true on certain matters of public interest—viz., (*a*) an inquest held by Dr. F. J. Waldo, the City Coroner at Southwark, on Jan. 1st, 1907, *on the* body of a labourer named Alfred Albert Cushing *and the* statements and evidence given at the said inquest and in particular the evidence of Dr. G. A. Paton that the death of the said Alfred Albert Cushing resulted from old-standing and advanced consumption and the evidence of the deceased's widow that the deceased used according to printed instructions produced before the said coroner an inhaler known as Dr. Tucker's atomizer which *cost* three guineas and a spray known as Dr. Tucker's *Asthma* Specific which cost 8s. an ounce and the following statement of the coroner: 'Tucker's Asthma Specific appears to be an American thing ...... Gentlemen, this is what I call a quack remedy. I have had a number of cases of quack medicines in connexion with which credulous people are deceived by seeing *the* Government proprietary article stamp on them and are deluded into believing that the Government guarantee the contents. They get a very rich harvest out of the sale of the stamps'—*that is obviously* the Government—'but the sooner they do away with *the stamps* the better, so that the public may be undeceived ...... anyway, gentlemen, the remedy [meaning Tucker's asthma specific] is a fraud.' (*b*) The sale to the public at the price of 3 guineas of Dr. Tucker's atomizer and at the price of 8s. an ounce of his asthma specific. The constituents of the said specific are cocaine and *atropine* (which are poisons and dangerous if used without medical advice), sodium nitrite, glycerine, oil of gaultheria, and water. Quantities of these constituents sufficient to make up one ounce of the said

And some of the parts of the atomiser also come from the States?—Yes.

And it is completed with the other parts from the continent; I think that is clear?—Yes.

How many shipments a month do you say you have?—About four.

Can you tell us what the average payment for carriage would be on one monthly shipment?—I get 100 of these packed in a box like this at each shipment and about 32 quarts of medicine. For those two lots I pay from £1 to £1 4*s.* or £1 5*s.* It varies somewhat but it is somewhere about £1 3*s.* I would say as the cost for each shipment. That is the cost from New York State; that is the ocean freight.

How about the State charges on the other side?—It is a little more from Ohio to New York State than it is across the ocean. It is 800 miles by rail.

So far as regards the parts of the atomiser which are obtained from the continent, do you pay for the carriage of those indiarubber balls and glass bottles?—Yes; I pay for all that.

How often do you have a consignment containing the indiarubber balls and the glass bottles?—You understand that the rubber balls are made here in London.

But the glass bottles in France?—The glass bottles in France.

How often do you get a consignment of glass bottles?—About once in four months.

Is that a large case or not?—Yes; it runs I think about 25 gross.

Do you remember roughly what the cost of carriage of that would be?—No; I do not know. It is not a very great amount; I think some five or six shillings or something like that.

How long did you stay in the office at Holborn Viaduct, which was the first one you took when you came over to this country?—I stayed there nearly three years; I left there in June, 1902.

Are you sure it was 1902? You may be right but I have it 1903.—It was 1902, June.

Where did you go after you left Holborn Viaduct?—I went to Herne Hill.

Have you been there ever since?—Yes.

I think you use the house as a residence and to carry on the business?—Yes.

Mr. Justice RIDLEY: You do not want any dispensary; all you want to do is to decant the liquor into the bottles?—That is all. It is a distributing centre.

Mr. SMITH: When your lordship sees the volume of business your lordship sees there must be conveniences for distributing.

Mr. Justice RIDLEY: When I look at this picture there seems to be no convenience there; it is a villa. I have a picture of it.

The WITNESS: That is my dwelling-house and four rooms devoted to business on the ground floor.

It looks as if it were devoted to enjoyment.—Well, it does.

There is no notice—a board or anything.

Mr. SMITH: You do not advertise, I think, either on your door or anywhere else, do you?—My name is on the gate-post so that strangers may know when they reach the house.

But that is the only advertisement you have apart from this pamphlet?—Yes; I do not put anything outside except merely my name, A. Q. Tucker.

While I am upon that I will just ask you the question, Do you advertise at all in the newspapers?—I do not.

I want to ask you about the gross yearly receipts since the time when you started your business. I think you have a book here, have you not?—Yes.

Mr. Justice RIDLEY: You do not have anything up on the blind or anything of that kind; you do not have any notice up at all; it is simply a private house?—That is all.

Mr. SMITH: Simply "A. Q. Tucker"?—"A. Q. Tucker" is on the gate-post.

While I am getting the gross receipts can you tell my lord and jury how many of these atomisers you have sold since you commenced business?—We have sold upwards of 25,000 and the names are entered on our books as patrons.

Mr. Justice RIDLEY: All fresh patrons?—Patrons that I have gathered up in the seven years since I commenced here.

But some people wear out an atomiser and have to buy another?—Yes; a great many of them have two.

Mr. SMITH: So that they would not all represent different customers?—Yes; but I have that many different patrons—over 25,000.

You have the books so that my friend can see them if he wishes to?—The books are here and they can be seen.

You have 25,000 different patrons?—Yes.

Which you say would represent a much larger number of atomisers sold?—Yes, much larger. Many business men have one at their house and one at their place of business.

Mr. ELDON BANKES: You might give us the summary of the receipts.

Mr. SMITH: My learned friend allows me to give your lordship a summary.

Mr. ELDON BANKES: We have had inspection of the books. They disclose them in their affidavit. If the summary agrees with mine I have no objection to putting it in.

Mr. SMITH: I will give your lordship the figures for the year 1899.

Mr. ELDON BANKES: Are those the gross receipts?

Mr. SMITH: Yes, the gross receipts. He began business in August, 1899, and up to Dec. 31st in the first year of business the figures were £402 18*s.*, gross receipts; in 1900, £3672 7*s.* 5*d.*; in 1901, £8785 11*s.* 10*d.*; in 1902, £11,070 2*s.* 11*d.*; in 1903, £14,982 2*s.* 1*d.*; in 1904, £17,251 0*s.* 11*d.*; in 1905, £19,585 14*s.* 8*d.*; in 1906, £19,641 8*s.* 5*d.*

I do not think you have been able to take out the last month or so of 1907 and your figures so far as they are taken out——

Mr. ELDON BANKES: To what date?

Mr. SMITH: You shall have it. As far as the figures are taken out—and I will give my friend the exact date in a moment—the figures for 1907 are £18,498 17*s.* 10*d.* I do not know whether you can tell me the date or whether I must get it from the book.—No, I cannot.

It has been done by an accountant, and you do not know. I want you to help me as far as you can in discovering the cost price to you of the atomiser and the specific and the accessories. I think you have one of Dr. Tucker's weekly statements of account, have you not?—There is a book there which you had which contains the weekly report of every week since we started.

I want you to take any week at random, but I just want my lord and the jury to see how the statement of account, as between your brother and yourself, is made up.—I am fearful that the book is not here.

Mr. ELDON BANKES: I must object to it going in without the book for the moment. I am not certain I have seen this. What is it you want?

Mr. SMITH: I want his estimate of the cost price to him as arrived at by the account with Dr. Tucker. I do not care about it, and I will leave it to my friend to ask about.

Mr. Justice RIDLEY: I do not know whether we shall want that. I have appreciated that there are some questions in the libel which point to the price being material.

Mr. ELDON BANKES: Yes, it is material to get the figures.

Mr. Justice RIDLEY: I think so, but I was not quite sure how far it was material.

Mr. SMITH: If it is still persisted in and relied on as part of the defence——

Mr. Justice RIDLEY: One sees at once that the £3 charged is not charged on the face of it as anything like the price of it; it is a charge for the cure as well.

Mr. SMITH: Yes.

Mr. Justice RIDLEY: To give it to a man for a fortnight and then ask him to pay £3 means the cure as well as the article.

Mr. SMITH: Quite.

Mr. Justice RIDLEY: However, you may go into it if you like; the jury will deal with all that. (To the jury) I tell you, gentlemen, that £3 is out of all question, not the price of one of these atomisers; it is not anything like it. £3 must be far beyond the proper value of any one of these things.

Mr. SMITH: Yes, of course. There is no concealment about that, obviously.

Mr. Justice RIDLEY: It is intended to be the price of the cure I should have thought, but we shall see what Mr. Bankes says. The man agrees to pay in a fortnight and if he does not choose to pay he sends it back again and does not pay; if it is of any use he does.

Mr. SMITH: Some case apparently still is made about the cost of the thing and I think I should just like to ask him deal with any charges which they thought fit to make upon their own responsibility, and they have sheltered themselves behind what they say was the opinion of the coroner, whereas what they have charged is not a matter of opinion but a matter of fact—namely, a fraudulent course of dealing and a fraudulent system of business. That is the outline stated at greater length than I intended to have taken up in dealing with this case. The grievance which the plaintiff complains of is the grievance of the charge of fraud which I have mentioned before. With the assistance of my learned friend I shall call a considerable body of evidence before you to show what the plaintiff's mode of doing his business has been, and the value, in any sense in which you can speak of value, to the persons who have applied his remedy has been, and when you have heard that evidence and heard any further excuses which the defendant may find to be available to him it will be your business to say what amends ought to be made to the plaintiff in respect of this charge of carrying on a fraudulent business, made in the first instance, I am willing to believe, in ignorance of what the plaintiff's method of business really was, but in substance persisted in under various cloaks and covers down to the present time. My learned friend and I will call this evidence before you and you will hear what the defendant has to say. My lord, there are a couple of witnesses whom I should like, if I may, to interpose before the plaintiff because I cannot keep them. One of them is the Earl of Harewood and the other is a member of the Bar.

Mr. Justice RIDLEY: Very well.

Mr. ALEXANDER DINGWALL BATESON, *examined by* Mr. SMITH.—You are a member of the Bar?—I am.

I think from childhood you have been liable to asthmatic attacks?—Until I bought Mr. Tucker's specific.

At what age as far as you can recollect did your constitutional tendency to these attacks develop *itself*?—To my certain knowledge at eight years of age.

And from that age how long was it until you heard of Dr. Tucker's remedy?—I think it is about four or five years ago, but I am not quite sure of the actual date.

Mr. Justice RIDLEY: That was the first time when you bought that remedy?—The first time.

About four or five years ago?—I think it is about four or five years ago, but Mr. Tucker will be able to tell exactly from his books.

Mr. SMITH: I do not know whether you would mind telling us how old you are now?—Rising 42.

So that for about 30 or 35 years you were suffering from asthma and you did not know of Dr. Tucker's remedy?—That is so.

Will you tell my lord and the jury what degree of trouble you had from asthma before you heard of Dr. Tucker's specific?—As I grew older it was getting worse, and constantly for weeks together I could hardly sleep at all. I could do my work during the day but at night it was very troublesome. After I bought this specific I have been able to sleep perfectly well and I have never had any trouble from the asthma at all.

So it was proving a real difficulty in your way before?—It was getting more and more troublesome and I thought really getting serious.

Before you came across Dr. Tucker's remedy did you consult any doctors?—Well, my earliest recollections are being under Sir William Jenner, and as a child I used to go and see him from time to time nearly up to the time of his death, I think. Since then I have not bothered very much with doctors at all.

Even with his advice did you get the relief which you have had since you have used Tucker's remedy?—No, I had recurring attacks in the same way. I daresay there was a certain amount of relief from time to time, but I never was free from severe attacks.

Has the use of Dr. Tucker's specific involved a growing use?—Oh, no; the longer I use it the less I use it, if one may say so; the longer I have had it, the less I find I have had to use it.

You get relief more easily?—I really hardly require it at all.

Something has been said about the price of this specific. What price do you pay for one instalment, so to speak, of this specific?—I pay about 8*s*. every 12 or 18 months.

Is the amount which is sent to you adequate for that period?—It is the ounce quantity; I get the ounce quantity and I pay my 8*s*.

And in your experience you find that lasts you 12 or 18 months?—I think so; certainly 12 months, and I think more.

Will you tell my lord and the jury how you came to give evidence in this case?—I saw some proceedings in the Court of Appeal with regard, as I thought, to an attempt to discover what the secret was, and, seeing that the case had reference to this remedy, I told you that I could give evidence as to how satisfactory the remedy was.

You volunteered it?—Certainly, absolutely.

Cross-examined by Mr. ELDON BANKES: There is nothing on the bottles which you have purchased to indicate what this stuff contains?—No.

Have you been using it without knowing that it contains two poisons, cocaine and atropine?—I have been told by various doctors that it contains poisons, but all the doctors have fed me on poisons ever since I started.

We will see in a moment; but it is common knowledge, is it not, in the medical profession that this Tucker's specific does contain poisons?—Well, they say so, but I do not think they know.

We will see. At any rate, this has been put into your hands without any warning that it contains either cocaine or atropine?—I would not like to say that. I am not at all sure that somebody had not suggested that it contained cocaine.

I mean so far as Mr. Tucker is concerned?—I never asked him.

And there is nothing on the bottles to indicate that it should be used with caution?—None at all; there is nothing on the bottles at all as far as I remember.

So far as you are concerned it so happens that you have used it with caution and you have used it very infrequently?—Not at all; I have not used it with any caution and I have used it whenever I wanted it.

Mercifully for you, you have not required to use it very often?—I did when I first started.

How often did you use it then?—Constantly, especially at night.

I suppose yours is a case of true asthma, is it not? Have the doctors ever told you that?—The doctors have never been able to tell me what it is.

Is your heart sound so far as you know?—I have been passed as a first-class life by the insurance office year after year quite recently.

Do you know the danger of using cocaine if your heart is unsound?—I have used cocaine. I used cocaine to a large extent at one time under doctor's orders for hay fever.

Of course under a doctor's advice and under a doctor's supervision?—Not supervision.

Under his advice?—Under his advice; and it is very nasty stuff.

This stuff tastes sweet, does it not?—There is no trace of cocaine in this that I could detect, although I have taken plenty of it.

So far as it has a taste it is a sweet taste, is not it?—I should say none.

Mr. Justice RIDLEY: Cocaine is the stuff that is used for taking away pain in a tooth, is it not?

Mr. ELDON BANKES: They used to use it until they found the danger of it.

Mr. Justice RIDLEY: I think they use it for that.

Mr. ELDON BANKES: They used to, but they have found it dangerous.

The WITNESS: I think I had some the other day from a dentist.

Mr. ELDON BANKES: I think I can show that it is one of the most dangerous poisons which you could possibly put into anyone's hands.

Mr. Justice RIDLEY: There has been a development about this lately. There is a sort of remedy known as Fellows's syrup of hypophosphites; that contains poisons and I discovered the other day that they have found it necessary to mark it as poisonous and you have to sign the book for it, but it certainly was not done two or three years ago. It is a perfectly well-known article and has been on the market for years and years.

Mr. ELDON BANKES: There is no doubt that there is no right to sell this. It comes under the Pharmacy Act and this is largely sold absolutely contrary to the Act of Parliament.

Mr. Justice RIDLEY: When the poisons have been in small quantities I think it will be found it is a fact that they have disregarded the Pharmacy Act.

Mr. ELDON BANKES: I will not anticipate.

commercial value. It will take some little time to explain just why he does by me as he does.

Mr. ELDON BANKES: Well, I object to that.

Mr. Justice RIDLEY: It has great commercial value; that is all right.

Mr. SMITH: Apart from this staff which you have explained to us do you employ agents?—I do.

You have told us you do not advertise at all. Do you rely upon your agents and customers to make your specific known?—It is principally made known by my patrons who tell one another. My agents are simply local agents who take orders and send them to me to fill.

How many agents have you got?—I do not know.

Roughly, I mean?—Some 40 or 50; it may be twice that; I am not sure. Many of them do but very little, but whatever they do they get their commission on.

I am going to ask you about that. What commission do you pay to your agents in case they effect sales?—I pay a commission of 12*s*. on each complete sale of £3, but that is to those who take up their time and make a business of it. Then we give a commission of 10 per cent., 6*s*., to dealers who simply pass it on.

What proportion, roughly, of your treatments, as I think you call it, are sold or supplied through agents?—Our foreign trade is very largely done by foreign agents, nearly all of it. Here at home in the British Kingdom I do not know; it would be a guess—not over, perhaps, one-fifth.

I think you have agents in most of the chief continental countries?—Yes.

I understand you to say that you do not always pay 12*s*.?—No.

What is the alternative rate?—12*s*. is to the one who goes out and hunts up customers and spends his time and strength. The other is to chemists and dealers who simply order and pass it on and do nothing in the way of explaining to patients.

It is the distinction between the chemist's shop and the one who canvasses for customers?—Yes, not only chemists—shippers.

Have you to make allowance for discount on the fluid for wastage in decanting, and so forth, and accidents?—We do. We guarantee safe delivery of all the fluid we send through the post. If it is broken we replace it free of charge.

I do not want to go into precise figures on this point. You have to make some deduction under that head? You find in your experience that there is a wastage under that head?—Yes.

And, in the same way, when you ship the fluid into this country from the States you stand, I think, the risk of wastage there?—We occasionally get a quart bottle broken.

That is your loss?—That is my loss entirely.

How long ought an ounce of fluid to last if used regularly? You heard what Mr. Bateson said, that his lasted a year. I want to ask you, what is your experience?—The average length of time for one ounce would be three months' daily use.

From the time that you first commenced business in this country have you adopted the fortnight's trial method?—Yes, invariably.

From the very start?—Yes; every person in the British Kingdom has had the privilege of a two weeks' trial.

Before they are allowed to have this trial I think you ask them the questions which my friend Mr. Duke referred to; they have to fill in the question form?—Usually they do; not always.

But you usually send it on an application for a free trial?—Yes.

After they have had a fortnight's trial, of the people who wish to have it, what proportion do you find come to you and buy them?—That is here in the British Kingdom?

Yes, of those who have tried them?—I should think at least four-fifths, but of those who return it the majority get it afterwards.

You have noticed, by following their names in your books, that they do?—Yes.

I do not know—you shall tell me whether you have a system of experimental use in the continental business?—I do not.

It is only for England?—Nor in the colonies; it is confined to the British Kingdom.

As far as any question of fluid is concerned have you at any time, if a customer did not like it during his fortnight's trial, refused to have it back?—Never.

In dealing with expenditure, there is one small item I want to get, and that is about the Government stamp. You have to pay for the Government stamp?—Yes.

What is the price of that?—It is 1*s*. on every ounce.

Of course, there is a deduction to be made for that. I want to ask, as a further deduction, about your income-tax returns.

Mr. ELDON BANKES: I object to that; you cannot deduct your income-tax.

Mr. SMITH: I quite agree you cannot, but if it is relied on that this gentleman is charging an excessive price I should think it was useful to discover what exactly his expenditure was before he could get this. It is on the same footing as his house rent. It may be my friends are not going to rely on this, but if it is I should have thought I could get that.

Mr. Justice RIDLEY: I really do not think you can.

Mr. ELDON BANKES: You cannot arrive at profit in that way.

Mr. SMITH: In all cases in which these questions have been filled up and an application made for a free use do you always send it or do you read the answers to the questions?—I usually look them over to see that the patient has asthma and not heart trouble—not a diseased heart.

In the latter case you would not be able to help him?—We always say to them it would do them no harm but no permanent good.

Do you charge the same price both to rich and poor in selling these atomisers?—We publish but one price, but in cases of charity, where the money is made up by friends, we reduce it one-third—£2 instead of £3.

Have you done that in a large number of cases?—A good many.

Have you made a reduction on a second atomiser in similar cases too?—Yes, we have a standing rule that the second atomiser, stocked ready for use as you see it here, is 16*s*. That is only to our old patrons for their own private use.

I want to ask you about the specific itself. Does anyone prepare the specific except your brother at Mount Gilead?—No one else.

Have you ever prepared any of it or are you capable of preparing it?—No, never attempted it.

You were asked a question which was afterwards disallowed. In fact, do you know to-day what the constituents of the specific are?—I absolutely do not know.

Have you ever held yourself out as possessing medical skill yourself?—Not in the slightest; no.

In your experience have attempts been made to determine the constituents by analysis?—There have.

Mr. ELDON BANKES: To his personal knowledge?

Mr. SMITH: Do you know of this yourself?—I have been told by different ones that they have attempted it.

Mr. ELDON BANKES: Then I object to it.

Mr. SMITH (to the witness): Did you ever send it to anyone yourself for analysis or not?—I never did.

With regard to the suggestion of poison and so forth, is the specific used commonly by young children and young persons generally?—It is used by all ages from three years and upwards.

Do you come across asthmatic cases as young as that frequently?—I have met them as young as three years. I have been told by those who have it that they have had it since four months of age.

At any rate, you have not supplied it to persons under three years of age. Have you ever known of a case in which it has done any injury to any such persons?—Never.

Has a complaint ever been made to you of all the 25,000 customers you have had of any injury done to one of them by the use of this specific?—No; we have had a great many questions asked of us whether it did do certain things.

But I am asking about complaints of injury?—No, never a complaint of injury.

As far as this question of cure goes, what is it that you tell my lord and the jury that this specific in your opinion can do?—It affords perfect relief and it arrests the paroxysm at once.

Do you say that it cures or destroys the liability to asthma?—Never; I do not claim that at all.

Some persons are more disposed to asthma than others?—Certainly.

When you call it a cure what is it you say that it cures?—It cures the spasms.

Mr. ELDON BANKES: He did not say anything.

Mr. SMITH: He calls it in his pamphlet a cure.

Mr. ELDON BANKES: The witness's last answer was quite

So that a year's treatment which you say has been beneficial has cost you a little more than £3?—A little more than £3.

How does that compare with what you were paying to doctors for this same ailment before?

Mr. ELDON BANKES: I object to that.

Mr. Justice RIDLEY: I do not think you need ask that.

Mr. SMITH: Very good. At any rate, have you regretted the £3 that you have spent on this?

Mr. ELDON BANKES: I object.

Mr. SMITH: Surely I am entitled to ask that. He says that he spent £3 on this atomiser. He has given us his experience of the use of it, and I ask him whether he regrets the £3 that he spent on it. It is not worth while persisting in if my friend objects.

Mr. Justice RIDLEY: You need not ask that question either, I should think, because if he has got relief from asthma he certainly does not regret it.

Mr. SMITH: Perhaps so, my lord.

Cross-examined by Mr. ELDON BANKES.—Can you give me an idea how often you use this when you are troubled with these attacks? Is it once a day, or once a week, or once a fortnight?—It would be whenever I have an attack.

Does that often come—every day?—Sometimes perhaps six or seven times a day.

Would you use the atomiser on that occasion six or seven times in the day?—Yes.

Then perhaps you would not use it again for a fortnight?—I should think myself very lucky if that was to happen to me in winter.

But it might be you would not use it again for a week?—I should think myself very lucky again if that happened to me when I was in London.

London is a place which does not suit you?—London is not a favourable place for me. I came up yesterday afternoon and I should think I have used it perhaps three times.

But when you are in the country you can go on for a long time?—Yes, when I am in the country.

Sometimes a fortnight and sometimes even more?—Yes, in the summer. I would rather put it in this way, that I do not use it except when I want it.

I only want to let the jury know how often you do want it, taking one week with another?—Pretty constantly. I would rather put it in that way, if I may be allowed.

I understand it was Dr. Mitchell Bruce who mentioned it to you. Did he indicate to you that he knew anything about it, or did he merely say: "You had better try Tucker"?—He more than implied that he knew all about it. He did not pretend to know its composition, but when Dr. Mitchell Bruce orders a thing I think he implies that he knows something of it.

He did not know where it could be obtained, I understand?—No.

You went down to Herne Hill and there you saw a lady?—Yes.

Did she ask you at all what was the matter with you, or was she merely a vendor? Did she ask you whether you had got any complaint for which it was suitable, or did you merely ask for it and was it supplied?—I think I entered into some detail. I do not know whether she asked me or whether I volunteered it, but I certainly gave it.

And she supplied the atomiser?—She supplied the atomiser and a certain quantity of the specific.

Was any information given to you that it contained any cocaine?—No.

Or atropine?—Or atropine.

Was there no indication upon any of the bottles or boxes that were given to you that it contained poisons?—No.

Mr. Justice RIDLEY: I do not think you told us how long you have suffered.—I do not know exactly how long, but I should say more or less five or six years.

That was the period of time?—Before I knew of Dr. Tucker's remedy.

HENRY ULICK LASCELLES, EARL OF HAREWOOD, *examined by* Mr. SMITH.—Have you been liable for some time to asthmatic or quasi-asthmatic trouble?—Not quasi—asthmatic trouble, yes.

About how long have you had trouble of that kind?—I have suffered more or less for the last six or seven years I should think certainly, but not lately.

During the earlier part of this six or seven years did you take advice as to your ailment?—Yes, I tried every sort of thing. It was entirely the result of influenza with me—repeated attacks of influenza.

Did you take medical advice as well?—Yes.

Did you get relief?—No, not much, not from doctors.

How long is it since you first heard of Dr. Tucker's specific?—I do not exactly remember, but I think about six or seven years ago.

Do you happen to recollect how you came to hear of it first?—Yes, perfectly. I think it was recommended to me by a lady whom I happened to sit next to at dinner and who told me it had done her husband a great deal of good.

It was recommended to you privately by a lady and did you then try it?—Yes, I tried it at once. I sent for it.

What effect has it had on your trouble?—The effect that it has on my asthma is that if I inhale Dr. Tucker's remedy for five minutes, say, at night, in about half an hour my breathing becomes quite clear and I can go to sleep.

Have you found the relief consistent?—Yes, consistent.

And in those five or six years that you have been using it have you experienced the slightest ill-effect from it?—Not the slightest.

Mr. Justice RIDLEY: I think you said you had suffered six or seven years from it, but not lately?—Not lately, or only very slightly for the last year or year and a half.

Is that since you have got this remedy?—I cannot say whether it is this remedy. I attribute it to my not having had a cold for a year and a half. It is the cold that brings it on.

Mr. SMITH: A cold brings on an attack of this quasi-asthma?—Yes, or influenza.

Whenever you have had these attacks you have found relief in the manner which you have described?—Yes.

Mr. Justice RIDLEY: It is as long as five or six years ago that you got the remedy?—I think so; I cannot fix the exact date without referring to accounts, but I think it was about that time ago.

Mr. SMITH: If you had any trouble at all at the present time you would use it?—Certainly.

Cross-examined by Mr. ELDON BANKES.—Did you obtain it through the post?—Yes, through the post.

Did you answer the questions which we know are sent out to persons?—Yes, as far as I remember I did the first time I sent for it.

Did you understand that those were questions which were submitted by somebody in order to ascertain whether the specific was suitable for your case?—Yes, that is what I understood.

Then you bought it and it has given you relief?—Yes.

Was there anything upon the bottle or any of the boxes to indicate that it contained poisons?—No, I have not an idea what it contains.

You had no idea, for instance, that it contained cocaine?—No, I have since been informed that it does.

I mean at the time you were using it?—No.

I understand that these attacks which you have had have been the result of cold?—Cold or influenza, generally influenza.

Have you used the specific constantly or only occasionally when the attack came on?—Occasionally.

Re-examined by Mr. DUKE.—The mode of using this thing is to convert the fluid into a vapour, I think?—Yes.

During the five or six years that you have used the vapour produced in the inhaler have you ever found any sort of ill effect from it?—No, none.

Nothing of the nature of the action of poison?—No, none.

AUGUSTUS QUACKENBUSH TUCKER, *examined by* Mr. SMITH.—Where do you carry on business?—At Herne Hill.

I think your wife and daughter live with you?—My daughter is the only assistant I have.

How old are you?—68.

Where were you born?—In the State of New York.

Mr. Justice RIDLEY: Does that matter much?

Mr. SMITH: I want to ask him a few questions about his early career, which I should think your lordship will think does matter.

Mr. Justice RIDLEY: The particular place of his birth does not affect his career.

Mr. SMITH: No, but the fact that he was born in the States I think does.

Mr. Justice RIDLEY (to the witness): You are a native of the United States?—Yes.

Mr. ELDON BANKES: That is another matter.

Mr. DUKE (to the witness): Look at the date of the letter, that is all. (Document handed to the witness.)—Yes, I remember that coming in and being filed.

What is the period?—The date is given here, Oct. 15th, 1907.

Mr. SMITH: Looking at that letter of 1907, can you say that you got an order?

Mr. ELDON BANKES: I object to that being put in; it cannot be put in.

Mr. DUKE: We do not want to put it in.

Mr. Justice RIDLEY: You say he is one of your oldest patients—that is, as far as I have got at present.

Mr. DUKE: What we proposed to do was to say on the witness refreshing his memory by a document that that custom had continued down to as lately as October, 1907.

Mr. ELDON BANKES: I do not object to that.

Mr. Justice RIDLEY: I quite follow now. He has said so. "He is one of our oldest patients," that means that he is still.

Mr. DUKE: Yes.

Mr. SMITH: You can verify that by your books if my friend asks you about it?—Yes.

Have you got a book with the entries there in front of you?—This is the entry here. This is volume 2. The entry is made here July 16th, 1901.

Mr. Justice RIDLEY: You are not entitled to read the books, of course.—That was the time the treatment was first ordered.

Mr. Justice RIDLEY: All you can do is you can say you have the books here.

Mr. SMITH: Yes, that is all.

Apart from your medical patrons or customers, who you have told us amount to about 300, I want to ask you about your ordinary customers and their position. You have told us of their numbers. Have you supplied this atomiser to persons in all ranks of life, including the highest?—I think our books show every title in the British Kingdom excepting the King and Queen and the Primate, but I think they show every other.

Mr. Justice RIDLEY: Perhaps they did not want any. Have you got the Archbishop of York?—I cannot remember whether we have or not; we have a good many archbishops.

Mr. Justice RIDLEY: The Primate means the Archbishop of Canterbury.

Mr. SMITH: If you are asked about this, you say you can show customers from every rank in English society, even the highest, excepting the King and Queen?—Yes.

I think you have supplied it to many other Royal Families—not English ones but others?—Yes, we have—I think the Royal Family of Belgium.

And even to the families of distinguished English judges?—Yes.

Mr. DUKE: Not, I think, to your lordship's family, as far as we know.

Mr. Justice RIDLEY: I have had none myself.

Mr. SMITH: My learned friend can have the names if he wants them.

Mr. ELDON BANKES: It is new to me that you will supply the names of customers for such a drug as this.

Mr. DUKE: I do not think my friend understood. My friend Mr. Smith said if Mr. Bankes wants this and challenges the names we will supply them; we do not propose to publish them.

Mr. Justice RIDLEY: We are going into the case in a great deal more detail than is necessary in chief.

Mr. DUKE: My learned friend will not take any point that is not necessary.

Mr. SMITH: Indeed, I will not.

Mr. Justice RIDLEY: I should have thought to take it generally on your side would be sufficient until Mr. Bankes challenged it.

Mr. SMITH: I am obliged to your lordship.

Mr. Justice RIDLEY: We must get on at last, I suppose.

Cross-examined by Mr. ELDON BANKES: Do I understand it is the fact that you have never had any medical training at all?—None at all.

And do I understand you to tell the jury that you are selling these enormous quantities of this liquid indiscriminately without knowing what it contains?—That is what I said.

Selling it practically to anybody who asks for it?—No, we do not.

Well, we will see in a moment. Do you take any precautions as to the persons to whom you shall supply it?—We supply it to everyone whom we think it would benefit, and if we think it would not we do not supply them; we tell them it is just throwing away their money.

You supply the people whom you think it will benefit and you do not supply those whom you think it will not benefit; is that so?—That is my position, yes.

What classes of persons do you think that it will not benefit?—A person who has consumption would not get any practical benefit; they may get a little relief but we do not advertise it for that.

Who else?—It is designed for just these cases only.

Would you mind answering my question? I am asking you to tell us the persons whom you think it would not benefit.—It would not benefit any person unless they have a serious catarrhal trouble.

But are there any particular classes of persons whom you know it would not benefit? You mention, for instance, persons suffering from consumption. In your opinion, does this stuff of yours not benefit them?—It does not.

Let me take the case of a person suffering from a weak heart.—They would get benefit only in this way: their breathing is relieved; it relieves the heart—no more.

Do you say that you formed the opinion that this stuff of yours does not benefit consumptive patients without knowing what is in it?—I do not think it would.

Listen! You do not follow my question. You formed the opinion that this stuff of yours would not benefit consumptive patients. I ask you: Have you formed that opinion without knowing what your stuff contains?—I have.

Have you ever had occasion to consider the English Pharmacy Act?—No.

Do you know that there are very stringent provisions with reference to the sale of poisons in England?—I do; I suppose there are as a matter of course; there are in all countries.

Is there any reason that you can suggest to the jury why you have abstained from asking what is in this stuff of yours unless it be that you are aware of the provisions of the English Acts about poisons?—I dispensed this remedy in the States for ten years before I came here.

We will come to the States in a moment. You were on terms of intimacy with your brother?—Yes.

You were in close conjunction with him in this business?—Yes.

Do you say you never asked him what was in this liquid?—I never did.

Do you know now that if you complied with the English law you would not be able to sell this stuff?—I do not know any such thing.

Very well, we will see. Do I understand you to say you do not know now that it contains cocaine?—I do not, not of my own knowledge.

Has anybody in the course of this case, while you have been preparing for trial, sought to ascertain whether it contains cocaine or not?—I presume many of them have.

But on your side?—I do not know what they have done.

Do you know anything of the properties of cocaine?—I suppose it to be a very powerful drug.

Do you know that it is a drug to the effects of which many persons are strongly susceptible; do you know that about it?—I do not know anything about it, for I am not a medical man.

Have you ever heard of the cocaine habit?—I have.

Do you know that that is one of the most insidious habits that anybody can acquire?—I do.

Worse than the alcoholic habit or worse than the morphine habit?—I am not prepared to judge as between that and morphine; I know both of them are serious.

Mr. Justice RIDLEY: That means you cannot avoid taking it?

Mr. ELDON BANKES: You cannot avoid taking it.

Do you know this: a cocaine habit or a morphia habit would be acquired by absorbing quantities of cocaine or morphia into your system?—It certainly would.

Have you sufficient medical knowledge to know that either of those drugs is absorbed more readily into the blood if inhaled than when swallowed?—I think quite the reverse, but I am not a judge.

Are you prepared to dispute that every ounce of this stuff of yours contains a considerable quantity of cocaine?—I know nothing about it.

Are you prepared to dispute, also, that it contains a considerable quantity of atropine?—I know nothing about it.

Mr. Justice Ridley: Can you see it, gentlemen?—The Jury: Yes.

The Witness: I will use it as I was doing and as I instruct patients to do. (The witness illustrated the use of the atomiser.) The fact that it comes from my mouth is absolutely proof that it has been in my lungs. That answers the question you raised.

Mr. Justice Ridley: Could it not go through your mouth without going into the lungs?—No.

There is no passage, is there?—If you notice what I am doing I take this vapour up one side and air at the other. I am inhaling while I am pressing the bulb. Watch me once more. (The witness repeated the illustration.) When I come to breathe out, a small portion of the vapour comes out with the air. I am coating the mucous lining from the end of my nose into the lungs with that liquid.

Mr. Justice Ridley: There must be a passage there which the vapour could come through at the back of your mouth?—I do not know. It might be done, but I could not do it. One might be expert enough.

Mr. Justice Ridley: If you smoke——

The Witness: You can blow it out of your nostrils; that is right. But if you take it into your nostrils——

Mr. Justice Ridley: You can go one way but you cannot go the other.

Mr. Duke: Yes; that is so. He could not discharge the quantity of vapour and hold it in any receptacle excepting his lungs.

Mr. Justice Ridley: I understand that is his *reason*.

Mr. Duke: That is the reason of it.

Mr. Eldon Bankes: Is that what he says really or is that what you say, Mr. Duke?

Mr. Duke: Yes; that is what I understand.

Mr. Justice Ridley: That proves it must have been in your lungs.

Mr. Eldon Bankes: But his mouth is big enough to hold that quantity of vapour. My friend says there is no other receptacle.

Mr. Justice Ridley: I am only taking down what he says.

Mr. Eldon Bankes: I am quite willing to accept it that that is what he says.

Mr. Smith: Is it a very important point in the merits of an atomiser that there should be a powerful discharge when you press that ball?—In order to reach all the air spaces through the nasal organs and bronchial tubes you must have a good volume of vapour.

I just want to ask you one more question about Oppenheimer's atomiser. Would it be suitable for use with your specific, for instance?—It could be used, but it would take so long to get any amount of it that if your attack was very bad it would undoubtedly fail. It might relieve any mild attack.

You have tested, I think, three other instruments which have been purchased in chemists' shops of a similar kind?—There are several others. This is, I think, counted one of the best.

Oppenheimer's?—Yes.

Taking it shortly, in the case of all those others which you have tested, do the same distinctions apply at least to the same extent?—There are atomisers, and plenty of them, which produce a spray, that we could not use at all. This one and some others produce vapour but *it is* in very minute quantities.

Who manufactures the atomiser for your brother?—It is manufactured by Codman and Shurtleff of Boston, U.S.A.

Are they a well-known firm?—They are.

What is their business?—Manufacturers of surgical instruments.

About how many of these instruments are turned out every month?—We have a standing order of 400 of these sent to me and the same number *sent to* my brother in the States.

Mr. Eldon Bankes: We cannot have the brother's business.

Mr. Smith: Except *so far as it is* in his knowledge.

Mr. Eldon Bankes: He cannot know.

Mr. Smith: He can tell, at any rate, *during* the time that he was with his brother. However, it is not of *very* much importance.

So far as you are *concerned* you say, quite apart from your brother's house, you have 400 a *month* sent to you?—There is a standing order of 400 a month.

What is your sphere of influence at the present time, so to speak?

Mr. Justice Ridley: Sphere of influence is a peculiar phrase, is it not?

Mr. Smith: I think your lordship will understand it.

Over what part of the world do you sell this specific and the atomiser?—We send it in all parts of the world, excepting North America, for the reason that this is the best distributing centre.

London is?—Yes.

Mr. Justice Ridley: Do you send it all from this house at Herne Hill?—I send it from Herne Hill to every country on the globe, except North America.

Mr. Smith: Who deals with the North American demand?—My brother.

Mr. Justice Ridley: 400 atomisers arrive at this house monthly? (indicating photograph on circular).—Yes.

Mr. Smith: How long have you been in London attending to the English and European business?—I came here in August, 1899.

Did you come over to establish the agency?—I *did*.

With the exception of a short visit to the States shortly afterwards have you been here ever since?—Yes, it has been my home.

Where did you open your first office?—At 51, Holborn Viaduct.

When was that?—I opened the office there on August 16th, 1899.

Have you an office in London now?—No; all business is done at Herne Hill.

Who has the profits of the business which is done at Herne Hill?—I have them myself.

How is the account settled as between yourself and your brother?—I purchase everything from him except the rubber bulb and the glass bottle. This rubber bulb is made in London.

And the glass cup?—The glass bottle is made in France.

But all the parts of the atomiser you get from your brother?—My brother.

At what price do you get them?—The instrument without the bulb and without the glass costs me $1.87 cents in Ohio.

What is the relation to cost price of that sum?—I am supposed to get everything at actual cost from the manufacturer excepting medicine.

The medicine is not in the $1.87 *cents*?—*No*; that is not in it at all.

Mr. Smith: How about the payment for the specific? What payment did you make to your brother for the specific?—Do you mean as to the price paid?—Yes.

Mr. Justice Ridley: Is it not made up here in England?—No, made in Ohio; all made by my brother. *This* medicine costs me $14 a quart in Mount Gilead, Ohio.

How much do the indiarubber bulbs and the glass bottles cost you?—The bulbs cost me 10½*d*. each without *this* metal valve (indicating), which costs me in the States 2*d*.

Mr. Justice Ridley: That is in the $1.87 cents?—No; that is not included in the $1.87 cents.

Mr. Smith: It is a small item additional to the $1.87 cents.

Mr. Justice Ridley: I will leave it out then.

Mr. Smith: So that it comes to this, that all the rest of the atomiser, excepting the bulb, the glass bottle, and that little valve, are obtained from your brother?—Yes.

You have told us the price of the indiarubber ball and the glass thing.

Mr. Eldon Bankes: No, he has not told us that.

Mr. Smith: Will you tell me, please, what the price of the glass bottle is?—I am not absolutely certain as to just the exact cost but my recollection is that it is 1½*d*. apiece. Of course, I buy them in great quantities. It is somewhere between that and 2*d*.

Who pays for the carriage of the atomisers from the States?—I do.

In what sized cases do you get them and how frequently?—I get four shipments a month.

That is of the atomisers alone?—The atomisers and medicine.

They come together, do they?—They usually come together.

Mr. Justice Ridley: The medicine comes in those bottles?—The medicine comes in quart bottles.

You fill them up here?—I fill the bottles up here, yes.

Mr. Smith: The specific comes in quart bottles from the States?—Yes.

bottle would last at least two weeks of constant using, four, five, or six times a day.

Can you answer a simple question: Have you ever made any experiment to ascertain the quantity of vapour atomised if you follow these instructions?—I cannot conceive of any method by which it could be measured, it is so small.

Do you see here that you are advocating frequent use of the atomiser?—We insist upon frequent use.

Assuming that this liquid contains cocaine, I ask you, Are you not here advocating the very thing that is likely to produce the cocaine habit in the patient?—My experience proves that it does not.

That is your answer. One other question about the cure. Do you notice here in this passage that you draw a distinction between arresting the attack and curing the disease?—The facts are that mild cases, or many of them, are cured so that they never have another attack, but they are liable to, and much more liable to than persons who never had it.

I am passing through these things quickly that I am going to make points on. On the next page, 7, I ask you for your explanation of this statement; you will see your advice to the patient: "Eat light meals. Never allow yourself to eat until you have a bloated and distressed feeling in the stomach after meals," which is good general advice. "If you are in the habit of using alcoholic stimulants, morphine, opium, or other narcotics, abandon their use." Why do you say that?—Because they are very harmful to persons suffering from asthma especially and very harmful to all persons.

What is the difference in effect between, we will say, opium and other narcotics and cocaine or atropine?—This was written by my brother, you understand; it is not mine.

I quite understand that.—And I suppose he knows what he is saying.

But can you understand any honest man saying to a patient, "Avoid opium and other narcotics," and at the same moment giving him cocaine and atropine; can you understand any honest man doing that?—That is a supposition, and purely so. I do not know that I can give you a definite answer to a supposition of that kind. Our experience proves that it is absolutely harmless. Probably no man in England has used as much of it as I do myself.

These are the documents that are sent out from this private house of yours at Herne Hill?—Yes.

Do I understand that you and your brother are the persons who, if I may use the expression, "sell the articles"?—Yes.

You have two typewriters who look after the correspondence, and you have two bookkeepers who look after the books?—Yes.

And you and your daughter do the selling?—We dictate the letters that come in to our typists.

Is there anybody in the house who has ever had any medical training at all?—Not in connexion with this remedy.

I ask you, if that is so why do you send out the list of questions which the person who desires to have your remedy has to answer?—We send out that list of questions to ascertain whether the patient has asthma or something else.

Have you medical knowledge enough to know that there are very many illnesses, if I may use a general expression, the symptoms of which are precisely the same as asthma, or would appear to the patient to be the same?—It is true that patients themselves are sometimes deceived.

For instance, have you sufficient medical knowledge to know this, that the symptoms of heart disease may be identical practically with the symptoms of asthma?—I do.

So that a patient may think he is suffering from asthma when he is really suffering from heart disease?—Yes.

Is the same thing true of a patient suffering from Bright's disease?—No, I think not.

Have you sufficient medical knowledge to say that?—I have not sufficient medical knowledge, but I have sufficient common-sense to know whether a man has got asthma or whether he has got something else.

I am putting these questions to you and you think that is a reasonable answer. Do you know the disease called emphysema?—Yes, what is called that.

Are the symptoms of emphysema practically identical with those of asthma?—It is true that many medical men speak of an asthmatic as having emphysema as the result of asthma, and the terms are so interchangeably used and confused that they are not very clear.

Then I will not take one that will enable you to have that confusion in your mind. Let me take phthisis; that is a definite disease, is not it—consumption?—Yes.

Are the symptoms of consumption practically identical very often in the mind of the patient with those of asthma?—It is possible that a person may have consumption in a mild form which is not fully developed, and at the same time have asthma.

Is not it true that a person may be suffering from consumption and have symptoms which would make him believe that he was suffering from asthma?—They are very different, but a patient might so think.

That is all I am asking you. Let me take that. A patient may be suffering from heart disease and may think that he is suffering from asthma; a patient may be suffering from phthisis and may think that he is suffering from asthma. The only question you ask him is, not as to his symptoms so that you can judge, but you ask him: "How long have you had asthma?" and then he answers. Now I ask you, Do you suggest to the jury that these questions can in any way assist you as to whether you shall send out this stuff or not?—Sometimes they are so answered that I am in doubt and then I write and ask further questions and I ask them for the opinion of their family physician as to their ailment.

Do you not think that, as stated by one of your witnesses, these questions are calculated to lead patients to believe that they will be submitted to some person of medical knowledge who will be able to say whether the cure is applicable to their case or not?—Those questions were written by a medical man.

Was not the object of sending them out to lead the patients to believe——

No, that is not the object, to deceive them.

I do not know whether it is the object but do you not realise that the effect of that is that patients would believe that those questions were to be submitted to some medical opinion before this cure was sent to them?—It is possible that they might so construe it.

And, as a matter of fact, they would be received into this private house where there is nobody but you and your daughter, who do not profess any medical knowledge at all?—My experience has been that I am able to judge very accurately as to the case when I get those questions answered.

The only case that I can deal with is this man Cashing, because those are the only questions that we have seen or that we know about. Let me ask you to consider what the questions and the answers were? What you state on the top of your paper is: "Dr. Tucker's Asthma Specific, Chief Dispensary, Mt. Gilead, Ohio, U.S.A. Headquarters for Europe: 'Onaway,' Half Moon-lane, Herne Hill, London, S.E. All correspondence should be addressed to A. Q. Tucker, General Manager. This blank to be filled up on both sides and returned." Then you ask the man his name and address and you ask him his age and his occupation. What do you ask him that for, because, according to you, this remedy is applicable to anybody between the age of a few months and any age you can live to—Any man who follows stone-cutting or works in a flour mill or a warehouse is filling an avocation which is liable to develop asthma and aggravate it materially.

Why do you ask his age?—It is not so very important that we should have his age, yet we like to know whether we are dealing with a person in vigour or whether we are dealing with a very old person.

But according to you it is equally applicable and you send it out whether he is three or whether he is 50.—That is right.

Then why ask it?—It is merely to know more about the patient—to get familiar with his case.

Is it because you are following the form which is frequently followed when people try to treat patients by correspondence?—The questions were asked by my brother, the medical man.

By a medical man and to be submitted to a medical man?

MR. DUKE: He does not say his brother has them submitted to him.

MR. ELDON BANKES: Your brother had them submitted to him. He wrote them.—Yes.

And they were a form which he himself used?—Yes.

"Name and address; age; occupation; how long have you had asthma? Do you know the first cause of your asthma? If so, state it. When do you suffer most from asthma, summer or winter? How frequent are your attacks? Are your attacks more severe at night than during the day? What remedy are you now using to relieve attacks?" You have only one remedy, have you?—That is all.

what it costs him; I will not ask in detail, but I will leave it to my friend to cross-examine him and I can develop it, if necessary, when I re-examine him. (*Document handed to the witness.*)

First of all, is that a weekly account taken quite at random?—This is an actual invoice made by my brother dated Oct. 19th, 1907.

Does that fairly represent what an average shipment would be?—This individual one is a little larger than the average and yet very little, too. There are 200 atomisers in this one shipment.

What is the price to you, as shown in the bills, of 200 atomisers?—356 dollars. That does not include the bulb or bottle.

Mr. ELDON BANKES: No, we follow that.

Mr. SMITH: What is the charge there for testing and packing?—$6. That includes the package and the testing and packing.

Mr. JUSTICE RIDLEY: You take a dollar at 4*s*., do you not?—It is nearly that; it is 4*s*. 2*d*.

Mr. ELDON BANKES: I have taken it at 4*s*. 2*d*. and I think it shows that the cost of the atomiser as invoiced to him is 7*s*. 8*d*. or 7*s*. 9*d*.

Mr. SMITH: I have taken it at 4*s*. 2*d*. and I think that is substantially correct.

Mr. ELDON BANKES: Then we agree about that; it is invoiced to him at 7*s*. 9*d*.

Mr. SMITH: I will have that checked; I think it is so.

In the week you have before you I think the amount of specific shipped was 33 quarts and 24 ounces?—Yes.

What is the charge for that?—It is $540, but there is a discount from that of $67 and 50 cents.

How does the discount arise?—That discount arises to cover wastage.

Mr. ELDON BANKES: Need we trouble about it? We only want to get the accurate figures.

Mr. JUSTICE RIDLEY: What does it work out at?

Mr. ELDON BANKES: It works out at 1*s*. 6*d*. an ounce.

Mr. SMITH: I think that is substantially right, but your lordship will not take it for the moment as agreed. I will have it worked out, but I think it is about right.

The WITNESS: The amount of the fluid, 33 quarts 24 ounces, cost to me in Ohio $473.50 cents.

Then there are 36 bottles and corks?—Yes.

What is the figure you have for them?—$6.12 cents.

Then there are the metal valves. There are ten gross of them, I think?—There are no metal valves in this invoice. I think they have got them mixed in some way.

Have you not taken out the metal valves for the same week? If you have not, you will tell me so. Have you not worked it out for the same week?—It is about 3*d*. for these little valves for putting into the end of the indiarubber. They come from the States, all of them.

Have you got the boxes there as coming from the States?—Yes, $5.

And the express to New York?—$8 58 cents.

Mr. Justice RIDLEY: What is that?—Express to New York from Ohio; that is the railroad charges.

What does that give us as a total?—The total is $854 20 cents., that is after deducting the discount on the fluid.

That is not taking into consideration the glass bottles nor the corks?—No.

Mr. Justice RIDLEY: It leaves one with no idea of what the price of each particular article is—not the slightest.

Mr. SMITH: It does in a way.

Mr. Justice RIDLEY: If you can give me the result following from that I shall be much obliged. I have it partly. I have the specific at 1*s*. 6*d*. an ounce, and the atomisers at 7*s* 9*d*. each.

Mr. SMITH: Your lordship sees in respect of those two articles this gives your lordship the price.

Mr. ELDON BANKES: I do not know whether my learned friend would agree to this. Taking all the figures he has given the cost to this gentleman of the atomiser is about 9*s*.

Mr. SMITH: I believe it is almost exactly right.

Mr. ELDON BANKES: Then we need not discuss about it because we can agree.

Mr. Justice RIDLEY: Including the box and the carriage and everything?

Mr. ELDON BANKES: Including everything.

Mr. SMITH: I think that includes everything except the rubber bulb.

Mr. ELDON BANKES: No, that is included too.

Mr. SMITH: Is the bottle from Paris included?

Mr. ELDON BANKES: Yes.

Mr. SMITH: I have not the least doubt that my friend is right, but I have somebody who will check it.

Mr. ELDON BANKES: We can try and agree on a figure.

Mr. SMITH: I have no doubt we shall be able to.

Mr. Justice RIDLEY (to the witness): Will you accept that figure as far as you are concerned?—9*s*.?

Yes.—I think that is very much correct, but the cost of the fluid, I think, is more than 1*s*. 6*d*. The fact is this: a quart of fluid makes 28 ounces and it costs me $14; you can figure it out for yourself. That is without any freight.

Mr. ELDON BANKES: But he sells it by the English ounce.

The WITNESS: There is a difference between the American ounce and the English ounce. The American ounce is a good deal larger than the English ounce. A quart should make 32 ounces—that is the American ounce—but we find by actual experience that it works out at about 28 ounce bottles from a quart.

An English ounce or an American ounce?—An American ounce.

You sell it according to the English ounce, do you not?—No, I sell it according to the American ounce. The bottles are made according to the American standard.

Mr. SMITH: In the estimates you have given me so far you have not dealt at all with working expenses. I want to ask you what your estimate is for working expenses as a percentage on the gross receipts.—Do you mean my office help?

Yes; offices and so forth?—My office help is now £20 per week.

That is very nearly £1000 a year.

Mr. Justice RIDLEY: What does "office help" mean?—There are typists. I have two typists, two bookkeepers, and two shippers.

Mr. SMITH: You keep those pretty busy?—Yes.

You yourself are able to carry on no other business at all?—No; my daughter is also associated with me.

So that is eight of you continuously devoted to the business?—Yes.

In the case of your own time and your daughter's time you cannot put a figure value upon it, but in fact you spend your business time upon it?—Entirely.

Does your brother, apart from any profit he makes on the sale of the specific, charge you anything for European rights?—Nothing at all.

He is your brother and you do not pay him for that at all?—No; nothing at all. He has a small profit on the specific only—nothing else.

In your view is he dealing with you on commercial lines?—He is not.

Have you formed an estimate of the value of the rights you possess?

Mr. ELDON BANKES: I object to that.

Mr SMITH: I submit I am entitled to ask this gentleman who is familiar with the circumstances under which the business is carried on.

Mr. ELDON BANKES: We have the figures.

Mr. SMITH: My friend says we have got the figures, but that is not the point in the least. The point is this: we sell the atomiser and we sell the specific, and one of the points on which they rely is the price we charge for it. I submit I am entitled to get from this gentleman that his brother because he is his brother allows him, free of all cost, rights in this country which have a specific commercial value if they are in the hands of a stranger. I submit I am entitled to do that.

Mr. Justice RIDLEY: I do not think you are. We have to form our own judgment.

Mr. SMITH: I do not know that it is of great importance, but I should submit I was. Here is a case in which a gentleman says, "I get this from my brother; he allows me to sell it without paying anything because he is my brother."

Mr. Justice RIDLEY: That is quite right.

Mr. SMITH: It was rather on those lines I was proposing to ask the question.

Mr. Justice RIDLEY: I *shall* ask the jury to say what they think the value is.

Mr. SMITH: I do not think it is worth pressing in any event.

At any rate, you pay your brother nothing, and you say in your judgment it has a commercial value?—I do; very great bottle would last at least two weeks of constant using, four, five, or six times a day.

Can you answer a simple question: Have you ever made any experiment to ascertain the quantity of vapour atomised if you follow these instructions?—I cannot conceive of any method by which it could be measured, it is so small.

Do you see here that you are advocating frequent use of the atomiser?—We insist upon frequent use.

Assuming that this liquid contains cocaine, I ask you, Are you not here advocating the very thing that is likely to produce the cocaine habit in the patient?—My experience proves that it does not.

That is your answer. One other question about the cure. Do you notice here in this passage that you draw a distinction between arresting the attack and curing the disease?—The facts are that mild cases, or many of them, are cured so that they never have another attack, but they are liable to, and much more liable to than persons who never had it.

I am passing through these things quickly that I am going to make points on. On the next page, 7, I ask you for your explanation of this statement; you will see your advice to the patient: "Eat light meals. Never allow yourself to eat until you have a bloated and distressed feeling in the stomach after meals," which is good general advice. "If you are in the habit of using alcoholic stimulants, morphine, opium, or other narcotics, abandon their use." Why do you say that?—Because they are very harmful to persons suffering from asthma especially and very harmful to all persons.

What is the difference in effect between, we will say, opium and other narcotics and cocaine or atropine?—This was written by my brother, you understand; it is not mine.

I quite understand that.—And I suppose he knows what he is saying.

But can you understand any honest man saying to a patient, "Avoid opium and other narcotics," and at the same moment giving him cocaine and atropine; can you understand any honest man doing that?—That is a supposition, and purely so. I do not know that I can give you a definite answer to a supposition of that kind. Our experience proves that it is absolutely harmless. Probably no man in England has used as much of it as I do myself.

These are the documents that are sent out from this private house of yours at Herne Hill?—Yes.

Do I understand that you and your brother are the persons who, if I may use the expression, "sell the articles"?—Yes.

You have two typewriters who look after the correspondence, and you have two bookkeepers who look after the books?—Yes.

And you and your daughter do the selling?—We dictate the letters that come in to our typists.

Is there anybody in the house who has ever had any medical training at all?—Not in connexion with this remedy.

I ask you, if that is so why do you send out the list of questions which the person who desires to have your remedy has to answer?—We send out that list of questions to ascertain whether the patient has asthma or something else.

Have you medical knowledge enough to know that there are very many illnesses, if I may use a general expression, the symptoms of which are precisely the same as asthma, or would appear to the patient to be the same?—It is true that patients themselves are sometimes deceived.

For instance, have you sufficient medical knowledge to know this, that the symptoms of heart disease may be identical practically with the symptoms of asthma?—I do.

So that a patient may think he is suffering from asthma when he is really suffering from heart disease?—Yes.

Is the same thing true of a patient suffering from Bright's disease?—No, I think not.

Have you sufficient medical knowledge to say that?—I have not sufficient medical knowledge, but I have sufficient common-sense to know whether a man has got asthma or whether he has got something else.

I am putting these questions to you and you think that is a reasonable answer. Do you know the disease called emphysema?—Yes, what is called that.

Are the symptoms of emphysema practically identical with those of asthma?—It is true that many medical men speak of an asthmatic as having emphysema as the result of asthma, and the terms are so interchangeably used and confused that they are not very clear.

Then I will not take one that will enable you to have that confusion in your mind. Let me take phthisis; that is a definite disease, is not it—consumption?—Yes.

Are the symptoms of consumption practically identical very often in the mind of the patient with those of asthma?—It is possible that a person may have consumption in a mild form which is not fully developed, and at the same time have asthma.

Is not it true that a person may be suffering from consumption and have symptoms which would make him believe that he was suffering from asthma?—They are very different, but a patient might so think.

That is all I am asking you. Let me take that. A patient may be suffering from heart disease and may think that he is suffering from asthma; a patient may be suffering from phthisis and may think that he is suffering from asthma. The only question you ask him is, not as to his symptoms so that you can judge, but you ask him: "How long have you had asthma?" and then he answers. Now I ask you, Do you suggest to the jury that these questions can in any way assist you as to whether you shall send out this stuff or not?—Sometimes they are so answered that I am in doubt and then I write and ask further questions and I ask them for the opinion of their family physician as to their ailment.

Do you not think that, as stated by one of your witnesses, these questions are calculated to lead patients to believe that they will be submitted to some person of medical knowledge who will be able to say whether the cure is applicable to their case or not?—Those questions were written by a medical man.

Was not the object of sending them out to lead the patients to believe——

No, that is not the object, to deceive them.

I do not know whether it is the object but do you not realise that the effect of that is that patients would believe that those questions were to be submitted to some medical opinion before this cure was sent to them?—It is possible that they might so construe it.

And, as a matter of fact, they would be received into this private house where there is nobody but you and your daughter, who do not profess any medical knowledge at all?—My experience has been that I am able to judge very accurately as to the case when I get those questions answered.

The only case that I can deal with is this man Cushing, because those are the only questions that we have seen or that we know about. Let me ask you to consider what the questions and the answers were? What you state on the top of your paper is: "Dr. Tucker's Asthma Specific, Chief Dispensary, Mt. Gilead, Ohio, U.S.A. Headquarters for Europe: '*Onaway*,' *Half Moon-lane*, Herne Hill, London, S.E. All correspondence should be addressed to A. Q. Tucker, General Manager. This blank to be filled up on both sides and returned." Then you ask the man his name and address and you ask him his age and his occupation. What do you ask him that for, because, according to you, this remedy is applicable to anybody between the age of a few months and any age you can live to?—Any man who follows stone-cutting or works in a flour mill or a warehouse is filling an avocation which is liable to develop asthma and aggravate it materially.

Why do you ask his age?—It is not so very important that we should have his age, yet we like to know whether we are dealing with a person in vigour or whether we are dealing with a very old person.

But according to you it is equally applicable and you send it out whether he is three or whether he is 50.—That is right.

Then why ask it?—It is merely to know more about the patient—to get familiar with his case.

Is it because you are following the form which is frequently followed when people try to treat patients by correspondence?—The questions were asked by my brother, the medical man.

By a medical man and to be submitted to a medical man?

Mr. DUKE: He does not say his brother has them submitted to him.

Mr. ELDON BANKES: Your brother had them submitted to him. He wrote them.—Yes.

And they were a form which he himself used?—Yes.

"Name and address; age; occupation; how long have you had asthma? Do you know the first cause of your asthma? If so, state it. When do you suffer most from asthma, summer or winter? How frequent are your attacks? Are your attacks more severe at night than during the day? What remedy are you now using to relieve attacks?" You have only one remedy, have you?—That is all.

distinct. He said, "I do not claim that it cures asthma"; then my friend said, "What do you say it cures?"

Mr. SMITH (to the witness): Just take your pamphlet in your hands.

Mr. Justice RIDLEY: He said it does not cure the liability to asthma.

Mr. SMITH: Yes, that is what he says.

Mr. ELDON BANKES: I object to the form of my friend's question. The witness says he does not claim that it cures the liability to asthma. Then my friend says, "What do you claim it does cure?" and his answer is, "I do not claim it cures anything."

Mr. SMITH: It is so easily put right I should not have thought it was worth while wasting time on it at all.

Mr. ELDON BANKES: Then put it right.

Mr. SMITH: Will you look at the first page of the pamphlet, the one that has the illustration. You say here, "Specific for the perfect relief and cure of asthma and hay fever." I will ask you on that, When you call it a cure there in what sense do you say it is a *cure*?

Mr. ELDON BANKES: I object to that. The document speaks for itself and the question is what people receiving this document will understand and not what this gentleman chooses to mean by it.

Mr. SMITH: The submission I make to your lordship and the question I tender is this: Do you cure asthma? I am quite content to take it in that way if your lordship thinks that is a proper question.

Mr. Justice RIDLEY: He says he does not.

Mr. SMITH: I understand so, and then I propose, if your lordship thinks it is a proper question, to ask him: "In what sense do you say on this page it is a cure of asthma?"

Mr. Justice RIDLEY: I think you ought to ask more generally—What other effect does it have on asthma beside relieving and arresting paroxysms?

Mr. SMITH: I am obliged to your lordship; I will put it in that way.

What other effect upon asthma has it than that of alleviating the paroxysm of the attack?—It indirectly has this result: the patient is able to sleep, able to eat, and able to exercise, which renders him much stronger and less liable to a recurrence of the trouble.

What effect would a succession of attacks have upon the rallying power of the patient?—It has a tendency to destroy the rallying power and weakens the patient.

You say by giving relief from the attacks it strengthens them?—It strengthens them by reason of rest and absence of suffering.

You say you have had many years' experience of dealing with asthma, although you are not a *doctor*? *Is* your practical view that asthma is local or constitutional?—Local.

Apart from asthma, do you hold out *your* specific as being beneficial in other more or less *analogous ailments*?—It is equally efficacious in hay fever and a very great relief to nasal catarrh.

I want to ask you about this man, Alfred *Cushing*. *Did* you receive an application from the deceased man, Cushing, on or about the 2nd of February, 1904?—I did.

Is that it? (Document handed to the witness.)—That is the one.

"Occupation?—Fitter. How long have you had asthma?—Seven years. Do you know the first cause of your asthma; if so, state it.—Through having bronchitis. When do you suffer most from asthma, summer or winter?—Winter. How frequent are your attacks?—Very *often*. Are your attacks more severe at night than during the day?—No. What remedy are you now using to relieve attacks?—Cod-liver oil as tonic. Does the remedy generally give you relief?—Yes. During the intervals between the attacks is your breathing perfectly free and easy?—Breath always very short. Do you have nasal catarrh?—Yes. Did you ever have hay fever?—Yes. Do you sneeze often?—No. Do you expectorate much?—Yes. Do you live where malarial fever prevails, or fever and ague?—No. Do you use alcoholic stimulants?—Yes, a little whisky sometimes. Do you use morphine or opium?—No. *Is* your general health good?—Yes." I will hand that up to your lordship. Was it on that form so filled in that you supplied your atomiser and specific to this man, Cushing, on whom the inquest was held?—I did.

Did you send him the atomiser and the specific for trial? He asked for it on trial. I think?—He did.

And you sent it about the 4th of February?—I did.

Did he keep it for a fortnight?—He did.

So that during those 14 days he had the opportunity of judging for himself whether it was beneficial or not?—He did.

At the end of the 14 days what happened then?—He sent in his £3 and we forwarded him two ounces of fluid.

Making up the balance of four ounces?—That was the first instalment.

You sent him two to start with for a trial?—No; we only give half an ounce for a trial—that is a gift.

Can you tell me whether having had his trial, having had the first instalment of the specific, he sent for more afterwards?—He sent for the second two ounces later; I think it was some six months afterwards.

I have a letter here from him to you:

> SIR,—Please find enclosed order for one ounce of fluid. Having had the misfortune to crack my glass that holds the fluid, kindly let me know the cost of a new one.
>
> Yours truly,
> A. CUSHING.

I do not know whether you can tell us about when the date of that application was?—I do not think I could.

Mr. DUKE: Just look and see; there is a memorandum on it. (Document handed to the witness.)—I see written here in pencil about such a date.

Mr. SMITH: Do you know who has written it? If you do not we will get it from someone else.—It is one of my helpers in the office.

Then he will be able to tell us. Do you know of any other A. Cushing on your books?—There is no other.

So that any order that is signed Cushing is from him?—Yes.

I think in the early part of January last you received from correspondents a notice of this newspaper report on the inquest of Cushing?—I did.

I need hardly ask you had you any opportunity of being present at the inquest or did you know that the specific was to be mentioned at the inquest?—I knew nothing about it until in one of my morning's mails I had about half a dozen clippings sent to me by my patrons. That is the first knowledge I had of the inquest.

I want to ask you about your customers. Have you had among your customers, or your patients, I think you call them, medical men?—Oh, *yes*, a good many.

I want you to take your books.

Mr. Justice RIDLEY: I do not think it is necessary for you *to do that now. Let* Mr. Bankes do it if it is necessary. Cannot you take it generally?

Mr. SMITH: May I take it a little more particularly? Can you give me a rough idea of how many medical men there are on your books?—There is something in the neighbourhood of 300.

What proportion of those are in England? My friend can ask you the names if he wants them. Do you know roughly what proportion are in England?—I think less than half are in England. The larger number are on the continent. There are no doubt many more that are medical men, but they have failed to give their title, and we do not know whether they are doctors or lawyers, or who they are.

My learned friend Mr. Duke mentioned Sir Stephen Mackenzie. I want you to tell me, have you supplied any to Sir Stephen Mackenzie?—Yes; he is one of *our* oldest patients. I think it is some six years since he began; five years at least.

The earliest date, I think, is July 1st, 1901?—I think that was the time he got it.

Mr. ELDON BANKES: If you are going into that will you have the book produced?

Mr. SMITH: Yes.

Mr. Justice RIDLEY: You must not take it merely by naming the doctor that I am acquainted with him.

Mr. SMITH: I will ask a question about that. *Who is* Sir Stephen Mackenzie?—I never met him personally. We did our business by correspondence. I understand he is a physician standing very high in his profession.

Mr. Justice RIDLEY: Sir Morell Mackenzie I know.—This is a relative, as I understand.

Mr. SMITH: Whilst the books *are being* produced I will just ask you this question. Is this letter dated Oct. 15th, 1907, from Sir Stephen Mackenzie?

Mr. ELDON BANKES: I object *to that*. My friend cannot possibly put in letters.

Mr. SMITH: It is only an order.

Mr. DUKE: The witness *needs* to have his memory refreshed as to the period of time when Sir Stephen Mackenzie was a customer.

though he would have sold it at one time without a signature; but it may not apply to all chemists.

Mr. DUKE: The particular syrup your lordship is referring to is probably sold without any signature.

Mr. Justice RIDLEY: I could not get it the other day.

Mr. DUKE: I have not tried the other day, but it is not very long ago.

Mr. Justice RIDLEY: It is not quite the same thing. It depends where you go, I daresay.

Mr. ELDON BANKES (to the witness): I put to you a document which you say has only come into existence recently.

Mr. Justice RIDLEY: I suppose we shall have some general question to discuss here about the presence of poisons in these medicines. Then it becomes a question of quantity, does it not, if one may clear the air? Poison is a relative term. Strychnine is a drug properly administered, so is arsenic, and so are all kinds of poisons; it depends on the quantities.

Mr. ELDON BANKES: My evidence is that these poisons are present in this liquid in considerable quantities and my medical evidence is in such quantities that the use of this stuff in this indiscriminate way is a public evil.

Mr. DUKE: That is not the case that is raised on the pleadings.

Mr. Justice RIDLEY: The reason I put the question was it seems to me that the presence in small quantities does not prove that they are deleterious because they are constantly administered in the proper proportion.

Mr. ELDON BANKES: I quite agree.

Is not it the fact on every possible occasion you have always represented to everybody who has asked the question that this treatment of yours is perfectly harmless?—I do absolutely.

I have taken that statement. Now there is the letter to Cushing. You wrote a letter on Feb. 2nd to Cushing saying—

Mr. DUKE: That is not in at the moment.

Mr. ELDON BANKES: I am putting it in. "2nd February, 1904. Your order for a two weeks' trial received and we will forward the outfit to you to-day by parcels post. You will find printed instructions in the box directing you how to use it and so forth." Then at the end he says: "Now, in closing I may urge you again to read and follow the printed instructions sent you in the box. By doing so you will find the treatment both easy and pleasant to use; it is perfectly harmless."

Mr. DUKE: That letter is in.

Mr. ELDON BANKES: Yes, that letter is in. The witness says, and perfectly fairly says, that is what he has always said to everybody.

Mr. Justice RIDLEY: Have you got that letter?

Mr. DUKE: No, that is why I was anxious it should go in.

Mr. Justice RIDLEY: I suppose you have only a copy of it.

Mr. DUKE: If so, my learned friend will have to prove it.

Mr. ELDON BANKES: I can get the original and I will ask the witness if there is any point about it.

While that is being looked for I will ask you something else. You have talked about your business as between yourself and your brother. Do I understand that the parts of the atomiser which come from America and the liquid are both invoiced to you by your brother?—They are.

So that he charges you what sum he thinks proper and you pay him direct?—Yes.

You do not pay the manufacturer of the atomiser but you pay him?—I pay him.

The price which you pay him, I understand, roughly speaking, works out at about 9*s.* for the atomiser and something between 1*s.* 6*d.* and 2*s.* an ounce for the liquid?—It is something over 2*s.*

We will take it for working purposes, without desiring to be absolutely accurate, at about 2*s.* and 9*s.* Would that be about right?—That is about right, but it is a little under.

Therefore your brother is prepared to sell the stuff to you at that price?—Yes.

Do you know that the actual cost of each ounce of liquid is about 3*d.*?—I know nothing about it—absolutely nothing.

So that the position is, if I can prove that the cost of the stuff per ounce is about 3*d.*, your brother charges you about 2*s.*, which is a very fair profit for the cure and everything else, per ounce, and you, as between you and the public, raise that 2*s.* to 8*s.* That is the business view of it, is not it?—No, it is very different from that.

If those are the prices that is the business view?—That is on the supposition that this does not cost anything, or practically nothing.

I am asking you to assume that the liquid can be bought and compounded at about 3*d.* an ounce.—It cannot for any such amount.

I am going to give evidence about it. Assume that, and we know that your brother charges you about 2*s.*; when it arrives here you charge the general public 8*s.*, although, so far as the cure is concerned, you have had nothing to do with that. It is your brother who has invented the cure and has taken the payment for that in the difference between the cost of the stuff and the 2*s.* he charges you. That is a very satisfactory increase of price, is it not?—On that 2*s.* you have to put another 1*s.* for medicine stamps. You have to put on the mailing cases in which it is sent, the bottle in which it is sent, the cost for sending it, and the carriage across over here.

I have included the carriage in the 2*s.*—That does not include it. The actual cost is over 2*s.* in Mount Gilead, Ohio, per ounce.

You have given us some figures as to the business done, and you have disclosed your books to us, and we have had an opportunity of looking at them, and I find that you keep your books in this way, that you have got one column, amount received, and in another column you have got the amount deposited. Does the amount deposited mean the amount you have paid into the bank?—Yes, it does.

Are all your general expenses, apart from what you pay your brother by cheque, paid by you before you pay these amounts into the bank?—They are not; they are paid out of that which goes into the bank.

I see. For instance: for the year 1906, your gross receipts are £19,641, and you paid into the bank £18,301. How do you account for the difference? Are they payments on account of the business?—The difference is made up by the payments in cash by those who call in the office. We receive all the way from £3 to £10 a day direct from our patients who come to the office, but the deposit is just what is deposited in the bank, and that is made up of cheques and postal orders. We turn no cash into the bank.

But you pay a large proportion of your working expenses out of the cash you receive over the counter?—Some parts of it, but most of it is paid out of the banking account. All the money sent to the States is sent by New York draft through the bank.

That appears in your pass-book, does not it?—Yes.

I have had that taken out. Is it accurate that you received over here in England, gross £19,641, or thereabouts?—I do not know what I did pay him in any one year.

Would you say about £5600?—Yes; it is probable that it is pretty nearly the thing.

About right?—I do not know; it may be or may not.

If that is right the difference represents the increased cost which you put upon the article over and above what you paid your brother for it?—No, it would not.

Not altogether?—No. Here is an item that I pay: from £40 to £60 a month for these rubber bulbs.

I quite agree; and the bottles?—Yes; I pay from £10 a month for bottles, the glasses, and we have all the mailing cases in which this fluid is sent through the country; they mount up to a large sum. The amount that is sent to my brother does not cover nearly all the expenses by any means; the materials that enter into it I do not get from him.

As to this gross amount of £19,641, are the agents' commissions deducted from that before it is entered into books?—They are all included in that up till quite recently. I think it is only some eight or nine months since they were not included. Up to within the last eight or nine months all the commissions were included in the £19,000.

May I take that the relative year's trading in the year 1906 the gross figures £19,641 did include the agents' commission?—Yes.

But the figures which have been given us for 1907 do not include it?—Since May, I think, or about that time, we cut them out. You understand that our business is run presumably on a cash basis although we cannot quite make it so. Secondly, we do not keep a debtor and creditor account. The only accounts we have up till May are the gross receipts and the amount of money that I sent out, and there has been no account kept of the expense, but since May I have been keeping an accurate account of all expenses as well as income.

Mr. ELDON BANKES: Mr. Smith gave us the figures of

Are you prepared to dispute that both those are poisons scheduled to the English Pharmacy Act?—I do not know much about the Pharmacy Act; I do not know that I ever read it.

Listen, Sir, do you defend sending out indiscriminately these enormous quantities of this liquid without either inquiring what the constituents are or what harm they will do in certain cases?—I do.

Now let me ask you a word as to the method in which you carry on business. I understand it is carried on at this private house at Herne Hill?—Yes.

Does your name appear in the Directory?—In the neighbourhood directory it does.

In the London Directory?—I do not know whether it is a general directory of the whole city or not.

Do you insert your name anywhere in any commercial directory?—No; I think it may be in the telegraphic directory.

You do not let anybody know publicly that you are carrying on business?—No; we do not advertise at all.

You do not advertise at all in the public press?—No.

Is that because you do not desire public attention to be directed to what you are doing?—We do not think it pays in the first place, and in the next place we have no occasion to do it.

I am coming in a moment to what you do. You have not inserted your name anywhere in any commercial directory?—No.

And you do not advertise in the public press?—No.

But what you do, as I understand, is to send out large numbers of these pamphlets?—Only in response to inquiries.

Have not you agents who are distributing these?—Only when they are written to in regard to it. Instead of writing a letter they send the printed one in the first part of this book; it is merely to save the trouble of writing letters, that is all.

About how many copies have you had in each edition of this pamphlet?—The last edition was, I think, 25,000.

So that you have issued these pamphlets and you have now arrived at the fifth edition?—I think so, the fourth or the fifth.

Has each edition been 25,000?—No; only the later ones have been thereabouts.

So that somehow or other you have been issuing these things to the extent of four editions, amounting to many thousands of copies?—Yes.

You desire people to read this to ascertain what it is you have got to sell them?—We give them this to save writing a long letter explaining our theory of the treatment.

This opens with a picture.—Yes.

And it is headed "Nathan Tucker, M.D."—Yes.

Is that a picture of Nathan Tucker or a picture of you?—No, it is Nathan Tucker.

Is not this a picture of yourself?—No, it is not.

You are very like each other.—Yes, in some respects.

In appearance, may I say. Who wrote this; did you write it, or your brother?—The article following the picture?

The pamphlet, yes.—The first part of this is written by my brother.

I want you to turn to page 6. Do you find on page 6 in the second paragraph, "Asthmatics who have organic heart disease or weak heart action can use the remedy with perfect safety"?—Yes.

Have you sufficient medical knowledge to know that that is an absolutely incorrect statement having regard to the fact that this contains cocaine?—I know that this is absolutely true from experience, and it is the statement of my brother, not mine.

Never mind; it is you who issue this in Europe.—I publish this in Europe.

You take the responsibility for publishing it?—This is published as an article written by Dr. Tucker.

And it is issued by you in order to encourage the sale of the specific in England?—Yes.

On page 7 with regard to this you say: "The advice frequently given, 'Physician, heal thyself,' has been accomplished in this instance, and we now offer to suffering humanity the result of 20 years' experience which has finally worked out a cure for asthma and hay fever as well as all other catarrhal diseases of the air-passages." Are you there claiming for this that it effects a cure of asthma?—A cure in one sense and not in another—not a cure to any liability to it.

Have you explained anywhere in this pamphlet the sense in which you there use the word "cure"?—We would not regard it as much of a compliment to a man's judgment to explain to him that this remedy is not designed to cure the tendency of the disease of asthma.

This is the document which you send out, by which, I suggest to you, you claim that it cures asthma?—We claim that it cures the attack and it cures to a certain extent the recurrence, but a severe cold will develop it just as quickly as it did before.

Let me read again what you say: "We now claim"—that is you and your brother?—The word "we" is used by my brother in the sense that it is frequently used by writers.

"We now offer to suffering humanity the result of 20 years' experience which has finally worked out a cure for asthma." I ask you, Would not any person reading that understand that what you were offering him was not a relief from paroxysms but a cure for his disease?—I understand that you cannot cure any disease unless it is small-pox or measles so that you cannot develop it again, and we never claimed to. It would be simply absurd to claim such a thing.

There is another document you send out, is there not, the document which you call the instructions?—Yes.

I want to ask you a word or two about that. This is the directions for use, is it not? If you turn to page 5 you will see the instructions: "How to fill the lungs with vapour."—Yes.

You say: "How to fill the lungs with vapour in order to arrest an attack of asthma is the all-important question, which is easy of accomplishment when understood, yet we have had no little trouble in some instances to get patients to comprehend it. The first step in the operation is to first exhaust all the air from the lungs. In order to simplify the balance of the process I will ask you a simple question, which is as follows: Did you ever expand the lungs by closing the mouth and commence drawing in air slowly through the nose until you have filled the lungs with their utmost capacity? If so, this is just what I want you to do, but while you are doing this you are at the same time to be pumping in vapour with the inhaler into one nostril, so that while air is being taken in it carries the vapour along with it into the lungs. This is all there is of the treatment in a nutshell. When the lungs are filled with air and vapour take the instrument from the nose. Now as you expel the air from the lungs you will notice quite a cloud of vapour escaping from the mouth. The vapour which escapes is the surplus that has failed to lodge in the air passages and is also a test that the vapour has reached the lungs. If you are unable to see any vapour escaping from the mouth you may know, to a certainty, that there is no vapour in the lungs to be expelled and that you have failed to inhale properly. Now repeat this process, the next time through the other nostril, and thus continue to do until relieved. You will find, if you stop inhaling, a little short of perfect relief, the spasm will gradually subside. Some can succeed better in filling the lungs with vapour by stopping one nostril with the finger while inhaling through the other side. The length of time required in using the Atomizer in order to get relief will vary from two to five minutes, according to the severity of the attacks. Please do not cough while inhaling, but wait until the spasm yields. In a short time you will expectorate without any effort. Coughing always aggravates asthma and should be suppressed, which is easily done, as the vapour is non-irritating. Coughing tends to keep up the irritation, just what we want to avoid. You are to use the Atomizer four times daily, whether you have asthma or not and as many times oftener as may be necessary to relieve the attacks. You will notice by the above instructions that it is necessary for the vapour to reach the lungs in order to arrest the attacks, heal the mucous surfaces, and cure the disease. Also remember that the more vapour you get into the lungs at one expansion the quicker you will get relief. You ought to be able, by practice, to compress the bulb from three to five times with one long drawn inspiration and not to breathe out during this time." Have you ever made any experiments to ascertain the quantity of liquid which will be passed into the nostril of the patient if he follows your instructions?—It would be so infinitesimally small that you could not estimate it.

Have you ever made any experiment to try?—I use it myself daily and have for 17 years on an average at least four times a day.

Have you ever made any experiment which will enable you to say the quantity of liquid which is atomised if you follow the instructions here detailed?—The amount of fluid in the that proprietary article, and therefore I make that remark. I wish people would be more accurate when they report what I say. Of course, it has nothing to do with the case, but I wish just to say that.

AUGUSTUS QUACKENBUSH TUCKER, *recalled, further cross-examined* by Mr. ELDON BANKES.—I wanted to ask you a few more questions about these atomisers. Have you your atomiser here?—Yes.

And the one you produced yesterday, Oppenheimer's?—Yes.

Did you buy that?—I bought one, but I do not think this is the one.

You can tell me, I daresay, what the retail price of that is?—The one I bought was six or seven years ago. I think it was 6*s.* 6*d.* or 7*s.* 6*d.*, but I will not be sure which.

6*s.* 6*d.*, I suggest to you?—I think perhaps that was it.

In regard to that atomiser, I will ask you about one or two more in a moment; I do not want a great number—that one does produce, does it not, as fine a vapour as yours?—I think it does—sufficiently fine at least.

And the only complaint that you make about it, as I understand, is that each compression does not vapourise so much liquid?—Well, that is true there is but little vapour produced.

Have you ever tested them to see exactly what the difference between the two is in that respect?—Yes, repeatedly.

I suggest to you that the difference is this, that in 100 compressions of yours which would vaporise 0·60 of liquid, Oppenheimer's in 100 compressions would vaporise 0·40?—I do not know about that.

Mr. DUKE: That is two of Oppenheimer's and three of his, to put it simply, if I understand the formula.

Mr. ELDON BANKES: It requires more compressions of Oppenheimer than it does of his.

The WITNESS: I should say Oppenheimer would produce not more than one-fourth of what ours does.

That is your idea?—That is my opinion about it.

Assuming the figures are such as I suggest, would it make any difference at all to the patient?—Decidedly.

Mr. Justice RIDLEY: If they were 0·40 to 0·60?

Mr. ELDON BANKES: Yes, in 100 compressions, your lordship will see.

Mr. Justice RIDLEY: I do not know how you get a percentage; it is not a percentage of anything.

Mr. ELDON BANKES: Of a grain of fluid.

Just let me ask you to look at these two; these are quite sufficient for my purpose. Are you familiar with the atomisers that are sold by Rogers in *Oxford-street*; have you seen those before, or similar ones? (Two atomisers handed to the witness.)—I have seen something similar, not exactly the same. I have seen every principle of every atomiser that has ever been made, I think, but not all of different individuals. There are hundreds of them.

Have you ever tried those?—No, I never tried that.

That produces a very fine vapour, does not it?—I will tell you better in a moment.

You had better take a piece of blotting paper if you want to try that.—No, not blotting paper.

Well, sterilised paper?—Ordinary writing paper.

Mr. Justice RIDLEY: Try the Government paper; that is the best of all.

The WITNESS (after trying atomiser): That is a vapour: it is all right.

Mr. ELDON BANKES: Now try the other one in the same way if you like? (The witness did so.)—That seems to be all right, too.

Just hold that up; that is a very powerful one, is it not?—Yes.

And as powerful as yours, apparently? It is your liquid, I think, in that?—No, that is not mine.

I beg your pardon, but that is one of the same specific gravity?—The only test would be that the same liquid should be in both.

I quite agree. If you have any of yours we will put it in.—I have not any right here.

Just send for a little of yours and we will empty it in. Whilst they are fetching that let me ask you this: Your atomiser consists of two parts; that is to say, there is the sprayer and the vaporiser?

Mr. Justice RIDLEY: Can you identify the second one produced?

Mr. ELDON BANKES: Yes, it is Rogers'; there are two of Rogers'. I have not bought any quantity. The gentleman fairly enough says there are any number of them made. This is one of your own. You put *this* on the top of yours and screw it on in order to create the vapour?—Yes.

If this is taken off and then compressed there is a very much larger amount of liquid which will come through the orifice?—It throws a spray of a large quantity of liquid.

Have you ever seen any of your patients using it in that way?—I never did.

It has never come to your knowledge?—No; but I have no doubt some of them have done it.

Of course, if they do that they will be able to inhale a very much larger quantity of liquid?—They will fill their nostril full and it would not go down into the bronchial tubes at all.

Without any warning that this contains cocaine or any dangerous poison, if a patient got relief from it he would naturally think, when you have told him it is perfectly harmless, that the more he could take the better?—He would not get it past his nostril if he used the spray.

But inhaling it in that way it would pass into his system?—Not to any extent; it would run right back out of his nostril; it would be a douche; that is what it would amount to. He would not get as much into his system as he would by using the other.

Have you got your own liquid now?—Yes.

Have you filled it?—This is our own. (The witness demonstrated.) It does not produce anything like the volume that it did before.

Mr. DUKE: That is to say, it would produce with the other liquid a large volume, but with yours it will not produce so much?—There is much less volume of vapour with this fluid than with the other.

Mr. ELDON BANKES: I cannot see from this distance.

The WITNESS: Well, you could see the other, could not you?

Mr. ELDON BANKES: Yes.

Mr. Justice RIDLEY: Now try your own and let us see. Would not that be fair?

Mr. ELDON BANKES: Yes.

The WITNESS: (After demonstrating.) This throws a stronger volume of much more force. If I may be allowed to explain, I can show you the essential difference in these instruments. These instruments produce the vapour in the chamber; the other instruments produce the vapour in the bottle and the amount of pressure that you get throwing out the vapour is simply the pressure of the vapour, a sufficient quantity of it in the bottle forces itself out by pressure, and that constitutes the principal difference in these instruments.

Is not this the fact? You see this yourself; it has got a bend in it. When you compress this you force the spray, as I will call it—the air pumping into the bottle creates a spray?—It creates a spray in the chamber, not in the bottle.

And then it is forced up, and the point of contact in yours is this point (indicating)?—Yes, that angle.

And the spray is changed into vapour at that point. It is the point of contact that reduces the volume of it and turns it from spray into vapour?—You are correct in that only that there are two angles that it strikes instead of one.

It is quite an immaterial point, but as you have put it to me I suggest to you that one of the disadvantages of yours as against this is this: that if you have your point of contact in the nozzle, and the patient is blowing very hard, it is quite possible that some of the spray passes through the nozzle: if you produce the vapour in the bottle there is no chance at all of the spray passing through the nozzle?—You are correct in this in so far if the instrument is not in proper condition it would be possible to throw a spray out of that nose-piece up *here*. That is quite true, but the instrument would not be working properly if it did so.

But if the spray is produced in the bottle that disadvantage is avoided?—Yes; but you could get no force.

Very well, that is your point. Do you not in some of your papers—I cannot put my hand on it for the moment—represent that this liquid is quite safe because such small quantities of it are inhaled, and as proof of that you call attention to the fact that if you press the vaporiser against a piece of paper as you did just now no mark is made. Do you state that in some of the papers you sent out?—I do not just put it in that shape, but it is a fact. It is true that the infinitesimal quantity, even were it a deadly poison, would be harmless used in such small quantities.

This is what I am alluding to. This is what is said in this paper you told me yesterday you had recently had and sent out recently: "There is one thing that is not considered by

Then what does it matter whether the attacks are more severe at night than during the day if you give the man the same thing whatever his answer is?—Because it brings out one characteristic of the patient's condition. Nearly all asthmatics are worse at night than during the day, but if it comes out that they are worse during the day than during the night it brings out this fact, that exercise has something to do with it.

What does it matter to you, because you have the same instructions how to use the thing for everybody, and you give everybody the same stuff?—But supposing I find by these questions that the patient evidently does not have asthma at all, I then write to him and say, "This remedy will probably do no good whatever."

Your question is, "How long have you had asthma?" Supposing he said, "I have never had it." I do not know, but perhaps you would say, "I shall not send you my stuff," but, if he says, "I have got asthma," what possible ground is there for asking whether he has it more in the night or more in the day, except this, to lead him to suppose that somebody is going to look at this who will vary the treatment according to his answers?—You cannot get a direct diagnosis of an asthmatic's condition without just about those questions, and they do bring it out.

What is the good of a diagnosis to you if you are going to give every man the same stuff and give him the same quantity?—It is a question of whether we give it to him at all or not.

The answer this man gave you to your question, "What remedy are you now using to relieve attacks?" is "cod-liver oil as a *tonic*." If you had been a medical man would not that indicate to you that this man was probably suffering from consumption and that some medical man had ordered him cod-liver oil because he was *suffering from* consumption?—I always expect, when I find a man is taking cod-liver oil, he is in a very much run-down condition and is being fed up.

One of the grounds on which you would feed a man up would be that *he is suffering from* consumption?—Yes.

Let me understand you. Here is a man who says he is suffering from asthma. You told me yourself he may believe he is *suffering from* asthma *but* is really suffering from consumption. You are told he is being fed up with cod-liver oil. You tell me you do not think your treatment is suitable for a consumptive patient, but you sent him this and charged him £3 for it, knowing he was a fitter.—A fitter? I do not understand the term.

Well, a man earning weekly wages. Do you attempt to justify that?—This man was sent this remedy for a two weeks' trial and then he was to decide whether he wanted it or not, and it did not cost him one farthing.

Now I will ask you about the two weeks' trial. Do you know that the effect of cocaine is to deaden the mucous membrane?—I do not know.

Let me understand. Supposing a man suffers from these paroxysms of breathlessness, or whatever it is, and you administer cocaine to him, it will probably relieve him, although it may do him great harm in other respects. Do you follow that?—Yes.

So that if you give a man a fortnight's trial you know that the effect of this deadly drug will be to give him relief and you do not care the least whether it is ultimately going to hurt him or not?—The facts are that it never has injured a solitary man yet; not one.

So you say.—Well, find one if you can; bring him in out of the 25,000.

You must wait until I come to my evidence. The fact is, this man died, an inquest was held upon him, and the fact was proved that he died of long-standing phthisis.—That is the report, I understand.

And it was that fact, was it not, that you had supplied this treatment at £3 to this man which led to the remarks of the coroner, which in their turn led to our remarks?—I do not know what led to your remarks.

Very well, we will see. There is one other document. Is that a document which you circulate in England (same handed to the witness)?—This was sent to me very recently and I have sent it out in a *few instances* when this question was raised in answer to the query as to what was in it. Sometimes our patrons want to know, and they say they have been told it contains certain things detrimental to health, and instead of writing a long letter I inclose this.

You composed it?—No; *my brother* composed it.

Was that sent because you had heard it suggested that your specific contained cocaine and other drugs?—This was written by my brother, printed in the States, and sent over here I think about a year ago. That was the first time I had ever seen it. It was to obviate the difficulty of writing long letters explaining effects of the medicine, if there was any bad effect. I do not think there have been more than 40 or 50 of those *ever left the office. It is possible there may* have been that many. It is only in answer to inquiries that that has been sent out.

This is what your brother apparently says: "We are occasionally asked the question, 'Will the continued use of the asthma remedy produce any injurious effects?'" Have you ever heard it suggested that the continued use does produce injurious effects?—I never did.

So that this is some complaint that has been made to your brother that has not reached you?

Mr. DUKE: He does not say it is a complaint; he says it is an inquiry.

The WITNESS: The question is raised by the suggestion of some party who evidently is jealous of the success of this remedy.

Mr. ELDON BANKES: That is what you think. It was their suggestion that it would, if used continuously, have bad effects?—That suggestion goes out, people become nervous, and they write in asking questions about it.

Have you heard of this suggestion before this case?—Yes.

You have often heard of it?—Oh, yes; it has been at work ever since we started.

You choose to put it down to jealousy?—I do.

But you have heard the suggestion that the continued use of your treatment does produce bad effects?—That question has been *raised* and it has been hinted that that is the effect by jealous parties who are interested to curtail the sale of it.

Do you know that this *specific* of yours has been the subject matter of discussions at meetings of medical men?—I know it has.

Do you know it is commonly known in the medical profession for some time that this specific of yours contains *poisons—among some medical* men?—I know there are some few medical men who have sought to criticise it and actually put the idea that it was a dangerous remedy.

But it has come to your ears, has it not, that amongst certain members of the medical profession it has been known for some little time that it contains cocaine?—They say it has; I do not know.

But you have heard that?—Yes, I have heard it.

Do you really *say* that hearing the statement some time ago that it contained cocaine you have never taken the trouble to have the stuff analysed?—I do, emphatically.

Have you never taken the trouble to ask your brother whether it did contain cocaine?—I never did.

Is that because you were anxious not to know what it contained?—I have nothing to do with compounding it in any way or shape. My side of the business is simply commercial and my brother's is the medical.

To sell things which, if they contain cocaine, would bring you within the Pharmacy Act?

Mr. DUKE: It is a question of law as to the quantity; whether a certain element, cocaine or other ingredients, such as mentioned would bring a person selling a preparation of this kind within the authorities depends on the amount.

Mr. Justice RIDLEY: I discovered accidentally that a chemist who would supply you with a patent medicine without question a year ago would not supply *it now* without your signing a paper.

Mr. ELDON BANKES: There is no alteration in the Pharmacy Act.

Mr. Justice RIDLEY: But there is in the way it is administered.

Mr. ELDON BANKES: It is only because it has become known *that some* of these medicines contain these poisons.

Mr. Justice RIDLEY: The medicine I mean *contains* strychnine and it was known years ago—everyone knew it, Fellows's *Syrup of Hypophosphites. People* constantly buy it, and a most useful thing it is, I believe. It certainly contains *strychnine*. I was talking to a medical man about it the other day. Therefore, I thought people were more strict about it now.

Mr. DUKE: It very possibly is so; I do not know how that is. Of course, if the *fact* be that this gentleman must employ a chemist to sell these things, he must employ a chemist.

Mr. Justice RIDLEY: A chemist will not sell it to you now, Do they or not give up the use of your brother's preparation after having tried these others?—I do not know that any of them have given up ours to use others, but I know they have tried it out of curiosity and dropped it at once.

How long will one of your atomisers last?—Some of them have been in use six or seven years; it depends altogether upon the user. Some people will take care of things and others do not.

If a man has got your atomiser first he will not want a new one?—No. The average length of the life of the atomiser would be at least five or six years, and in many cases twice that.

Mr. DUKE: With regard to the fluid, that exhausts itself in use, of course?—Yes.

And you charge a very large price, as it is said, 8*s*. an ounce, for the new supplies of the fluid?—Yes, after the first four ounces.

Do you find that your customers, in spite of the suggestion there is that there are others as good, continue to deal with you for the expensive article that you supply?—They do. In a very few instances I have had them ask me to reduce the price or they would have to resort to some of these imitations. I have told them to try them, and that has always been my answer.

Have you found some of them have tried them?—They have tried them, but they have not tried them very long.

They came back to you?—Always came back.

We have one or two witnesses here to deal with that matter. My learned friend referred to your books. Did you produce everything relating to your business to the defendants in this action?—Everything that was asked for.

In order that they might see how your business was carried on?—Yes.

The information that my learned friend has been putting to you has been the information which you supplied him with?—Yes.

My learned friend asked you about a good many of the atomisers. Do you know that in the course of the interlocutory proceedings with a view to this trial the defendant was asked to say what the atomiser was which he relied upon as competing with yours, and he was unable to do it?

Mr. ELDON BANKES: That was not right, was it; I think the question was not allowed?

Mr. SMITH: It was resisted.

Mr. ELDON BANKES: It was resisted; I mean to say we said it was not a relevant question.

Mr. DUKE: The substance of the matter is you have had no opportunity of making any test except the rough test in the witness box of these other atomisers, with your brother's atomiser?

Mr. ELDON BANKES: Yes, he has, Oppenheimer.

Mr. DUKE: Oppenheimer he has, but the others which my learned friend has produced have not been brought to your notice before?—I have tried a great many different atomisers that have been presented as a curiosity, but I never saw one that I would take as a gift.

My learned friend says, and you told him, the fact is you have no medical training. Have you ever, in the course of carrying on this business, pretended that you have had any medical training?—Never.

With regard to the questions you ask, my learned friend pointed out that there were questions and that there was only one treatment. Does the pamphlet and do the instructions state in the clearest way that it is only one treatment?—Yes.

That there is an inhaler and a fluid the character of which is decided beforehand?—Yes.

Do you think it is possible that anybody who had read the pamphlet or read the directions could suppose that there was any alteration in the treatment possible on your part?—No.

Then my learned friend asked you about the relative symptoms of consumption, Bright's disease, and heart disease. Have you ever suggested to anybody that this specific would have any effect upon a case of Bright's disease?—Never any beneficial effect whatever.

Or on consumption?—No.

Or on heart disease?—No. We always tell them it will not, and that is why we say it would give them no permanent benefit, but it may give them a trifle of relief.

Suppose a consumptive patient who had a catarrhal condition of his throat and lungs: do you know what would be the effect of his inhaling the vapour?—It would be beneficial so far as the catarrh trouble is concerned, but it would be no benefit to tuberculosis or consumption.

It would relieve the catarrhal trouble, but it would not relieve the permanent disease?—That is so.

Have you ever said that it would?—No.

With regard to the paragraph on page 6 of the pamphlet, my learned friend asked you whether it was true, as I think your brother says: "Asthmatics who have organic heart disease or weak heart action can use the remedy with perfect safety. In fact, if the heart is sound when first commencing treatment, asthma will never be a cause in the development of heart disease for the reason that the specific will keep the asthma under perfect control." You say that you knew from experience that that was the fact?—Yes.

Was that limited to your own personal experience or to your knowledge of other persons who have used the specific?—It is my own personal experience and my observation of the public generally.

My learned friend cross-examined you upon the question of a cure. Except in the sense of preventing an impending attack or dispelling an attack which was actually in progress is there any cure of the liability to asthma?—No, there is none; we never claimed it.

But the attack you say is cured?—Yes.

It can be warded off when the symptoms are shown or it can be stopped when it is in progress?—Yes.

I will not take up time in reading it, but I think on page 11 you call attention to that matter?—Yes.

You say "The treatment will give almost immediate relief and completely arrest the attacks, and by persevering," and so on?—Yes.

Then with regard to the instructions, your brother says in his instructions: "If you are in the habit of using alcoholic stimulants, morphine, opium, or other narcotics, abandon their use. Smoking is also a source of irritation, particularly in closed rooms, and is liable to bring on an attack of asthma." That is on page 7 of the instructions. My learned friend asked you whether you could understand any honest man saying that when he was going to propose the present specific for use in asthma. Tell me, with regard to that, are you able to say from your experience what the effect upon the asthmatic tendency is of the use of alcoholic stimulants?—It is a very decided injury to an asthmatic.

It provokes?—It provokes an attack.

Is it the same with regard to these other matters that are mentioned?—Yes.

Do you think there is anything dishonest in telling people that?—No.

Mr. ELDON BANKES: Morphine and opium I said.

Mr. DUKE: I will come to the others, morphine and opium. Do you know of your own knowledge whether the use of morphine, opium, and other narcotics has any influence in asthmatic cases?—They injure the general health of the patient and render him much more liable to attacks.

Those are your brother's directions, but so far as you are concerned in the sending out of those directions do you see anything dishonest in it?—I never could discover it, no.

I think my learned friend rather suggested that you concealed your identity from public knowledge. Is there any truth in that?—Not the least.

And in fact is it true, as you told my learned friend in answer to an earlier question, that you have sent out in this country many thousands, four or five editions, of this pamphlet, upon the face of which there is a picture of your residence with your name and address at the foot?—Yes.

And a complete statement inside of the whole business?—Yes.

In fact, as you told my learned friend, you have not advertised in the newspaper press?—I have not.

I think the only other matter I need trouble you about is the price which you have charged for this remedy and the profits you have made. In the first place, have you ever charged the patient any more than you told him you were going to charge him in the particulars?—I never did.

And, in spite of the charges, do the purchasers come on and repeat their orders?—Yes.

With regard to your dealings with your brother, do you know what relation the price he charges you bears to the price he charges the general public?—My understanding is that I pay him——

I ask you if you know. Do you know what prices your brother charges the general public in the United States?—Yes, I do.

That is all I want to know. What does he charge them?—He charges them 12½ dollars for what I furnish for £3, but he has no medicine stamps or revenue stamps to put on it.

Then what does it matter whether the attacks are more severe at night than during the day if you give the man the same thing whatever his answer is?—Because it brings out one characteristic of the patient's condition. Nearly all asthmatics are worse at night than during the day, but if it comes out that they are worse during the day than during the night it brings out this fact, that exercise has something to do with it.

What does it matter to you, because you have the same instructions how to use the thing for everybody, and you give everybody the same stuff?—But supposing I find by these questions that the patient evidently does not have asthma at all, I then write to him and say, "This remedy will probably do no good whatever."

Your question is, "*How long have you had asthma?*" Supposing he said, "I have never had it." I do not know, but perhaps you would say, "I shall not send you my stuff," but, if he says, "I have got asthma," what *possible ground* is there for asking whether he has it more in the night or more in the day, except this, to lead him to suppose that somebody is going to look at this who will vary the treatment according to his answers?—You cannot get a direct diagnosis of an asthmatic's condition without just about those questions, and *they do bring it out*.

What is the good of a diagnosis to you if you are going to give every man the same stuff and give *him the same* quantity?—It is a question of whether we give it to him at all or not.

The answer this man gave you to your question, "What remedy are you now using to relieve attacks?" is "cod-liver oil as a tonic." If you had been a medical man would not that indicate to you that this man *was probably* suffering from consumption and that some medical man had ordered him cod-liver oil because he was suffering from consumption?—I always expect, when I find a man is taking *cod*-liver oil, he is in a very much run-down condition and is being fed up.

One of the grounds on which you would feed a man up would be that he is suffering from consumption?—Yes.

Let me understand you. Here is a man who says he is suffering from asthma. You told *me yourself* he may believe he is suffering from asthma but is *really suffering* from consumption. You are told he is being *fed up with* cod-liver oil. You tell me you do not think your treatment *is suitable* for a consumptive patient, but you sent him this and charged him £3 for it, knowing he was a fitter.—A fitter? I do not understand the term.

Well, a man *earning* weekly wages. Do you attempt to justify that?—This man was sent this *remedy for a two* weeks' trial and then he was to decide whether *he* wanted it or not, and it did not cost him *one farthing*.

Now I will ask you about the two weeks' trial. Do you *know that* the effect of cocaine is to deaden the mucous membrane?—I *do not know*.

Let me understand. Supposing a man suffers from these paroxysms of breathlessness, or *whatever it is*, and you administer cocaine to him, it will probably *relieve him*, although it may do him great harm in other respects. Do you follow that?—Yes.

So that if you give a man a fortnight's trial you know that the effect of this deadly drug will be to give him relief and you do not care the least whether it is ultimately going to hurt him or not?—The facts are that it never has injured a solitary man yet; not one.

So you say.—Well, find one if you can; *bring him* in out of the 25,000.

You must wait until I come *to my* evidence. The fact is, this man died, an inquest was held upon him, and the fact was proved that he died of long-standing phthisis.—That is the report, I understand.

And it was that fact, was it not, that you had supplied this treatment at £3 to this man which led to the *remarks of* the coroner, which in their turn led to our remarks?—I do not know what led to *your remarks*.

Very well, we will see. There is *one* other document. Is that a document which you circulate in England (same handed to the witness)?—This was sent to me very recently and I have sent it out in a few instances *when this* question was raised in answer to the query as to what was in it. Sometimes our patrons want to know, and they say they have been told it contains certain things detrimental to health, and instead of writing a long letter I inclose this.

You composed it?—No; my brother *composed it*.

Was that sent because you had heard it suggested that your specific contained cocaine and other drugs?—This was written by my brother, printed in the States, and sent over here I think about a year ago. That was the first time I had ever seen it. It was to obviate the difficulty of writing long letters explaining effects of the medicine, if there was any bad effect. I do not think there have been more than 40 or 50 of those *ever left the office. It is possible there may* have been that many. It is only in answer to inquiries that that has been sent out.

This is what your brother apparently *says*: "We are occasionally asked the question, 'Will the continued use of the asthma remedy produce any injurious effects?'" Have you ever heard it suggested that the continued use does produce injurious effects?—I never did.

So that this is some complaint that has been made to your brother that has not reached you?

Mr. DUKE: He does not say it is a complaint; he says it is *an inquiry*.

The WITNESS: The question is raised by the suggestion of some party who evidently is jealous of the success of this remedy.

Mr. ELDON BANKES: That is what you think. It was their suggestion that it would, if used continuously, have bad effects?—That suggestion goes out, people become nervous, and they write in asking questions about it.

Have you heard of this suggestion before this case?—Yes.

You have *often heard of it*?—*Oh, yes*; it has been at work ever since we started.

You choose to put it down to jealousy?—*I do*.

But you have heard the suggestion that the continued use of your treatment does produce bad effects?—That question has been raised and it has been hinted that that is the effect by jealous parties who are interested to curtail the sale of it.

Do you know that this specific of yours has been the subject matter of discussions at meetings of medical men?—I know it has.

Do you know it is commonly known in the medical profession for some time that this specific of yours contains poisons—among some medical men?—I know there are some *few medical men* who have sought to criticise it and actually put the idea that it was a dangerous remedy.

But it has come to your ears, has it not, that amongst certain *members of the medical* profession it has been known for some little time that it contains cocaine?—They say it has; I do not know.

But you have heard that?—Yes, I have heard it.

Do you really say that hearing the statement some time ago that it contained cocaine you have never taken the trouble to have the stuff analysed?—I do, emphatically.

Have you never taken the trouble to ask your brother *whether it did contain cocaine*?—I never did.

Is that because you were *anxious* not to know what it contained?—I have nothing to do with compounding it in any way or shape. My side of the business is simply commercial and my brother's is the medical.

To sell things which, if they contain cocaine, would bring you within the Pharmacy Act?

Mr. DUKE: It is a question of law as to the quantity; whether a *certain* element, cocaine or other ingredients, such as mentioned would bring a person selling a preparation of this kind within the authorities depends on the amount.

Mr. Justice RIDLEY: I discovered accidentally *that* a chemist who would supply you with a patent *medicine* without question a year ago would not supply it now without your signing a paper.

Mr. ELDON BANKES: *There* is no alteration in the Pharmacy Act.

Mr. Justice RIDLEY: But *there is* in the way it is administered.

Mr. ELDON BANKES: It is only because it has become known that some of these medicines contain these poisons.

Mr. Justice RIDLEY: The medicine I mean contains strychnine and it was known years ago—everyone knew it, Fellows's Syrup of Hypophosphites. People constantly buy it, and a most useful thing it is, I believe. It certainly contains strychnine. I was talking to a medical man about it the other day. Therefore, I thought people were more strict about it now.

Mr. DUKE: It very possibly is so; I do not know how that is. Of course, if the fact be that this gentleman must employ a chemist to sell *these* things, he must employ a chemist.

Mr. Justice RIDLEY: A chemist will not sell it to you now, seems to lodge in the nostrils and the back of the nose and create a slight irritation.

Have you tried a specific produced in competition with Tucker's in Tucker's atomiser?—I cannot say that I know the fluid was produced in competition with Tucker's, but I have tried a fluid which I have been told is supposed to relieve spasms of asthma.

You have tried other fluids?—I have tried another fluid.

In Tucker's atomiser?—Yes.

Did it have the effect?— As far as I can judge it had no effect whatever of any kind.

Did you get that fluid made up yourself?—No, I purchased it; it is a proprietary article.

Will you give me a description of it?

Mr. Eldon Bankes: I object to this.

Mr. Justice Ridley: I do not see that this is material.

Mr. Eldon Bankes: We cannot inquire whether other people are doing the same thing.

Mr. Justice Ridley: We shall get into protracted inquiry into all sorts of things.

Mr. Duke: I do not think so, my lord, for this reason: we have reason to suppose the ingredients are the ingredients my learned friend says are the ingredients of Tucker's.

Mr. Eldon Bankes: If they are they do the same wrong.

Mr. Duke: That is an observation which is hardly worthy of my learned friend's position.

Mr. Justice Ridley: That would make it material, because you have stated that the constituents of this medicine are so and so and so and so.

Mr. Eldon Bankes: Yes.

Mr. Justice Ridley: I really do not know what evidence you have on that subject, and I am speaking at random, but if Mr. Duke can show that a medicine made up of those ingredients has no effect at all I think that is material.

Mr. Eldon Bankes: My point about that is, it has the effect of poisons, and whoever sells the poisons without the proper safeguards we rightly or wrongly should say the same about them.

Mr. Duke: You would say it was fraudulent.

Mr. Justice Ridley: You have no right to say it is fraudulent; that is the difficulty in this case.

Mr. Eldon Bankes: That, of course, is the question we are trying here.

Mr. Justice Ridley: But you cannot.

Mr. Eldon Bankes: With great submission it cannot be relevant to this case to deal with the question of any other preparations.

Mr. Justice Ridley: No; I do not think it can merely as such, and I quite agree with you, but the difficulty I have is, if you have stated that certain ingredients are the ingredients of this stuff, and are deleterious, and he can show he has tried stuff made up of those ingredients and it has no effect at all, I do not see how it can be excluded.

Mr. Eldon Bankes: No one says that one single spray of this stuff would have any effect.

Mr. Justice Ridley: No, that is quite true.

Mr. Eldon Bankes: It is the constant use of it.

Mr. Justice Ridley: That is quite true. (To the witness) How often did you use this other medicine, once or more frequently?—I tried it for a somewhat prolonged period in order to see exactly, but probably a week or a fortnight—certainly not less than a week.

Mr. Duke: Did you give it a full trial with a view to seeing if it would relieve your asthma?—I did. Perhaps I ought to say it was owing to my not having at that time any severe attacks of asthma I thought I would take the opportunity of trying this other, but it did not relieve to any considerable extent the mild attacks that I did have.

Will you look at that. I do not propose to do other than identify it at the moment; is that the proprietary article which you used? (Same handed to the witness.)—It bears the same label.

You got it as that proprietary article?—I did.

Mr. Duke: I should like to have that identified.

Mr. Eldon Bankes: You can mark it. May I just look at it so that I may know what it is?

Mr. Duke: I can tell you what it is; it is Oppenheimer 21. Some question may arise about that. If your lordship would allow me I should like half of that taken from the bottle in order that I may be able to deal with it to test the suggested ingredients of it, and the other half to remain or be at the disposal of my learned friend. In order to be able to cross-examine I should have to be able to do so.

Mr. Justice Ridley: I do not see how I can object to your making the use you propose to make of it.

Mr. Duke: When it has been identified I should like to have half of it to see if it is correctly described to have the ingredients it has or not.

Mr. Justice Ridley: I do not know whether you will be able to do that. I expect Mr. Bankes will object to that.

Mr. Duke: I expect, if I am right in my hypothesis, to defeat his objection.

Cross-examined by Mr. Eldon Bankes.—I understand you tried some other atomiser and your objection to that one was that it did not make a sufficiently fine spray?—That is so.

Thomas Edward Mansfield, *examined by* Mr. F. E. Smith.—I think you are a member of the Bar?—Yes.

Have you been a sufferer from asthmatic trouble?—Yes, I have.

For how long?—It gradually increased up to two years ago for, I should think, the last 12 years. It gradually got worse up to two years ago.

Were your attacks severe or not?—Four years ago or three years ago they got very severe indeed. In fact, it got rather serious. Of course, I was using this before.

Were your attacks of a kind to interfere with your professional work?—Very much indeed; that was the serious part about it.

While you were suffering, and until you began to use Mr. Tucker's specific, as to which I will ask you in a moment, did you have medical advice for the treatment of your ailment?—Yes, certainly, and drugs too.

Taking it generally, you have tried many remedies, I think?—Yes; they were relief for the time but they were always objectionable.

Did the efficacy wear off with repeated use?—I had it daily and it was only a relief.

They returned as bad?—Yes.

Did your attacks come on in the night time?—Yes; they always come worse then; the moment you lie down, of course, it always begins.

What would be the duration of an ordinary attack?—Al night through if you have got asthma very bad. You may sleep for half-an-hour and then wake up again and want to breathe.

When did you first begin to use Dr. Tucker's specific?—I cannot fix the date, but it is a good many years ago. I bought the first instrument in Holborn personally. I was recommended.

Did you get it for trial first or not?—Yes; I had it a fortnight.

You did not part with your money for that time?—No; then I kept it.

Mr. Justice Ridley: You cannot tell me when it was?—I cannot.

Mr. Eldon Bankes: The plaintiff says that he moved seven years ago.

The Witness: I attended at the place personally in Holborn.

Mr. Smith: It is somewhere about seven years ago; that is sufficient?—Yes.

I want you to tell my lord and the jury what has been the effect of using this specific and atomiser upon your ailment?—I could not do without it. I can now comparatively, because in the atmosphere I am in—not just at the moment—it suits me better than North Lancashire.

You were formerly practising at the local Bar in Lancashire?—Yes.

Mr. Justice Ridley: But you can now?—I have it with me always by way of preventive, because I do not have it if I have it with me, but if I am without it I begin to think about it and begin to get asthma if you get nervous.

Mr. Smith: You always carry it with you?—Yes.

Have you got it with you now?—I have. Of course, it is nervousness, I suppose. If you know you have a thing that will give you instant relief and you have not got it with you and you have to do what our profession does, you get nervous for fear it should come on.

How long did you use it before you got into the condition in which you say you can do without it?—For the last 18 months I have used it very little.

You did not find the habit growing upon you?—I cannot understand anybody using it unless they want it; they are only too glad to be rid of it.

Mr. Justice Ridley: It is not pleasant to inhale vapour up one's nose, I must say.

Mr. Smith: Has it exercised that kind of seduction over

£18,498 17*s.* 10*d.* for the year 1907 up to a certain date. Can you now give me the date?

Mr. DUKE: Do you want it at the moment?

Mr. ELDON BANKES: I am finishing this point if you can give it to me.

Just look at that letter; that was the letter I was asking for; it is the Cushing letter. Is that letter issued from your so-called office? (Document handed to the witness.)—It is, and it has special instructions for the use.

Keep that in your hand; that is entirely printed?—Typewritten.

That would be sent out by one of the typists?—It is printed by the printers, but it is in a typewritten form.

It has been typewritten, but because you send out so many of them you have had it printed?—We send it with every trial that goes out.

Would that be sent out by the typist, for instance, without any communication with you at all?—Every single treatment that *goes out the typist puts in one of these.*

That is the one saying the treatment is absolutely harmless?—That is sent to every patient, or at least intended to be; if it is not it is *a mistake.*

Mr. DUKE: The figures Mr. Smith gave were for the whole year 1907.

Mr. ELDON BANKES: £18,498?

Mr. DUKE: That is under the heading of "Deposited," gross receipts, £19,678.

Mr. ELDON BANKES: I understand the gross figures for 1907 are £19,678, but they would exclude the agents' commission?—I think since May; that is my recollection.

Do you say now that this business, and a very lucrative business it seems to me, is worked upon the terms that you control Great Britain and the colonies and everywhere else except North America?—Practically so.

And your brother does North America?—Yes.

North America is not a very happy field for these enter*prises now, is it? How many States* to your knowledge have expressly forbidden the sale of your specific at all?—Not a single one.

Let me ask you this, Massachusetts?—We have, I think, more in the State of Massachusetts than any other State in proportion to the population.

Do you disregard the law there just in the same way as you do in England?

Mr. DUKE: I submit my learned friend is not entitled to make that statement.

Mr. Justice RIDLEY: I think he may make the statement; of course, we cannot take it as accurate.

Mr. ELDON BANKES: I will withdraw it.

Mr. Justice RIDLEY: I suppose under the Pharmacy Act the word "poisons" largely depends on what the quantity is?

Mr. DUKE: It does, and it has been a matter of judicial decision. The allegation is an allegation of fraudulent mode of dealing.

Mr. Justice RIDLEY: I must hear Mr. Bankes upon that, I think.

Mr. DUKE: I am not at all objecting that my friend is not entitled to investigate the matter fully, but the real question is whether the plaintiff conducts his business properly.

Mr. Justice RIDLEY: I thought that was what was alleged, but also it is alleged that there was the sale of poisons.

Mr. DUKE: But it only alleges that as a ground for saying that the plaintiff conducts his business *fraudulently.* Your lordship will see they say that the charges in the libel are fair comment because of various matters, and then it sums up with the statement, a late paragraph of the particulars, with the specific contents cocaine and atropine.

Mr. ELDON BANKES: I asked you about Massachusetts. Do you not know of the Statute of 1906 *in* the State of Massachusetts forbidding the sale of medicines containing cocaine, and directing *there shall* be no prosecution until the State Board of Health have publicly stated the *medicines* indicated; do you know that?—I know there was a law passed pertaining to that, but just what it was I do not know.

Do you know the newspaper called the *Boston Daily Advertiser*?—I know there is such a paper.

I ask you to look at *this advertisement* and see whether there is not here, in pursuance of the Statute——

Mr. DUKE: I must object at this point. If my learned friend has evidence of an unlawful act committed in the State of Massachusetts against the law of the State he must prove the law in proper order.

Mr. ELDON BANKES: I am prepared to prove the law. Mr. Barratt will come and prove the law.

Mr. DUKE: The question is this witness's knowledge. My friend produces a newspaper which, so far as appears, the witness has never seen and seeks to put that to the witness *as evidence of knowledge by him.*

Mr. Justice RIDLEY: I think he can do that.

Mr. ELDON BANKES: If he denies the knowledge I must prove it formally in the proper way. I am only asking him now whether of his own knowledge, in pursuance of the law, of which apparently he has some knowledge, he does not know that public advertisement has been made by the State Board of Health of the Commonwealth of Massachusetts including his particular medicine as one of those the sale of which is prohibited. I ask him simply, Did you know that?

The WITNESS: That it is prohibited?

Yes?—I do not know that it is. I know it is not, because the remedies are going in there every day in Massachusetts.

Have you had no correspondence with your brother on that subject?—I am not sure whether I learned it *from* him in a letter, or whether I learned it through a physician whom *I* met *from Brooklyn,* New York, but I heard something in reference to it.

Learned what?—That there was a law passed seeking to control the sale of *poisons or proprietary* medicines of all kinds without the *formula* being given in full.

Have you not since heard that your particular medicine has been specially excluded?—No; and had it been of course I should have heard of it.

Then I must prove it in the proper way. Do not you know that the same law prevails in the State of New Jersey? —I do not know anything about it.

Or any other State?—I know the *sale in the States* is simply immense: greater than mine here, much greater. My brother does more business than I do.

Mr. Justice RIDLEY: I suppose it will be *said against* you that that is the reason of the law being passed.

Mr. ELDON BANKES: Of course, that is my case.

Mr. DUKE: Your case is that he carries on his business fraudulently.

Mr. ELDON BANKES: Fraudulently, I know.

Mr. DUKE: Of course, it means nothing when you come into court.

Mr. Justice RIDLEY: As far as the libel is concerned I shall have to hear what Mr. Bankes says when it comes to a question of the meaning of it, but I certainly thought it was suggested that it was a fraudulent sale and it also *suggests that it is poisonous;* but I thought the main argument in the paragraph complained of was *against the Press* in assisting people to sell *remedies* on so large a scale by offering their columns *for* advertisements. We shall hear what Mr. Bankes says about it. He says it is not a remedy because it contains poisons in an improper quantity; and, secondly, it is fraudulent because the price is excessive.

Mr. ELDON BANKES: And because *it is sold* by a man with absolutely no qualification——

Mr. DUKE: That is not the allegation; there is no particular of that.

Mr. ELDON BANKES: Promiscuously, under, apparently, the Government ægis of the stamp; whereas really it ought to be labelled "Poison," and *sold* only under the restrictions applicable to things of that sort.

Mr. Justice RIDLEY: There is another point in the case which we shall have to deal with and *that is this,* that the coroner did not take it as being fraudulent, so far as I understand, except as being sold under the cover of the Government stamp.

Mr. ELDON BANKES: Your lordship will hear the coroner when he comes. Your lordship will see our amended statement put that right. We attacked it on both grounds.

SECOND DAY.

Mr. Justice RIDLEY: I wish to say that I observe in the *Times* this morning I am reported to have said that the proprietary medicine which I mentioned, Fellows's Syrup of Hypophosphites, had been marked as a poison. I never said it had *been* marked as a poison, and I am rather apprehensive that the remark might be *prejudicial* to the medicine, although I cannot quite say what it is. What I did say was, whereas you could buy it *freely* formerly in the chemists' shops, now if you go and ask for it you have to sign your name in the books. I do not wish to have anything reported from me which would be likely to have any prejudice on and I think you were formerly Mayor of Winchester?—That is right.

Mr. Justice RIDLEY: Winchester College, is not it?—Winchester School, commonly called Winchester College.

Has your form got a holiday?—We are all of us on holiday at present.

Mr. SMITH: Will you tell me, have you ever suffered from liability to asthma?—Yes; as a matter of fact I had a good many years ago an illness, indigestion it took the form of chiefly, and it gradually became more and more asthma. In 1903 I suffered more from asthma than from anything else, and called a doctor in for asthma.

I think you found it interfere a little with your work?—It interfered very greatly; I had frequent attacks of the two illnesses.

Did you take medical advice for it?—Yes; for asthma from 1903.

But without getting *complete relief*?—*Without* getting complete relief.

In what year was it that you first heard of Tucker's specific?—In 1904, in the summer.

Will you tell me what has been the effect upon your ailment of the use of Tucker's specific?—It has always given me *immediate relief*. When I have need to use it it still continues to give me instant relief. I think I use it rather less than I used to use it; in fact, I certainly do.

Have you found a craving growing upon you for its use, whether or not you have got an attack?—No, I have not.

Has the employment of it diminished the interruptions in your work to which you told us you were formerly subject?—Yes, I am quite sure of being able to get through a heavy time of work now because I expect an attack then and I always get relief from the use of it.

Mr. ELDON BANKES: I have no questions.

EDWARD SYMONS, *examined by* Mr. F. E. SMITH.—You are a member of the Bar?—I am.

You were subject for many years to severe attacks of asthma?—Ever since I was two years old, I am told. I have known it ever since I was four.

You have had it all through your recollection?—Yes.

In recent years have you become aware of Tucker's specific?—Yes.

Do you use it and keep it by you?—I am never without it. I have one of the atomisers at home and one at chambers.

What effect does it have if you have symptoms of possible attacks of asthma?—It gives immediate alleviation and relief, and very constantly so far as I know keeps it off altogether.

You mean you get symptoms which were formerly followed by an attack of asthma?—Yes, quite so.

And when you now use Tucker the attack does not come?—Yes.

Mr. Justice RIDLEY: It acts as a preventive?—Yes, it does.

As well as a remedy?—Yes, it does, most certainly.

Mr. SMITH: When did you get it?—I got it in 1900; it was 1899 or 1900; I am almost sure it was 1900.

In Holborn?—In Holborn; I went and saw Mr. Tucker himself.

By whom was it recommended to you?—It was recommended to me by one of the leading physicians in the West of England.

Do you know whether he was himself a user of it?—No, he was not.

So far as your experience goes is there any craving for this remedy if there is no ailment?—Absolutely not. I may perhaps say that I knew there was cocaine in it because a doctor friend of mine analysed it and told me so. He used it himself. He does not even go hunting without having it in his pocket, so I knew there was cocaine in it.

I hope your doctor friend who goes hunting has not become a victim of any cocaine habit, as it is called?—No, he has not.

Mr. Justice RIDLEY: He goes out hunting with it in his pocket?—Yes, he is never without it.

If he felt the symptoms in the middle of the run he would have some difficulty in using it?—I suppose he would wait till the hounds were called off. He is never without it.

Mr. SMITH: Something has been said about Mr. Tucker's honesty. Have you had any practical test of that?—Yes, I have: the bulbs of the atomiser occasionally wear out, so a few months ago I wrote to Mr. Tucker and asked him to send me three or four. He wrote back and said: "We will send them if you choose, but they deteriorate and wear out without use, and I would advise you not to have more than you want at the moment," and I was very much obliged to him, of course, and only got the one.

Cross-examined by Mr. ELDON BANKES.—I understand you to say that both you and your friend know that this contains cocaine?—I *do* not know it; I only know it from what he told me.

You believed him?—Absolutely.

Then you do know it in the ordinary sense?—Yes.

HIRAM DENTON, *examined by* Mr. SMITH.—I think you are a commercial traveller?—I have been.

You are retired now?—Yes.

Your centre of operations used to be Manchester?—I reside there.

Do you mind telling us how old you are?—61.

Have you had a constitutional liability to asthma?—Yes.

How long have you been liable to attacks of asthma?—30 years.

Did you find that the ailment was apt to interfere with your business?—Very much so.

I think you consulted doctors about it?—I did.

And tried a variety of remedies?—I have had an examination and was ordered out to Nauheim. My heart was weak with the remedies I had been taking, the different smoking mixtures and other things.

You were weak with these remedies and you were advised to go to Nauheim?—Yes, I was ordered to.

And you did go there?—By Dr. Dreschfeld, and I went to Nauheim, and whilst I was there I met a gentleman who recommended Tucker's atomiser.

Did you give us the date or not?—It was in 1901.

In 1901 I may take it you ordered a great number of remedies?—Everything I could hear of.

And consulted various people?—That is right.

Until 1901 had you derived any real or constant alleviation of your trouble?—Not any whatever.

When you got Dr. Tucker's atomiser did you, first of all, get it on trial?—I did.

And after trying you paid for it, and bought it, I think?—Immediately.

I want you to tell my lord and the jury what the effect of the specific as used in the atomiser has been with this long-standing complaint of yours?—It always relieves the attacks, but I am still subject to them.

In what state are you since you have used Mr. Tucker's specific as far as the power of alleviating your attacks is concerned?—Just the same as at first; still efficacious.

I was asking you for the moment to compare it with the time before you had Tucker's specific: do you follow what I mean?—No, I do not.

Supposing you have an attack, in regard to the alleviation of that attack are you better off with Tucker's specific than you were before you had Tucker's specific?—Yes, I am much better of course, very much better. I was going to die if I had not got that Tucker's atomiser.

You mean your attacks were so serious?—Yes, very bad.

May I take it your general health has improved while you have used it?—Altogether, yes.

You do not feel a craving to use it except when you are suffering from asthma?—Oh, dear no. I always have it in my pocket.

General CHARLES STEWART LANE, C.B., *examined by* Mr. DUKE.—You are a retired general in His Majesty's Army?—I am.

And a Companion of the Bath?—I am.

Did you more than 20 years ago become subject to recurrent attacks of asthma?—I had my first attack at Cashmere in 1884, and it nearly killed me.

Did you remain subject to severe attacks for many years?—I did.

Up to what period?

Mr. Justice RIDLEY: For how long did these severe attacks continue to recur?—For hours and hours—12 hours at a time, I may say, until 1894.

Mr. DUKE: Had you then come back from India some two years?—I came back in 1892.

In 1894 did you become aware of the Tucker specific?—I did.

Did you get it?—I got it sharp enough, yes.

What effect had it upon your asthma?—It took it away at once.

Have you had it by you from that time onwards?—I have it almost in every room in the house where I live. I do not know how many I have got. Yes, it is always with me.

physicians and others who would intimate to their friends that the fluid contains poison such as cocaine and is dangerous to use; they fail to take into account that you can throw the vapour with my Atomizer against a sheet of white paper without even staining it, which anyone can demonstrate who may have one of these instruments. This being the case you can readily see what an infinitesimally small amount of medicine is taken into the circulation." I ask you is not that written by somebody who is under a complete misapprehension?—It was written by Dr. Tucker himself.

Yes, I know; but is not the reason why no mark is made upon the paper that the spray is so fine that it does not condense, and it does not matter how long you go on spraying no mark would be made?—It would if you continue long enough; you could produce a slight discolouration.

I suggest to you that this is no test at all, and no indication?—That is a matter of opinion only.

But is not it an expression of opinion of a man who obviously is ignorant of the first principles of the effect of vapour?—The man who wrote that stands in his profession as high as any man in the State of Ohio.

Re-examined by Mr. DUKE.—Do you think you would like to charge him with fraud because he was mistaken when he wrote that, as my learned friend says he was?—Certainly not.

In your view he is not mistaken as I understand. In your view your brother is right about that?—Certainly, absolutely right.

I think I had better read this: "We are occasionally asked the question 'Will the continued use of the asthma remedy produce any injurious effects?' In reply we will say, once for all, that if used according to directions no perceptible effects whatever can be noticed. There is one thing that is not considered by physicians and others who would intimate to their friends that the fluid contains poison such as cocaine and is dangerous to use; they fail to take into account that you may throw the vapour with my Atomizer against a sheet of white paper without even staining it, which anyone can demonstrate who may have one of these instruments. This being the case you can readily see what an infinitesimally small amount of medicine is taken into the circulation. Also the medicine being applied directly to the seat of the disease only a very small quantity is required to produce the desired results. This statement being true makes this mode of treatment the *only one* that is entirely harmless. I make the assertion that this remedy can be used daily a lifetime with this Atomizer without any perceptible effects upon the constitution whatever if used according to instructions. The remedy has now been in use about 17 years. I have yet to learn that any bad effects have resulted in a single instance. This fact of itself should be sufficient to convince the most sceptical." This is a paper which you say your brother produced comparatively recently of which he sent you some copies?—Yes.

You have sent a few of them out?—I keep that and whenever a question comes up I inclose that in a letter instead of writing a long letter.

Apparently your brother writes on the assumption that there is some trace of cocaine in his *mixture*; he seems to assume that?—He takes the critic on his own ground, and he says: "If there is a poison." I think that is the idea he means to convey.

If used according to directions it cannot hurt?—That is so.

How long ago is it to your knowledge that your brother began using this remedy for his own asthma?—He had this remedy completed in its present form in the month of August, 1889, and he has been using it constantly ever since.

You say he is 70 years old?—Yes.

When did you see him last?—It is about a year ago last August.

What kind of physical condition was he in. Did he seem at all broken down by the use of cocaine?—He and I were travelling through the Rocky Mountains for seven months, and he was as good a climber as there was in the party.

That is when he was 68 or 69 you and he were on a climbing expedition in the Rocky Mountains?—Yes.

You yourself are 68?—Yes.

In the course of your business how much and how frequently do you use this preparation?—I use it for instance on Sundays, when I have no one to call upon me, four or five times during the 24 hours.

Are you subject to attacks of asthma?—I could not live here at all without this remedy.

You are naturally subject to attacks of asthma?—Yes, and our whole family are chronic asthmatics, but in my professional business——

Please do not hurry. That is on Sundays when you have your choice about how much you use?—Yes.

With regard to your chronic liability to asthma what has been your condition as to suffering from attacks of asthma during the time you have been living in London?—I can stand as much fatigue as almost any man of my age, I think.

Does asthma ever now take hold of you?—It would if I was to go out and run a foot-race of perhaps 50 yards; I should feel the effect.

But you do not run foot-races?—I do not feel it to any extent.

Going about in your ordinary habits as a man of 69, does asthma take hold of you now?—Not to any extent at all. It would be a slight coughing or irritation of the bronchial tubes, but no asthma.

That is the manner in which you use it, because of your liability to asthma?—Yes.

With regard to your other user do you demonstrate to persons who are seeking to buy this apparatus the use of it?—There is never a day but what I demonstrate it to some of those who are calling at the office. Some days I have a continual string of callers all day long, and I am constantly using it all day long showing people how to use it. I never hesitate a moment about doing it. I have been doing so for 17 years.

You did it while you were assisting your brother in his dealings with the specific in North America?—Yes.

And you have been doing that ever since you came to England?—Yes; more so since I came here.

Has that been increasing since the business increased here?—The climate here is harder on an asthmatic than it is in the States.

So far as your experience is concerned, is there any ground whatever for the suggestion that the use of this specific affects the *general health of the* patient?—Quite the reverse. It improves the health, because he can breathe properly; it does *not* affect the health one way or the other directly, but indirectly it affects the health because he can breathe.

It is suggested that the use of the specific poisons the system of the patient?—I do not look as if I have been badly poisoned, do I?

Mr. Justice RIDLEY: That is for the jury.

Mr. DUKE: With regard to your atomisers, have you had customers who have been customers ever since you began?—I have.

And who remain customers now?—Yes.

You see them from time to time?—Many of them I see quite often.

Is there one of your customers who shows any kind of symptoms that my learned friend has referred to of being a poisoned person?—Not one.

Have you ever heard either from your patients or the relatives of your patients any suggestion of that kind?—Nothing of the kind.

Did you ever hear it at all from any person who was practically concerned in the use *of this remedy*—who was using this remedy?—No, I never heard it at all—nothing of the kind.

My learned friend asked you about the *Oppenheimer* atomiser. Messrs. Oppenheimer are people in a large way in the drug trade in the supplying of the matters which doctors and chemists use for the cure of ailments?—I understand so, yes.

Mr. ELDON BANKES: I must object to this. I did not put in Oppenheimer's atomiser. Tucker produced it in the box.

Mr. DUKE: I thought my learned friend produced it.

Mr. Justice RIDLEY: No; he said it was the only one he had come across that would produce vapour and not spray.

Mr. DUKE: I thought my learned friend had produced it.

Mr. Justice RIDLEY: Mr. Bankes put a question about it just now.

Mr. ELDON BANKES: But only as to its strength and how it acted as compared with his.

Mr. DUKE: Well I will not raise any controversy about it.

There are undoubtedly a great many of these atomisers?—The world is full of them.

Do you find that there are preparations being advertised to compete with your brother's preparation?—Lots of them; they have been at it for years.

Do you find among your patients that they become aware of it?—Yes.

of asthma from about 30 years ago. In the later years the attacks increased in severity, in frequency, and in duration.

To what extent had that affected your ability to follow your profession?—It prevented me attending business regularly, and I had to leave business very often suddenly.

Since you have had the Tucker specific and used it, what has been your condition as to asthma?—I have been practically independent of and free from asthma. I do not mean actually free from it, but the attacks of asthma can always be controlled, and they never interfere with my arrangements in any way.

With regard to this suggested craving for the preparation do you find any craving for it?—Not the slightest. I do not use the specific as often as I should do. I could use it between attacks so as to prevent attacks, but I only use it when the attacks are actually imminent.

With regard to your general health, how has it affected your general health?—My general health is much improved. My health is normal now; I can eat, drink, and sleep.

Dr. THOMAS CLARK, *examined by* Mr. DUKE.—You are a registered medical practitioner?—I am.

Where do you carry on your practice?—Wandsworth Common.

Have you been subject to asthmatic attacks?—I have.

Did you become aware of Tucker's specific some years ago?—Eight years ago.

Did you adopt the use of it?—I did.

What was the effect of it?—I have been kept from my work for three months on account of it.

On account of what?—On account of the asthma.

I am speaking of the specific. What has been the effect of the use of the specific since you have had the specific?—The effect of it is instant relief.

Since that time when you adopted the use of it eight years ago have you continued to use it?—I have.

Have you found the same benefits?—Always.

I do not know whether you know the composition of it yourself or not?—I do not.

Do you find in your case anything of the nature of a craving for the specific when you were not in danger of an attack of asthma?—Not the slightest.

It is fair to you to say that you did not see your way to give Mr. Tucker a proof of any evidence?—I did not.

You are attending here on subpœna?—Exactly.

Cross-examined by Mr. ELDON BANKES.—As a medical man perhaps you can tell me something about cocaine. Are you familiar with the effects of cocaine?—We use it in practice, certainly.

First of all, is it a poison?—Yes.

And a poison which appears under the schedule to the Pharmacy Act?—I believe it does.

Mr. Justice RIDLEY: It is not in my copy as far as I can remember.

Mr. ELDON BANKES: Your lordship will remember that the Act provides that in addition to the poisons appearing in the printed schedule additions may be made from time to time by the Privy Council by Order.

Mr. Justice RIDLEY: It has been added afterwards?

Mr. ELDON BANKES: Yes.

Mr. Justice RIDLEY: No doubt it would be classed amongst poisons.

Mr. ELDON BANKES: Coming under the schedule to the Pharmacy Act do you know that the sale of it is surrounded by certain restrictions?—I have no means of judging that. We buy it from the wholesale drug houses in the usual way with other drugs, of course. A layman would be the one to give that evidence.

You do not know, perhaps, the provisions of the Pharmacy Act concerning the sale of poisons?—I know they have to sign a book when they receive it, but that does not apply us.

The Pharmacy Act does not apply to a prescription by a duly qualified medical man?—No.

I want to know a little about cocaine. Of recent years have doctors found that cocaine ought only to be used under very stringent precautions?—When injected under the skin it has to be used with great precautions.

Has it been found that some persons are extraordinarily susceptible to cocaine?—Yes, when used in the manner I have indicated.

We will come to the use in a moment. Has it been found that in some persons it will produce the most dangerous symptoms although administered in minute quantities?—All I know is when injected under the skin.

You are confining your remarks at the present moment to when injected under the skin?—Exactly.

Has it been found in some persons when injected under the skin in minute quantities it produces the most dangerous symptoms?—Exactly.

Do you know that some doctors now, many doctors, refuse to prescribe cocaine at all?—I was not aware of that.

Do you know that many doctors, when cocaine is prescribed, indicate on their prescriptions that it is not to be made up again without a further order?—No, I do not.

May I ask, do you hold any qualification, and what is your qualification?—I am a Licentiate of the Royal College of Physicians of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow.

Is yours a general practice at Wandsworth Common?—Mine is a large general practice at Wandsworth Common.

You have spoken of the effect of cocaine if administered by injection?—I have.

Of course, if administered by injection it is quickly absorbed into the system?—Instantaneously, of course.

Have you considered whether a drug would be readily absorbed into the blood if inhaled?—Yes, it would be absorbed into the blood, I have no doubt.

And more readily absorbed into the blood if inhaled than if swallowed?—I should say so.

In addition to this peculiarity of cocaine, that many persons are extremely susceptible to cocaine, is it within your knowledge that very small quantities of it produce the cocaine habit in patients?—I have never met with a case.

Have you never had a patient with the cocaine habit?—Never.

Do you know from your medical reading that the cocaine habit is very readily acquired by certain persons?—I do.

Of course, it depends upon the state of health of the patient and his susceptibility as to whether he or she will acquire it or not?—I do not think so.

For instance, some persons would be more apt to acquire the cocaine habit than others?—Yes, some are more weak-minded.

And many people might take a quantity of cocaine without the habit, whereas the same quantity might produce it in another person?—Certainly, that might be so with anything.

Do you know that the cocaine habit is more difficult to deal with and cure than either the alcoholic habit or the morphine habit?—I have no experience of it.

Is that the result of your reading about the cocaine habit?—I have no experience of it.

Either by reading or otherwise?

Mr. Justice RIDLEY: I have never met anybody with it.

Mr. ELDON BANKES: I am glad your lordship has not.

Mr. Justice RIDLEY: Have you? Let us see what we are dealing with. The alcoholic habit, I am sorry to say, is very familiar to us all, but I have never met anyone with the cocaine habit.

Mr. ELDON BANKES: The cocaine habit is not so prevalent. You can only buy cocaine under stringent restrictions unless you get it through Mr. Tucker. Of course, alcoholism is very common and the cocaine habit is not so common.

Mr. Justice RIDLEY: That is what I say. Surely it must be infrequent. I thought it was chiefly to be found amongst the Indians of South America.

Mr. ELDON BANKES: Because, of course, coca is obtained there from which cocaine comes, but I think your lordship will hear it is unhappily prevalent in this country.

Mr. Justice RIDLEY: I suppose it is from what you say.

Mr. DUKE: There is no suggestion of it in the pleadings and there is no issue of it in this case, and at some time or other I shall have to ask your lordship's ruling as to whether my friend can deal with it.

Mr. Justice RIDLEY: We must get our facts first.

Mr. ELDON BANKES (to the witness): Is cocaine a drug which it is extremely unwise to administer to a person who has got a weak heart?—I should say that it depended on the dose that was given.

But speaking generally is it unwise to administer cocaine to a person suffering from a weak heart?—I should use it in certain cases whether they had a weak heart or not, quite indiscriminately.

Of course, you would require to examine the patient very carefully before you would administer cocaine at all?—Certainly not.

And of course he has no carriage. He does not have the item of expense that you have, being resident in this country?—Nothing like it. His net profit is much larger than mine.

Your books have been referred to. Have you worked out, as far as you were able to, what your net profit is—what your percentage of profit is?—As near as I can estimate—it is an estimate because I have not kept an accurate account of the expenses—the net is about one-third of the gross receipts.

Mr. Justice RIDLEY: Net profits do you mean?—Yes, one-third of the gross receipts; that is 33⅓ per cent.

Mr. ELDON BANKES: That is quite new.

Mr. DUKE: It follows entirely on what my learned friend has been cross-examining on.

Mr. Justice RIDLEY: It follows, of course.

Mr. ELDON BANKES: It does not appear in the books.

Mr. Justice RIDLEY: No, he would not have taken it out in the books, I suppose, so it would not appear.

Mr. ELDON BANKES: Of course, it would appear in the books if he chose to keep a full account of the expenses.

Mr. Justice RIDLEY: If you chose to put them together it would.

Mr. ELDON BANKES: Of course, if all the materials are there you could find out, but the materials are not all there.

Mr. DUKE: If my learned friend wants to ask a question I am not going to raise any objection in a case of this kind.

Mr. ELDON BANKES: Will you ask him to give us all the items of expenditure?

Mr. DUKE: I will ask anything my friend wants to ask, but if my friend wants to cross-examine further——

Mr. ELDON BANKES: I should prefer it.

Mr. DUKE: Very well.

That is your estimate, one-third?—Yes.

With regard to the volume of that business has the volume of it been obtained in the manner and been the result of efforts which you have explained to the jury?—Yes.

And of the success of the specific?—Yes.

Further cross-examined by Mr. ELDON BANKES.—With regard to these profits there are no materials in your books enabling anybody to ascertain exactly what your net profit is?—There has never been any accurate account of expenses until about the 14th of last May; from that date we have an accurate account of expenses.

Did you give us yesterday all your items of expeditures?—No, I was not asked for them; I gave all that were asked for.

Let me understand. There is your house rent, of course?—Yes.

You live in the house?—Yes.

Do you debit your business with the whole house rent and rates and taxes and so forth in the estimate of 33 per cent?—I have debited the business with one-fourth of the amount and one-fourth of the expense of keeping up the house.

Is that in your estimate of 33 per cent.? I understand you have been keeping accounts since May and now you may have kept them properly, but when you speak of your rough estimate of your net profits being 33 per cent., are you taking into account that you debit the business with the whole rent of the house?—Never, no.

Then I understand there are the wages of the six people who are employed in the house?—Yes.

There is the commission for the agents?—Yes.

There is the cost of the materials?—Yes.

The atomisers and so forth?—Yes.

And there is the item of carriage?—Yes.

Is there any other item of expenditure?—There is the item of stamps: postages and medicine stamps.

Revenue stamps. Is there any other item?—It would all be included under the supplies.

Of course, the cost of the materials and so forth?—Yes.

Your learned counsel suggested yesterday it would be right to deduct your income tax before arriving at your net profit. Have you done that?—I did not.

So that we know the items of disbursements although they do not appear in full in the books?—No, I have not kept an account of expenses.

I asked you yesterday and you told me you thought it was approximately correct that your gross receipts for the year 1906 were £19,800, I think, and that the amount you paid your brother for the liquid and the parts of the atomiser that he supplied was £5,600?—I do not know what the amount I paid him was. The books would show that exactly; you can get it to a fraction, but I have not footed it up.

Further re-examined by Mr. DUKE.—You tell us your estimate is one-third net profit?—Yes.

Is that an estimate worked out in detail in figures, or a rough estimate?—It is worked out in detail as accurately as we could do it without keeping an accurate account of every item of expense.

Have you got it worked out?—No, I have not got it here. I worked it out with one of the Revenue inspectors four years ago.

You had to deal with one of the Revenue inspectors with reference to your income?—Yes.

Then you made it out?—We made it out together.

That is how you got at your one-third?—Yes.

EDWARD ALFRED COOMBS, *examined by* Mr. DUKE.—You are the Borough Treasurer of the Borough of Kensington?—That is so.

You are 41 years of age, I think?—42 now.

Had you for many years formerly been subject to attacks of asthma?—I had.

Since about what time?—I cannot fix the exact date, but certainly upwards of 13 years, probably 15.

Have they been severe attacks?—Very severe until recently.

Had you undergone treatment for them?—Yes.

And used a variety of remedies?—Yes, many.

Have you been successful or not?—I found that some of the remedies were more or less successful for a time, but after a time they lost their effect entirely. I might say after a short time, after a few months, they lost their effect.

Since what period have you ceased to be subject to frequent severe attacks of asthma?—Within the last two years.

Is there anything which fixes the point of time?—Yes.

What is it?—I obtained from Mr. Tucker on the 2nd or 3rd of February, 1906, one of his atomisers on 14 days' free trial, and there was a gradual improvement from that time, which has resulted in an almost complete cessation of severe attacks of the asthma.

Has the specific continued to have a beneficial effect, if you have to resort to it, or not?—Most decidedly.

It has been suggested that the use of the specific has some effect on the general health. What has been your condition as to general health since you have been using the specific?—My health has been much better—considerably better since I have used the specific. If I may add something to that, formerly I was very susceptible to taking ordinary colds, and they were invariably followed by severe attacks of bronchial asthma which confined me to my bed for anything from a week to a fortnight, but since that time I have managed to disperse colds in a few days without taking to my bed except on one occasion. I also find that whereas formerly I had to be very careful in my diet I can now eat and drink what I fancy without any ill-effect.

With regard to the use of the specific were you formerly much subject to disturbance by asthma in the night?—Almost every night up to that time since I first had an attack of asthma I was obliged to leave my bed to inhale something from some burning powder, or use some other remedy of that kind occasionally two or three times in the night. I think I may say always once at least.

What has been the effect of the use of the specific in your case with regard to that liability?—I think that since using the specific on no occasion have I had to leave my bed to relieve an attack. The plan I follow is to keep the atomiser quite handy at the side of the bed, and should I be awakened in the night I just use it for possibly a minute, but I fall asleep again and know no more about it.

With regard to the use of the atomiser, can you give us any idea, in order to deal with the question of quantity, how many compressions of the bulb are required to give you the dose of vapour which you want for your purpose?—I cannot tell you what the minimum number is that would produce the result, because I am never at all careful. I use it just as I feel inclined to use it at the time, but I may say when I first began to use this my breath was so bad that I could not inhale more than three compressions of the vapour up each nostril at a time. I can now with ease do from 10 to 15 in one breath, and I never take less than 10, I suppose.

And you find it perfectly successful?—Perfectly.

Have you tried the use of Tucker's fluid in other atomisers or another atomiser?—I did on one occasion try the use of Tucker's fluid in another atomiser but I found it did not break it up sufficiently finely.

When it is not broken up sufficiently finely does it have a beneficial result?—No, it has rather a deleterious effect. It real risk of her falling into pernicious habits by her inhaling this vapour?—No, I did not.

Cross-examined by MR. ELDON BANKES.—I understand that you suggested this for one of your own patients?—Yes.

Would it, under those circumstances, be used under your own supervision?—I was not there, of course, when she was using it.

She continues to be your patient?—Yes, certainly.

So that if you observed any ill effects from it in her case, you would be able to stop it?—Certainly.

Cocaine is prescribed, is it not, by doctors for certain purposes?—Yes.

Is it in your opinion a very potent and dangerous drug?—It is very potent, certainly, and very dangerous by improper use.

In your opinion ought it ever to be used except under the most careful precautions?—No.

Do you think it legitimate to supply people with a specific containing cocaine without having ascertained exactly what it was from which they were suffering before it was delivered?—I should not do so, certainly.

Do you know that the symptoms of asthma are very often confused by patients with the symptoms arising from heart disease or from phthisis?—Yes.

So that a patient may think he is suffering from asthma and say so, although he is really suffering from heart disease or phthisis?—Certainly.

Is cocaine a drug which it is proper to administer in cases of heart disease or phthisis except after careful examination, and under supervision?—I should not administer it at all except under careful supervision, of course.

Is cocaine a drug to which certain persons are extremely susceptible?—Certainly.

Even administered in very small quantities has it been known to produce most dangerous symptoms?—Yes.

In your opinion is that result confined to cases where it is injected under the skin?—No, it is not.

Has it been known that the same result applies where it has been rubbed on people's gums?—Yes.

And in whatever form it is applied to people has it produced this extremely dangerous result?—That is rather sweeping, but certainly in more ways than one. I do not think it makes the least difference how it is applied as long as it is absorbed.

Do you agree that cocaine, or any similar drug, would be more readily absorbed into the blood if inhaled than if swallowed?—That would depend upon the condition of the stomach entirely. It would be absorbed very readily from an empty stomach, but not from a full one. I should say, applied as vapour to the lung, it would be absorbed as rapidly as it would be from an empty stomach—more rapidly than it would be from a full stomach.

Do you think it is safe to sell a specific containing a considerable quantity of cocaine indiscriminately?—Speaking generally, certainly not.

Are you familiar with the cocaine habit?—I have seen it.

Do you, from your reading, know that it is very easily acquired by certain persons?—Yes.

And if acquired it is one of the most difficult habits to eradicate?—Yes, it is.

And has the most dangerous results of any?—I do not say that quite, but I should put it rather on a par with morphia.

MR. JUSTICE RIDLEY: Opium?—Morphia is the active principle of opium.

MR. JUSTICE RIDLEY: I know.

MR. ELDON BANKES: I ought to ask you about this. Is atropine also one of the poisons which is scheduled to the Pharmacy Act?—Yes.

And are the effects of atropine somewhat similar to those of cocaine, but not so dangerous?—No, I should say they are quite different. One does not see chronic atropine poisoning. If anyone sees atropine poisoning, it is acute; a person has taken a single large dose of belladonna generally. It is not quite the same kind of thing.

MR. JUSTICE RIDLEY: Is atropine the same thing as belladonna?—It is the active principle of belladonna.

Re-examined by MR. SMITH.—I will not follow into the general question at all, but with regard to the patient to whom you recommend the use of this specific, she took a fortnight, I think you told us, to try it?—Yes.

During the fortnight that she tried it, did you think it necessary to be present on any one occasion when she was making a trial of it?—I could not very well because it was almost always in the night.

You did not, as a fact; I will not follow you into the reason?—No.

So far as your patient was concerned she was permitted to form her own unassisted judgment as to whether or not it would be beneficial or injurious to her?—Yes.

You saw neither danger, inconvenience, nor impropriety in allowing your patient to do so?—No, I did not.

MR. JUSTICE RIDLEY: Will you tell me one thing. We are told it would take something like six months to consume an ounce of this mixture—of this specific?—Yes.

And we are told that 1/300th part of it is cocaine?—Yes.

Do you think the consumption of 1/300th part of an ounce of cocaine in six months would be likely to be prejudicial to anybody?—I certainly cannot say it would not be to susceptible persons.

1/300th part of an ounce in six months. Do you mind telling me what that is in grains?—That is all the cocaine there is in this mixture.

How much is the quantity of cocaine?—1/300th part is cocaine. It is about one grain, is it not?

1/300th part of the ounce is cocaine—1½ ounces?—Yes.

In six months?—I should not expect it to be with most people.

MR. SMITH: And that is assuming, of course, my lord, that it is all absorbed into the system?

MR. JUSTICE RIDLEY: That is all there is in the ounce.

MR. SMITH: It is all that can be absorbed by the most retentive constitution?

MR. JUSTICE RIDLEY: Yes, if you take it all into you, it would be one grain and a half in six months.

MR. ELDON BANKES: Your lordship says six months. That, of course, is assuming that that particular patient took six months.

MR. JUSTICE RIDLEY: I am only taking the average; it is quite true.

MR. ELDON BANKES: Of course, if the patient took six months to take it he would take very small quantities, but there is no reason why the patient should not take it all in a week.

MR. JUSTICE RIDLEY: We were told how long it would take.

MR. SMITH: Of course, if you chose, you could take it all in a week?

MR. ELDON BANKES: Directly you got the cocaine habit you would take an ounce in a week, or something like that.

MR. SMITH: I think Mr. Bateson told us that he took it frequently?

MR. ELDON BANKES: Very likely he took it frequently, but not an ounce a week.

MR. SMITH: I do not know whether my friend is going to call witnesses who took an ounce in a week. On that point, as it may be of importance, will your lordship allow me to recall Mr. Symonds, who, as your lordship knows, is a member of the Bar, and he will tell us the time an ounce lasts?

MR. JUSTICE RIDLEY: If you wish to do so, I do not see any objection to it. I have only got the average, and I am not quite sure it is quite right, because I am not quite sure, to tell you the truth, whether Mr. Tucker said it was five months or six months.

MR. SMITH: The evidence has varied.

MR. ELDON BANKES: In the pamphlet Mr. Tucker says it will last two to three months.

MR. SMITH: Four months.

MR. ELDON BANKES: Whatever the figure is.

MR. EDWARD SYMONDS *recalled*.—MR. JUSTICE RIDLEY: How long did an ounce last you?—An ounce lasts me from 12 to 18 months; I think always over twelve months, and nearer 18 months.

MR. SMITH: Is the explanation of the time that an ounce lasts you that you make infrequent use of it?—I use it constantly. I may use it—I cannot tie myself literally to every time—from eight to ten times in an hour, almost through the 24 hours. I use it constantly.

You were a very severe sufferer indeed, I think, at one time?—I got sometimes almost unconscious from it. I have the most horrible attacks of asthma—I used to.

Further cross-examined by MR. BANKES: You say you used it very constantly occasionally. That would be, I assume, when the attack comes on?—No; I have used it constantly when there is no attack, if I had had any sort of fear that there might be going to be an attack, if I thought I might have got a little chill, or anything of the kind.

For instance, does a fortnight or a month sometimes you that you are not happy unless you are using it?—No, it has not indeed.

Would you say, in fact, your use of it has grown less?—I never use it unless I need it, and as I say I cannot understand anybody using it for amusement.

Whenever you have a spasm does it in fact give you relief?—Immediately.

Cross-examined by Mr. BANKES.—I understand that you have arrived at the happy state when it is just as much use in your pocket as in your nose?—It is certainly very much better in my pocket than in my nose.

Re-examined by Mr. DUKE.—I daresay it suits both your comfort and your pocket to have the atomiser there than being kept going day and night?—Yes, the only thing that rather bothers me is that it costs 1*s.* 6*d.*, and I have to pay 8*s.*

Mr. Justice RIDLEY: But now you have got past that.

Mrs. FANNY STEWART, *examined by* Mr. DUKE.—Are you the wife of Major General Robert Stewart?—Yes.

Do you live at Hove with your husband?—Yes.

Your husband, I think, is a very aged man?—Yes; he will be 83 in two months.

He is not able to leave home now?—No; not in this weather.

Was your husband for many years subject to severe attacks of asthma?—Only for the last four or five years.

During that time, was he under medical treatment frequently?—Nearly always.

Did he become a purchaser of Dr. Tucker's specific?—Yes; two years ago last November.

He had it on trial, I think?—Yes; he heard of it by accident, but he was very, very ill at the time.

Was he ill with asthma at the time?—Yes; asthma and bronchial catarrh, which caused incessant coughing. The asthma began to affect his heart. The doctor thought very seriously in his case.

You say he had it on trial, but what was the effect upon him of the use of the specific with the atomiser?—He had relief at once. Within 24 hours he was quite in a different state, and if I remember rightly he used it first on November 3rd, 1905, and he wrote within a week that he would purchase it.

And pay for it?—And pay for it, certainly.

You have told us what his condition had been up to that time during the previous two or three years. What has been his condition since that time?—He has gradually grown much stronger.

With regard to the recurrence of attacks of asthma, has he had attacks such as he had before he used the specific or not?—Not nearly so often, and it also affects the coughing very much. The asthma was caused in his case by the incessant bronchial coughing.

Do you find in his case that the specific continues to afford him now the relief that it afforded him two years ago?—Yes, quite the same; it has never failed.

Of course you personally have no interest in Mr. Tucker's success or failure?—No; I never heard of the specific, and I never heard of Mr. Tucker until one of the tradesmen came up to the house——

Mr. ELDON BANKES: Well, we cannot have that. I have no questions.

ARTHUR BELFIELD, *examined by* Mr. DUKE.—You are by profession a solicitor?—I am.

Do you live at 7, Kensington Square Mansions?—Yes.

Are you 50 years old?—I am.

Were you for very many years subject to severe attacks of asthma?—I was.

For how long?—For about 30 years I have been.

Had it any effect with regard to your profession?—Yes; it had a very serious effect. I was compelled to leave my business in the country and to come to London in consequence.

Did you remain subject to asthma after you came to London?—I did.

During a great part of those 30 years were you using a great variety of inhalations and remedies of one kind and another?—I was.

Under medical advice or not?—No.

Were you treated by doctors for your asthma?—I was.

By few or many?—I should think by eight or nine.

When did you first get any relief from the recurrence of these severe attacks of asthma?—That is a question that I really can hardly answer. The attacks were always with me more or less, and I got temporary relief from various inhalations.

Did you some years ago become aware of what is called Tucker's remedy—the remedy sold by Mr. Tucker, the plaintiff?—I did.

Do you remember when that was?—Yes; it was either in March or April, 1900.

Did you get it?—I went to see Mr. Tucker.

Mr. Justice RIDLEY: In Holborn?—In Holborn, yes.

Mr. DUKE: Did you get the remedy—the apparatus and the liquid?—I had it on trial first for a fortnight.

At the end of the fortnight did you purchase it?—I bought it, yes.

What was the effect of the use of the vaporiser and the fluid?—It afforded me the most marvellous relief.

What has been the subsequent effect with regard to your general state of health and with regard to your liability to asthma?—The remedy has continued to give me the same, or almost the same, relief as it did on first using and my general health has improved immensely by the relief from the strain of the attacks.

Can you give me an instance with regard to the effect of localities upon you and the consequence of using the remedy?—Yes; there are some places the air of which brings on attacks with great violence, and in which I have found that the relief obtainable from Tucker's remedy is very much reduced, but these places are quite exceptional and of course I avoid them.

But without the remedy would you be able to venture into those places at all?—No; I should be very sorry to.

Mr. Justice RIDLEY: Tell me one or two of them?—There is a place on the Quantock Hills near Bridgewater that have had entirely to give up visiting—a friend's house. Bournemouth is another place.

Mr. DUKE: Do you mean that if you have the protection of the specific you can venture into those places, but if you have not you cannot?—I should be very sorry to go, even with it. I may add that I have used the remedy sometimes for several hours, I do not mean without stopping, but several hours during one night to keep me going. I could not have got through the night without it; but still I was pretty miserable with it.

You told me what your condition of general health has been. Will you tell me whether you have observed any tendency following the use of the specific to want to use it although you had not any asthma?—Certainly not.

It is suggested it exercises some sort of seductive influence on the person who uses it so that he will not be able to get on without it whether he has asthma or not. Is there any foundation for that in your experience?—Certainly not.

I think you have not only used this yourself. Have you provided it for other persons?—I have provided it for sundry poor people who were unable to pay for it, and have had it at reduced prices.

You have bought it at a reduced price because you were giving it away?—Mr. Tucker let me have it for £2 in those cases instead of £3.

Mr. ELDON BANKES: I have no questions.

Mr. Justice RIDLEY: How many witnesses are you going to call, Mr. Duke?

Mr. DUKE: If my friend does not challenge this evidence I do not want to call a lot of witnesses, but it is a serious question and I would like to call one or two to represent a somewhat different class.

Mr. ELDON BANKES: I am quite prepared to accept any number my friend will give me that he has got here of witnesses who will give the same kind of evidence as this witness. I do not dispute that this drug may give relief, and in many cases with beneficial result. I am quite prepared to take my statement in this general way; if my friend will give me the number I will admit that they will give similar evidence.

Mr. DUKE: I have a very large number of persons.

Mr. ELDON BANKES: Will you tell me the number you have here?

Mr. DUKE: I will call one or two, and if my friend does not cross-examine I will leave it there.

Mr. ELDON BANKES: I should not cross-examine if they give the same kind of evidence.

Mr. DUKE: Very well, I will call one or two.

JAMES ALFRED FORT, *examined by* Mr. F. E. SMITH.—I think you are an assistant master at Winchester School, said death resulted from old standing and advanced consumption. The deceased used a spray which cost £3 3s., and a fluid that cost 8s. an ounce. The Coroner: 'Some quack remedy.' The widow stated that the deceased thought the use of the spray and liquid relieved him. The Coroner: 'Do you think it hastened his death?' Dr. Paton: 'I can't say that it hastened his death. Many of these things are quite ineffective, and, therefore, harmless.' The Coroner referred to the advantage that quack remedies had among the poor and the ignorant because they bore the Government stamp. Many people, he said, took the stamp to mean that the quack remedies were guaranteed by the Government, whereas many of them contained noxious drugs that might cause a great deal of mischief."

You heard all the coroner said. I want to ask you whether the coroner said either that Tucker's dealing was a fraud, or that the remedy was a fraud?—I do not remember it.

If he had said it do you think you would have remembered it?—I think I should have included it in the report.

Would it have been good copy?—I think so; yes, very good.

As far as your memory goes your summary of what took place was accurate?—Yes.

Cross-examined by Mr. ELDON BANKES: I understand you have no note at all of what took place?—No, no note.

When were you first asked what you recollected?—Perhaps three months ago.

Two months ago?—Two or three.

This inquest took place in January, 1907?—Yes.

And you were asked, we will say, in October or November, 1907?—Nine or ten months afterwards.

Was there anything special to cause you to retain the events of this inquest in your mind?—No, nothing particular.

I suppose in order to refresh your memory you looked at your newspaper?—Yes.

You do not find in your newspaper any reference to the word "fraud" at all, do you?—No.

Have you looked at any other newspaper reports?—I have glanced at the *Morning Advertiser*.

It is quite plain that the *Morning Advertiser* uses the word "fraud"—I will not say in what connection?—Yes.

Have you any doubt that the word fraud was used by the coroner?—I am almost certain it was.

So that your recollection now is that the coroner did use the word fraud?—Yes.

You did not include that in your report at all?—No.

I think you misunderstood my learned friend a moment ago when you said that if he had used the word you would have put it in?

Mr. SMITH: No, he did not say that. What he said was if he had used it either of Tucker's dealing, or Tucker's medicine, he would have put it in.

Mr. ELDON BANKES: I see. You think he did use the word "fraud"?—Yes.

Have you any distinct recollection of the connection in which he used the word?—Yes, my recollection is that he used the word "fraud" in connection with the putting of the Government stamp upon patent medicines.

That is your recollection?—Yes, distinctly.

You say that without any note to remind you?—Yes. I feel now that had he said that this particular remedy was a fraud, I should have used the word, and used the phrase.

You are arguing now as to what you would have done if something had happened?—Yes.

But you have no distinct recollection?—No distinct recollection.

I suggest to you that the coroner used the works "quack" and "fraud" with reference to Dr. Tucker and his treatment; but your recollection is not that?—Knowing Dr. Waldo——

That is another argument?—That is another argument, as you say.

Dr. Waldo is a person in whom you place reliance?—Yes.

If he comes and says he did you would not dispute it?—It is a question of memory, I think, in both cases.

Mr. ELDON BANKES: That is quite a fair answer.

Re-examined by Mr. SMITH.—Just to be quite clear, with regard to a well-known medicine like this, you think it would have been good copy if it had been described as a fraud?—Yes.

Perhaps you do not think it would have been equally good copy if the Government system of putting stamps on is called a fraud. Is that equally good copy?—I thought I covered that point without making use of the word fraud. I might or might not have used the word fraud, but I thought I covered the point.

But in the other case it would have been a thing which would have struck you?—Certainly.

As to whether your memory was only refreshed by your own report, when you were shown your own report, were you also shown the competing reports—the other reports?—I believe so at the same time.

Your memory was refreshed impartially by both?—Yes.

Mr. SMITH: That is the plaintiff's case.

Mr. ELDON BANKES: May it please your lordship, gentlemen of the jury: In this case I appear with my learned friend, Mr. Fraser, for the newspaper, THE LANCET, in whose columns this article or notice has appeared which is complained of. You have up to this moment paid the greatest possible attention to this case, and I am sure you will continue to do so until the end, because I expect you realise, and it is not necessary for me to say, that not only are the personal interests of the plaintiff and the defendant involved in this, but it so happens that there is a great question of considerable public importance involved, because upon your verdict will largely depend the question as to whether the wholesale dissemination of this liquid containing, as I shall submit to you, very considerable quantities, and dangerous quantities, of certain drugs is defensible or is not defensible; and whether it is to continue under existing conditions or not, possibly may depend to some extent upon your verdict in this case. My learned friend has said that THE LANCET newspaper is an old and well-established paper and a well-conducted paper, and he has pointed out that it is a paper which comes into existence for the purpose of circulating mainly, if not entirely, amongst the medical profession, and that it deals with medical questions and questions of interest to professional gentlemen. You will have presently to say whether the language THE LANCET used with reference to this specific was under the circumstances in excess of what they were justified in using; and of course, I ask you, in considering that question, to bear this in mind, if I may use the expression it is a case of doctor talking to doctor, and therefore of a person talking to another person upon matters about which both of them have a considerable amount of common knowledge which it is not necessary to express. Now it is very necessary to bear that in mind when you come to consider the language which was used. The matters which I suggest to you were common knowledge, both to the person, the editor of the paper for this purpose, and the persons for whose benefit these notes are written, are two. First of all it was common knowledge what the law of this country is with reference to the sale of poisons. I want just to say a word to you, and it shall only be a word, about that. Mr. Tucker has told you that to his knowledge every country by its laws in some way or another safeguards the public against the indiscriminate sale or use of poisons, and in this country those safeguards are contained in what is known as the Pharmacy Act; and they are very exact. They are of two kinds. First of all it is provided that nobody, unless he is a registered chemist, shall be allowed to sell these poisons at all. Of course, the object of that is that the sale of these poisons shall only be entrusted to a certain specially qualified class of persons, a man who has had a certain training, a man who has had a certain experience, and a man who has passed certain examinations before he can become registered. Therefore, that is the first precaution; that is the first safeguard. The other is this, and it depends upon the character of the poison: there are some poisons with regard to which it is only necessary, if they are sold by a chemist, to state upon the bottle or the box the name of the article and the word "Poison," with the name and address of the seller; and in that class of article you have this protection, you have the protection that it can only be sold by a chemist; you have the protection that everybody into whose hands that bottle comes shall be warned that it is poison, and shall be told what it is. In the other class (and into this class come both preparations of atropine and cocaine and its salts) the precautions are much wider and stricter. In that case the chemist may only sell the article if the purchaser is known to, or is introduced by, some person known to the seller; there could be no indiscriminate sale in such a case; it can only be sold by the chemist to some person known to him or to some person introduced by a person known to him; and entries must be made in the Poisons Book of the date of sale, the

I believe your chest is weak? You have weakness of the respiratory system?—No, I am suffering from bronchial catarrh.

Since that time in 1894 when you felt the symptoms of asthma about you have you resorted to Tucker's specific?—Yes.

What has been the effect of it from that time until this whenever you have had occasion to resort to it?—It is a difficult question to answer. From that day to this if ever I have felt uncomfortable, and I have got hold of Tucker's atomiser, in half a minute or, we will say, one minute, I am quite right.

Mr. Eldon Bankes: I think he must have made a mistake about 1894.

Mr. Duke: No, it could be bought, although it was not in London. You say you bought it in 1894; where did you get it?—I got it from Holborn.

Mr. Justice Ridley: Are you sure of your year, because we have evidence that he was not in Holborn as soon as that?

Mr. Duke: My learned friend Mr. Bankes suggests from the letter you wrote about it that you are mistaken in your year, and it was 1899?—I did not say 1899.

Mr. Tucker says it was 1899 or 1900.—What did I say?

1894.—I meant 1904.

Mr. Eldon Bankes: You are wrong again. It has not improved your memory.

Mr. Justice Ridley: What was the year. We want to know as near as you can tell us?—I got it in 1894 to the best of my recollection.

Mr. Duke: You bought it of Mr. Tucker, who is here?—Yes.

He came to London in 1899, so you are mistaken.—I see.

Mr. Justice Ridley: I thought you might have bought it in America?—No, I did not; I never was there.

Mr. Duke: Having regard to the period during which you used it, can you tell us whether there is any craving for the use of the thing if you have not any ailment which requires the use of it?—The only thing that could make me use it at all events would be the fear of an attack coming on, no other feeling.

Mr. Eldon Bankes: I have no questions.

Travers William Pickmeyer, *examined by* Mr. Smith.—What is your occupation?—None now; I am independent.

What were you formerly?—A wine merchant.

Do you mind telling us how old you are?—51.

Did you suffer from a liability to asthma?—Yes.

How long have you suffered from it?—Since 1903.

Was it acute, or did it become acute?—It gradually became worse.

You had, I think, severe attacks?—Yes.

The effect of the attacks on your general health was bad?—Certainly.

Did you hear of Mr. Tucker's asthma specific from someone?—Yes.

Did you obtain it on the trial basis?—No; I bought it outright.

What was the effect upon your health of its use?—How do you mean?

When you got it first; we will go by steps?—It relieved me at once.

Has the relief continued?—Certainly.

Has it had any injurious effect at all upon your general health?—None whatever. I played in three cricket matches last year.

Has it produced in you the slightest desire to use it except as a preventive or a cure for an attack?—I never use it except I feel an attack coming on.

It has never produced any desire in you to use it?—None whatever.

Mr. Eldon Bankes: I have no questions.

Mr. Duke: There is this question of the suggested craving for cocaine or something. My learned friend has not cross-examined my witnesses with regard to this matter. I do not want to go on putting witnesses into the box.

Mr. Justice Ridley: I take it it is not necessary for him to do so after he has made the suggestion which he did. You must take it that he disputes it.

Mr. Eldon Bankes: I do not suggest that any of these witnesses have the cocaine habit, or any desire to have it, and I do not dispute that out of the 25,000 my learned friend can call a great many who have not.

Mr. Justice Ridley: I was a little inaccurate. While not disputing what they say he does say it might produce and would be liable to produce that in others. That is the case you have to meet.

Mr. Eldon Bankes: If my friend will give me the number of people he has got here I will admit it.

Mr. Duke: My learned friend must take his own course but if my learned friend persists in the allegation that the use of the atomiser produced an unwholesome craving for cocaine, I must go on.

Mr. Eldon Bankes: In certain cases it does.

Mr. Justice Ridley: Have you got the people here?

Mr. Eldon Bankes: No; I have evidence about it.

Mr. Justice Ridley: Have you got the people who use it and have got the craving?

Mr. Eldon Bankes: I have got the doctor who treated them.

Mr. Duke: The people who use this inhaler?

Mr. Eldon Bankes: Yes.

Mr. Duke: Then I must go on. I am sorry that my friend in giving particulars of his defence did not give any particulars of this matter. There is no suggestion of it in the defence, and I shall have to consider what the position is if my learned friend tenders the evidence.

Mr. Justice Ridley: You must take your own course. Perhaps you can take them in batches.

Arthur Stephen Lowry, *examined by* Mr. Duke.—Are you a wine merchant?—Yes.

You live at Beckenham?—I do.

Were you for many years a sufferer from asthma?—About 50.

Mr. Justice Ridley: How old are you?—I am 55.

Mr. Duke: From your childhood you have been liable to attacks of asthma?—Yes.

Had you had medical attendance for it?—Yes, many doctors.

And a great variety of remedies?—Very great.

Did your liability to asthma continue?—Yes, the acuteness of the attacks decreased slightly but the frequency increased.

Down to what period?—I think six or seven years ago.

How do you mark the time?—That is when I got the Tucker's atomiser.

Did you get it on trial?—I did.

Did you pay for it when you had had it about a week?—No, I did not wait more than a day or two.

You waited a day or two and found that the use of it was beneficial to you?—Yes, I had had my three guineas' worth or three pounds' worth in a day or two.

Did you get it then at a time when you were actually suffering from an attack of asthma?—Yes, it had been recommended to me by a friend, but I did not take very much notice then, but one day I was walking across Holborn Viaduct and breathing very badly and I saw the name "A. Q. Tucker." That decided me. I went in and tried it on the spot and had instant relief.

So far as you were concerned, was there any fraud, did you consider, in your being charged £3 for it?—Not in the least.

You paid what you bargained to pay for it?—Certainly.

Was there any element of deceit which you have since discovered, any imposture upon you?—Not an atom.

How could it compare as regards expense since the time you have had it with the period during which you had not got it, when you were suffering from asthma?—My expenses in connexion with asthma must be infinitesimal to what they were before I had it.

Speaking generally, what has been your condition with regard to asthma since you have had the atomiser and the specific?

Mr. Justice Ridley: He says it gave him immediate relief.

Mr. Duke: Very well, I will leave it at that.

Do you find any craving for the stuff when you have not had the trouble?—None whatever.

Mr. Eldon Bankes: I have no questions.

Francis Henry Venn, *examined by* Mr. Duke.—You are the solicitor for the plaintiff?—Yes.

When did you first come into communication with the plaintiff?—In 1902.

Were you at that time very subject to attacks of asthma?—Yes, I was suffering severely at that time.

What effect had they upon your condition and your ability to follow your profession?—I was subject to attacks that if the jury should find that this does make an imputation upon the plaintiff's character, that he has been guilty of fraud, you must prove it to be the fact if you wish to have a verdict.

Mr. ELDON BANKES: I will bear in mind what your lordship says. I do not want in the least to escape from or evade the point, but what I do want to put before the jury are certain considerations; because, gentlemen, my case is, if I may summarise it—perhaps it will be the simplest way to summarise it after what my lord has said, and then perhaps amplify it a little bit more, if you will allow me to do so—what I say in substance is this, that for a man who has no medical knowledge or skill at all, and who has no knowledge of the constituents of the specific which he sends out broadcast, to send out advertisements saying that the stuff of which he knows nothing is harmless, to send it out without any of the warnings with which the law says he ought to accompany it, and to send it out, not only without those warnings, but with an encouragement to use this stuff in unlimited quantities, and if you find that the stuff itself does contain poisons in dangerous quantities, if you find it is very likely to be taken by people who are suffering from diseases to whom it will be actually harmful, when you find that, and, on the top of it all, instead of these warnings he adopts a system which enables him to put upon it the Government stamp, carrying to many minds the indication of genuineness, then I say it is fair to say of that man that his system of trading is a fraud upon the public. That is in substance what I say this article means, and that is in substance what I submit the facts prove. That is, I submit, what we did say, and that is, I submit, language which is not in excess of the particular occasion. Now I want this afternoon badly to call some of these gentlemen before you whose time is valuable and whom I may not be able to call on another occasion, and therefore I want to curtail what I have got to say at this moment within reasonable limits; but I do want you to bear this in mind when you are considering this case, and our evidence and the evidence for the plaintiff, I ask you to bear in mind these observations with reference to this particular class of medicine; whether you call it a quack medicine or whether you call it a so-called quack medicine I do not mind; but bear this in mind, that no man who has got one of these things to sell can ever make a success of it unless it contains a drug which will be beneficial to a considerable number of persons. He would never sell it at all unless it was for that. This specific contains cocaine, a most powerful and potent agent, which undoubtedly does operate to deaden the mucous membrane of a person who is suffering from asthma or any similar disorder; and there is no doubt that if you administer cocaine to such a person, particularly, probably, in conjunction with atropine and these other matters which I have referred to, it undoubtedly does bring relief to him or her, because it deadens the mucous membrane. Therefore, of course, to a considerable number of persons it will be a benefit. Mr. Tucker could not have sold the quantities he has sold unless it was a benefit. No person who has made fortunes in selling similar remedies or other quack remedies could have made the money he did unless the specific contained some drug which was of use under certain conditions; but the danger of doing that is this: You send it out without knowing the particular disorder from which the person is suffering to whom you send it. You do not know the condition of his nervous system; you do not know the condition of his heart; you do not know whether he is suffering from consumption. All you know is that he writes and tells you that he is suffering from asthma, which, as the plaintiff says, may be an entire misconception of his condition. Therefore, when you send your specific out you do not know, and you have no opportunity or means of knowing, whether it is going to do good or harm to the particular person who happens to receive it. That is the danger of all these quack remedies; that is the ground upon which they have from the beginning been attacked. Nobody suggests that they cannot do good and nobody suggests that in certain cases they do not do good, because they never succeed unless they did do good in certain cases; but what is attacked and always has been attacked is this, that you have no right to send out drugs of this character without first of all a careful examination which will enable you to judge whether it is a proper case in which to administer the drug, and, furthermore, you have no right to send it out, to prescribe it to a person, unless that person will be under your observation, and you will be able to see whether or not the drug is doing him harm or doing him good. Therefore, if that is right, you will follow that in this case or in any similar case it is always possible to call a large number of persons who have benefited by the specific. Just bear this in mind; according to Mr. Tucker's own case he has got or had 25,000 patients. What proportion of those do you think he has benefited? I do not dispute for a moment that he has benefited a considerable proportion. Therefore, having 25,000 patients in all these years, he can call a very large number of persons who have benefited. But what about the people who have not benefited? He, of course, does *not* call those. They are not people who go parading in the street the fact that they have taken Tucker and suffered damage from it. We can only call before you persons who, in their professional career, have had to deal with people who are suffering and seriously suffering from what I think some of them, at any rate, have called the Tucker habit. Please bear that in mind in considering this case. Of course, they can bring people who have benefited by the treatment, and of course they bring the people who have benefited and leave at home the people who have not benefited. It would seem to me childish to ask gentlemen who come into the box there one after the other whether they had any temptation to the cocaine habit. It is obvious they had not. It is obvious that they had never used this thing to excess. It is obvious that they were not susceptible persons, and they were selected because they were persons who had benefited by the treatment.

Now let me say a word quite shortly to amplify those points which I made before you a moment ago. This specific, instead of being sent out under the precautions enumerated in the Poisons Act, instead of being prescribed by persons who would be able to watch the effect upon the patient—am I exaggerating at all when I say that it is sent out indiscriminately by the gallon? It is sent out by a man who would have you believe that he does not know what it contains; sent out by a man who has told you in his own language that so far from warning people as to the amount that they should take, or the extent to which they should use it, he impresses people that they should use it—I forget the exact expression he used, I think it was "We insist upon the frequent use"; sent out by a man who comes here and defends it in this language. I say to him, "Do you defend sending out indiscriminately these large quantities of liquid without ever inquiring what the constituents are, or what harm they will do in certain cases?" and his answer is "Yes." It is sent out under those conditions with a statement in print that it is absolutely harmless, and sent out with a statement in print, not only that it is absolutely harmless in general, but, remember, specifically stating that it is harmless in cases of weak heart. The exact words are: "Any asthmatics who have organic heart disease or weak heart action can use the remedy with perfect safety." I suggest to you that under those circumstances there is every justification for the use of strong language, every justification in the interests of the public for the use of strong language, and that we have not in the note that we issued in THE LANCET of that date exceeded the proper limits of such language. I ask you one further question—to consider the bearing of the price at which this article is sold. I am not going into this in detail now because I have told you that I am very anxious to call my evidence, but I do want to make my position plain about that. Of course, a man is entitled to charge as much for a thing as people will give him for it, but you have to consider the circumstances under which that price is charged. You have to consider this, that this kind of advertisement appeals largely to the poorer classes, and appeals largely to men of the Cushing class—fitters and people earning weekly wages, to whom this sum of £3 is a very considerable item of expenditure. Now a man may say, "I am justified in charging anything people will pay me for this thing." That may be, if you are satisfied that the person making the charge has taken every precaution to see that before he takes the man's money it is not only going to give him temporary relief but that it is going to do him some substantial good and is not going to do him harm. Mr. Tucker, through his counsel, claims credit for the fact that he allows this fortnight's trial. You must guard yourselves, I submit, from being led astray by that. Of course, Mr. Tucker sends out a powerful drug which must necessarily give relief; he is quite certain that if he sends out this specific to persons who suffer in the way that asthmatic persons do, and will grasp at any remedy, within a fortnight they will be so gratified with the relief

Would you administer cocaine for instance by correspondence?—I might.

Would you treat a patient by correspondence with cocaine although you had never had an opportunity of examining him?—Cocaine is very often used for the eye. I might use it as drops for the eye as a prescription by correspondence.

I ask you, Would you in your profession treat any patient by correspondence with cocaine for any purpose without having had an opportunity of examining him?—If Tucker's specific contains cocaine I would prescribe it to anybody by correspondence for asthma.

We will leave Tucker out of the way for a moment. I ask you generally so that I shall be able to form an opinion about it. Would you as a professional man——

Mr. Justice RIDLEY: Surely that was a very sensible answer of his. If it contains cocaine he would recommend it because it is a remedy for asthma, that is why.

Mr. ELDON BANKES: You say you would advise it without having had an opportunity of examining the patient?—I would in those doses.

Without giving the patient any warning that it contained cocaine?—I should not think it necessary to give him any warning.

And you notice, do you not, that, as administered by Mr. Tucker, there is no indication that the patient ought to be careful as to its use?—I have never found the necessity. I have recommended it in numbers of instances, and numbers of my patients use it.

Do you think that before recommending it you ought to be quite sure that the person is suffering from asthma?—It would not do him any harm.

Do you not think it would do him any harm whatever his condition is?—Undoubtedly it would not.

Do you think if the patient for instance were suffering from phthisis you could safely administer this specific?—Quite safely, and if he was suffering from bronchial catarrh it would relieve that catarrh.

Do you give that answer without knowing what is in it, or accepting the suggestion that it contains cocaine and atropine?—I give that answer on my knowledge of the specific and its action on patients.

Have you ever had it analysed?—I have tried to have it analysed, but they were unable to give me a fairly good result.

Unable to give you any result?—Yes.

Could not they tell you whether it contained cocaine?—They could not.

It could not have been a competent analyist, could it?—I judged not.

You sent it to somebody who cou~~ld not~~ analyse it, and he said he could not?—Well, he was an analytical chemist.

Supposing I were to satisfy you that it contained both cocaine and atropine, would you, as a professional man, prescribe that for anybody without examining him?—I should, decidedly, because of the small minute doses in which they must be, because of the effect I know it has upon myself.

Of course, when you speak of small minute doses you mean the amount which is vaporised by each compression, or, we will say, by a dozen compressions?—In 100 compressions.

The amount, of course, which a patient absorbs into his system depends entirely on the extent to which he uses it?—Decidedly.

Mr. Justice RIDLEY: Of course it does; how could it fail to do so?

The WITNESS: But he stops using it when he gets relief.

Mr. ELDON BANKES: Supposing I could satisfy you that a patient acquired the cocaine habit by the use of Tucker's specific would you then cease to prescribe it?—I should not.

Although I could satisfy you that a patient had acquired a cocaine habit?—Although you could satisfy me that a dozen patients had I should still prescribe it.

Without seeing the patient?—I should have no hesitation at all if I was told he was a martyr to asthma.

Mr. Justice RIDLEY: You have recommended it, I understand?—Yes, in numbers of cases.

Mr. ELDON BANKES: Let there be no mistake. You would continue to prescribe it without *supervision* even if you were satisfied that 20 patients had acquired the cocaine habit through it?—I should.

Re-examined by Mr. DUKE.—In your experience is there any real risk of a person who uses this remedy acquiring any pernicious habit by the use of it?—Not the slightest.

It has been suggested that there is a grain and a half of cocaine in an ounce of this fluid?—Yes.

In an ounce there are 480 grains, are not there?

Mr. ELDON BANKES: No, 440, is it not?

Mr. DUKE: I am told according to the best modern science it is 437½. They have advanced since I learned. Take 440 grains to an ounce. One and a half grains are suggested to be cocaine. That will be 3/880ths; it is 1½ over 440, 3 over 880—about 1/300th part of an ounce roughly will be cocaine; that is arithmetic. How long will an ounce last you in use?

Mr. Justice RIDLEY: If the ounce lasts for six months—that is the evidence—you get 1/300th part of an ounce in six months.

Mr. DUKE: How many drops are converted into vapour, do you think, when you press the bulb?—I should say not one drop, judging from the time it lasts—not one minim, I should say.

You do not think the discharge of vapour on each compression discharges one minim or one drop of the contents of the bottle?—No, I do not—one minim.

How many minims will there be in 440 grains?—There are 60 minims in a drachm and eight drachms to the ounce.

So there will be 480 minims in 440 grains. Take it roughly a minim to a grain. At each of these discharges you discharge 1/480th part or thereabouts of one grain of cocaine, according to my learned friend?—That is a possible figure.

The vapour which you produce fills the cavity of the lungs?—Yes.

And a great part of it is discharged from the mouth?—It is.

And the mischievous part, if it is mischievous, must be that which adheres to the lungs; it will not be that which is discharged into the air?—I should say not.

I suppose you cannot give me a measure in volume of the part of the one grain that adheres to the lung?—I could not.

In order to find out what portion of one grain of cocaine, or of 1/400th part of a grain of cocaine runs the risk of passing into the system when the patient inhales from the atomiser you have to work out those calculations?—It could be tested and found out.

Do you think there is any occasion for testing and finding it out after the practical experience you have had?—I do not.

Your patients have used this remedy?—They have.

Beneficially or not?—Very beneficially. I have one case of cure by it. She was in bed for three winters with bronchial asthma, and after she used that she gradually recovered and has not had an attack since.

That patient, in your judgment, has been cured by the use of this remedy?—She has.

Dr. JOHN DUNNELL RAWLINGS, *examined by* Mr. DUKE.—I must put the same questions to you as I did to Dr. Clark; you are attending here on subpœna?—Yes.

And, as I understand, against your will?—I did not want to come, certainly.

So I have no proof of your evidence?—No.

You are a registered medical practitioner?—Yes.

Have you yourself been subject to asthma?—No.

Who was it in your household who required a supply of the Tucker specific?—Nobody ever has.

Mr. Justice RIDLEY: Nobody in your house?—No.

Mr. DUKE: Then who was it in your practice who required it?—I do not say it was required, but I suggested to one of my patients that she should try it.

How long ago was that?—I think about a couple of months.

Was it tried with beneficial results, or not?—I really cannot say. The patient herself thinks it did her a certain amount of good. Her attacks have not been severe, and they have always been in the night, so I have not seen them. I have had no opportunity of judging it myself.

But the patient thought it did her good?—To this extent that she did buy the thing, but she was not at all enthusiastic about it. At the end of a fortnight she was still quite uncertain whether she would buy it or not.

Although she was uncertain, did she buy it?—She did buy it, yes.

And did she buy it with your approval?—Yes.

Had you heard that the specific might include cocaine?—Yes.

Did the lady get her ounce of specific, or whatever it was?—Yes.

And used it at her discretion?—Yes.

May I take it that you did not consider that there was a

Did you take those two bottles on the same day, the 8th July, to Mr. Vasey?—I handed it actually to Dr. Sprigge, but it reached Mr. Vasey, I think.

It was handed to Mr. Vasey, the analyst?—Yes.

That was in the same state when you handed it to him as when it was received?—Exactly, with the exception that I had put the label on that I had purchased it.

What did you do with the second bottle?—We kept it in the safe, I think. On the 22nd November I took that to Dr. Willcox, at the St. Mary's Hospital, Paddington.

You left it there fastened up, I think, for him, did you not?—Yes, that is so.

Mr. SMITH: I do not ask anything.

Dr. WILLIAM HENRY WILLCOX, *examined by* Mr. ELDON BANKES.—I think you are a Doctor of Medicine, a Fellow of the Institute of Chemistry and a Fellow of a number of other societies?—Yes.

I think that you are the scientific analyst to the Home Office?—Yes.

On the 22nd November, 1907, did you receive at St. Mary's Hospital one of these two packages?—Yes.

Did it contain a glass bottle?—Yes.

Is that it which you have there?—Yes, that is the one.

It contained a quantity of dark coloured fluid?—Yes.

Mr. Justice RIDLEY: You analysed the contents; let us get on. There is no doubt about that, is there?

Mr. SMITH: No, my lord.

Mr. Justice RIDLEY: It is no use making such a fuss.

The WITNESS: I analysed the contents.

Mr. ELDON BANKES: Will you give me the result of your analysis? I think the simplest way will be to give it in grains per fluid ounce?—Yes. The bottle contained 31 cubic centimetres, that is a little over an ounce of liquid. It was a dark reddish-brown liquid, it had an aromatic smell, and it contained some alkaloids.

Can you tell us what the constituents of the bottle were?—Yes, I will go on with that. The total amount of alkaloids present was 3·15 grains in the fluid ounce. The alkaloids present were two in number, cocaine and atropine.

Mr. Justice RIDLEY: How much was the cocaine?—The cocaine was 2·28 grains.

And how much was the atropine?—0·87 grain. There was also present nitrite of soda, 15·25 grains in the fluid ounce; and glycerine was present, between 20 and 30 per cent. I did not estimate the exact amount.

Mr. ELDON BANKES: Between 20 and 30 per cent. by volume that would be?—Yes, then there was some balsam present, or gum benzoin—balsam.

Anything else?—Minute traces of mineral matters which were of no importance.

Was there oily matter?—Yes, oily matter.

And vegetable colouring matter and so forth?—Yes.

What were the active ingredients in the specific?—They were cocaine, the atropine, and the nitrite of soda.

Was your analysis an exhaustive analysis in the sense that it exhausted the active ingredients?—Yes.

Can you tell us what the actual cost of sufficient of these ingredients to make an ounce of liquid would come to?—The actual cost would be about 3*d*. That would not include the cost of the time in making it up, but it is the cost of the ingredients.

What is the action of these two alkaloids, cocaine and atropine?—They are both poisons. Shall I take cocaine first?

Yes, if you please.—Cocaine is a local anæsthetic; that is, it takes away the sensibility of the part.

Mr. Justice RIDLEY: It is what a dentist uses when he wants to take a tooth out?—Yes.

That is the English of it?—And it is a powerful depressant of the heart.

Mr. ELDON BANKES: You have finished what you have to say about cocaine?—Those are the main actions. I can go into it at great detail, if you like.

No, we do not want great detail. Now, as to atropine?—Atropine quickens the heart's action, and it is used a great deal for allaying spasms, for instance the spasm of the bronchial tubes. It is a deliriant poison if it is taken in moderately large doses.

I think that you prepared a report, did you not, in conjunction with Professor Pepper, in connection with this specific?—Yes.

Mr. Justice RIDLEY: You say it is a deliriant poison?—Yes, it produces delirium.

Mr. ELDON BANKES: I will just go through the points of your report. There was nothing on the bottle, was there, to indicate that it contained a poison?—No.

What would be the effect to the taste of its containing glycerine?—It was rather sweet to the taste.

Mr. Justice RIDLEY: Is that material?

Mr. ELDON BANKES: Assuming the bottle to be left about with this sweet tasting stuff with no label upon it, do you think that in itself is a source of danger?—Certainly, it would be dangerous.

And why?—It might be drunk in mistake by a child, for example.

With regard to true asthma do the symptoms of asthma closely correspond with the symptoms of other diseases?—Yes.

Will you mention some?—In some forms of kidney disease the symptoms are identical; symptoms occur which are identical with those of asthma. In fact the name uræmic asthma has been given to that condition.

I mentioned Bright's disease; would you include that?—Bright's disease is the term which is used to cover that class of case.

Mr. Tucker laughed at it, but you say that the symptoms of Bright's disease——I prefer you to use the words "kidney disease," which is the same thing really—that is, some cases of kidney disease have symptoms exactly identical with those of asthma. I have seen several.

Will you mention one or two other ailments with similar symptoms?—Yes, in some of the forms of heart disease there are attacks of shortness of breath which only a medical man would distinguish from asthma.

Is there any other?—In lung disease, called emphysema, there is shortness of breath and a condition of things which closely resembles asthma. Some forms of bronchitis have symptoms closely resembling asthma.

I think you mentioned phthisis, did you not?—No, I did not; I have not come to that. Some cases of phthisis might present symptoms like those of asthma. As a rule the cases would not be the same, but some would undoubtedly give symptoms very like those of asthma.

In your opinion, what might be the effect of giving cocaine, even in small quantities, to patients suffering from any one of these diseases which are not asthma?—In the case of heart disease, cocaine would be a dangerous drug to be given at all. In kidney disease it ought not to be given. Shall I go on with the other diseases?

Yes.—In cases of advanced consumption it should not be given. In bronchitis, in my opinion, it would be better not to give cocaine, and also in emphysema.

Mr. DUKE: I think you mentioned two or three of these before.

Mr. ELDON BANKES: It is said by Mr. Tucker that the quantities of cocaine which are given by means of his specific used through the spray are so infinitesimal that they could not do any harm. What do you say about that?—I think that to people suffering from disease of the heart a small dose of cocaine would be harmful.

When you say a small dose, you mean such a dose as he could receive by this spray?—If it were used for a long time I should think such a dose might be given.

Apart altogether from any of these diseases which you have mentioned, are there certain persons extremely susceptible to cocaine?—Yes.

In your opinion is it safe to give cocaine even in this way indiscriminately?—Not indiscriminately.

Why not?—Because if it were given to a person suffering from one of these diseases which I have mentioned it might produce harmful effects.

But I am asking you now to deal with the case of a person who is not suffering from one of these diseases which you have mentioned, but who is susceptible to the influence of cocaine. Would it be harmful to administer this specific to such a person?—I should think that it would be unwise.

Have you any experience of the cocaine habit?—Yes.

Is that, in your opinion, easily produced?—Yes.

In your opinion would the continued use of Dr. Tucker's specific be likely in some cases to produce it?—It might be.

What is the primary action of the spray produced from this specific? How does it act to relieve the immediate attack?

Mr. DUKE: We both mean the same thing, I suppose—the vapour? We call it the vapour.

Mr. ELDON BANKES: Yes.

The WITNESS: The spray would come into contact locally with the bronchial tubes.

elapse without your using it at all?—Never at all; never a day. I have used it this morning, and I used it last night.

I understand that using it as frequently as you use it, which appears to be very frequently, your ounce will last you from 12 to 18 months?—Yes.

Do you notice in the memorandum Dr. Tucker says that the fluid will cost you 8*s.* an ounce, which lasts from two to four months?—No, I have not read it.

So that Dr. Tucker assumes that a person following his instructions will use this remedy so much more frequently than you do, that a person will exhaust it in from two to four months, whereas with you it takes from a year to 18 months?—I can only give you my experience. Unless I drank it I could not get rid of it in that time.

Mr. SMITH: You do not drink it?—No, I do not.

Dr. WILLIAM BATSON, *examined by* Mr. SMITH.—I think you also are here in attendance on subpœna, and you have given no statement to the plaintiff?—Quite so, I have not given any statement.

Have you, or some of your patients, suffered from time to time from asthma?

Mr. Justice RIDLEY: You are a medical practitioner?—Yes.

Mr. SMITH: Do you mind telling me what your qualification is?—I am a Licentiate of the College of Physicians and a Member of the Royal College of Surgeons.

Have you from time to time sent for Mr. Tucker's specific?—Yes.

Will you tell my lord and the jury for whose use you sent for it?—For my own.

Have you been a sufferer from asthma?—Yes.

For many years?—Yes, 50 years.

In that time you have tried many remedies probably?—Yes.

What result did you find from the use of this specific and atomiser?—A great benefit.

And you have not felt the cocaine taste growing on you?—No.

Cross-examined by Mr. ELDON BANKES.—Did you know it contained cocaine?—I did know it, yes; at least I am told it does.

Did you know of that from communication with other doctors?—I knew it was analysed in 1903 by an analytical chemist.

And it had become more or less common knowledge in the profession, had it not?—Yes, quite.

It had become common knowledge in the profession that this contained cocaine?—I think so.

And you think that was so in 1903?—I think that is the date.

Do you recognise that cocaine is a drug which should only be prescribed under most careful restrictions?—Yes, certainly.

Do you defend a system under which cocaine is supplied indiscriminately without any examination of the patient, or any warning that the specific contains cocaine?—It depends upon the dose.

But under any circumstances would you justify selling cocaine indiscriminately, even in small quantities?—In minute doses, why not?

Have you had any experience of the cocaine habit?—No.

Then you have no experience as to how readily the habit is acquired, even by the taking of very minute doses?—No.

Would it modify your view if you were satisfied that patients had acquired the cocaine habit from the use of Tucker?—I should think it was impossible from my own experience.

But assuming it is shown to have happened, would that modify your view?—I should be most sceptical. I should think it could not possibly happen.

Mr. Justice RIDLEY: You mean from this specific used as directed?—Yes; I have used so much of it.

Of this specific?—Yes; I am an asthmatic.

Personally, you mean?—Yes.

Mr. ELDON BANKES: But you know, do you not, that the susceptibility to cocaine varies enormously in different persons?—Yes, like every other thing.

Mr. Justice RIDLEY: How long does an ounce last you?—I am afraid only three months; sometimes less.

Mr. ELDON BANKES: Why do you say you are afraid?

Mr. Justice RIDLEY: It shows what a bad sufferer he is.

The WITNESS: The more I use it, the more expensive it is.

Mr. Justice RIDLEY: Is that your reason? I thought you meant the greater the disease was.

Re-examined by Mr. SMITH.—You are familiar, I take it, with the ordinary recognised remedies for asthma?—Yes.

And I daresay both in your own case, and in the cases of other patients, you have had to try them from time to time?—Yes.

As compared with them have you derived more or less relief from the use of Mr. Tucker's specific?—Yes.

You mean more from Mr. Tucker's specific?—Yes.

Than from any of the ordinary remedies with which you are professionally familiar?—Yes.

Mr. Justice RIDLEY: It is the best remedy you know?—Yes.

Mr. SMITH: You have never felt that you have been defrauded by paying £3 for using it?—No.

Mrs. KIRTON PIMM, *examined by* Mr. SMITH.—I think you have suffered from time to time from attacks of asthma?—I have suffered with asthma since 1891.

Did it cause you great inconvenience?—Yes, I have been in my bedroom for a week at a time, and not able to go out.

Your general health suffered, I think, from the attacks?—I have been an entire wreck. I was quite a wreck five years ago.

Did you consult doctors for relief?—Yes, I constantly had the doctor in the house.

Was he able to give you relief?—No, not at all.

I think you tried many remedies?—I tried everything I could think of.

About five years ago did someone bring Mr. Tucker's specific and atomiser to your notice?—Yes, they recommended it to me as having cured them between four and five years ago.

On that recommendation you sent for the atomiser, and for some of the specific?—Yes, I wrote to Herne Hill for it.

Did you get it on trial?—Yes. I paid for it just before the fortnight.

What was the immediate effect of it?—It was a relief instantly.

That is five years ago, and has the relief continued?—Yes, I have never been laid up a day since.

We perceive you are no longer a wreck?—No, I am not.

But you say you have never been laid up since?—No, not once since. I can work now, and I could never work before without bringing on asthma.

It has really given you back the capacity for doing work? Yes.

Mr. Justice RIDLEY: Have you acquired the cocaine habit?—No, not at all.

Mr. ELDON BANKES: I have no questions.

HERBERT HENRY NORMAN, *examined by* Mr. SMITH.—Are you a reporter on the staff of the *Southwark Recorder and South London Gazette*?—I was in 1906.

And at the beginning of 1907, I think, too?—Yes.

Did you attend the inquest which was held on the deceased man Cushing on the 1st of January, 1907?—Yes.

Did you take a shorthand note of the proceedings?—No, not a shorthand note.

But you took a note?—I wrote the case as it went along.

You were not reporting it sufficiently fully to make it worth while to take a shorthand note?—No.

Was the paragraph headed "Believed in Quacks" which appeared in the *Recorder* on the 5th of January, 1907, the product of your pen, if I may so express it?—Yes.

Mr. Justice RIDLEY: Is that the one referred to in the libel.

Mr. ELDON BANKES: I have not seen that.

Mr. SMITH: No, I will give your lordship a copy of it. (To the witness) Would you mind looking at that to identify it? (Newspaper handed to the witness).

Mr. Justice RIDLEY: It is the newspaper report referred to in the libel?

Mr. SMITH: No it is another one. Your lordship will see why I call the evidence. "Believed in Quacks.—The circumstances attending the death of Alfred Albert Cushing, aged 42, late an engineer's labourer, living at 132, H Block, Queen's Buildings, Borough, were enquired into at the Southwark Coroner's Court on Tuesday. The widow said her husband had suffered from asthma and bronchitis for 12 years and used to doctor himself with almost anything he was told of. He had no faith in doctors, saying they did him no good. On Saturday, 23rd ult., he was obliged to keep his bed, and witness called in a district nurse. The nurse sent for a doctor, who pronounced life extinct. Dr. G. A. Paton, of Marshalsea Road, who made a post-mortem examination, that commodity No. 21 is there? (Book handed to the witness.)—Yes.

And is what purports to be a description of it there?—Yes.

Oppenheimers are careful, accurate people in sending out these things, are they not?—Yes.

Just tell us what No. 21 is said to consist of?—It consists of atropine one-third of a grain in the ounce, cocaine hydrochloride two grains in the ounce, a solution of hyponitrous acid gas to saturation, and balsamic extracts to the ounce.

Are Oppenheimers selling that as being substantially the same as the preparation of an American doctor which is being sold in this country?—I did not know that they were, but I see that it is stated there.

Do you know any other preparation of an American doctor except the Dr. Tucker specific?—There may be many others.

Do you know of any others?—I do not know of any.

That is what I asked you.

Mr. Justice RIDLEY: *What does it say?*—Shall I read it out?

Mr. DUKE: Read it out, if you please.—"Many inquiries from important medical men having reached us regarding a certain preparation for asthma recommended by an American doctor, we introduced our Neboline compound No. 21 which is similar in every respect to the preparation in question, and which from the reception accorded to it seems to meet all requirements." *A very fraudulent transaction, is it not?*

M. Justice RIDLEY: That is by a chemist, is it not?

Mr. DUKE: It is by the most eminent firm of wholesale druggists.

Mr. Justice RIDLEY: There is the balsam, and there is the cocaine, and there is the atropine?—There is no glycerine there, and no nitrite of soda.

Mr. DUKE: You think they did not hit it quite as accurately as you have?—I should say undoubtedly not.

Mr. Justice RIDLEY: It appears to me, though I may be wrong, that what you place chief reliance upon is the cocaine and the atropine being there?—Yes.

Mr. Justice RIDLEY: *They are there, you know.*

Mr. DUKE: Will you give me the book, please. (Same handed to learned counsel.) "Many inquiries from important medical men having reached us regarding a certain preparation for asthma recommended by an American doctor, we introduced our Neboline compound No. 21 which is similar in every respect to the preparation in question, and which from the reception accorded to it seems to meet all requirements." Then there is this note in italics: "*Practically a specific for asthma.*" Then there is this further statement that the specific can be purchased wholesale by the profession of Messrs. Oppenheimer at 3*s.* 6*d.* an ounce without any Government stamp?—Yes; I did not see that there, but I have no doubt it is there.

You will take my word for that, I am sure, as my learned friend will?—Certainly.

3*s.* 6*d.* an ounce when the wholesale druggist is retailing it either to the medical man in the provinces or the suburbs who dispenses his own physic, or to the pharmaceutical chemist; that is so, is it not?—Yes.

What price do you think it would arrive at before it got out to the public?—It would be impossible to say, of course.

It might reach almost anything, might it not? I want to know this as you understand these things; do you think the conduct of the medical practitioner or the chemist who buys this—first of all with regard to Oppenheimer's compound, you have told us that Oppenheimer's can make this up at how much an ounce, did you say?—I have not expressed an opinion about Oppenheimer's preparation, but about the analysis that I made.

But there are more ingredients in yours than there are in Oppenheimer's, and so theirs would be cheaper than yours, would it not?—No, theirs would cost rather more.

How much—4*d.* an ounce?—I could not say.

5*d.*?—I could not say.

Let us be lavish about it and say 8*d.*

Mr. ELDON BANKES: He says he cannot say.

Mr. DUKE: He is going to say when he has worked it out.—There is hyponitrous acid in Oppenheimer's—you will see it is mentioned there—and that would be specially prepared.

"Hyponitrous acid gas to saturation." Do you think it is just possible that Dr. Tucker introduced a solution of hyponitrous acid gas to saturation?—No.

Why not?—Because I found none.

But you found some nitric compound, did you not?—Some nitrite.

You found nitrite preparations, but not the solution of hyponitrous acid gas to saturation?—No, I did not find that.

Is that a costly commodity? How much does it cost by the pound, for instance?—It is not priced in any list. It is rather a rare preparation, and it would take some time to prepare, so it would be impossible to tell you what would be the exact cost of it.

Mr. Justice RIDLEY: Do you think that the bottle of Neboline is as likely in your opinion to be a cure as the other one; *do you think it is as good a preparation as the other?*—No, I do not think it would be.

Mr. DUKE: *Which is the one which is not as good as the other?* You think that Oppenheimer's is not likely to be as *as good a preparation as* Dr. Tucker's?—It is not the same preparation as Dr. Tucker's.

And so far as you can judge it is not as likely to be effective?—I do not think it would be.

But even Oppenheimer's is recommended by them as practically a specific for asthma, and you will agree with me, will you not, that what they say is, that it is similar in every respect to Dr. Tucker's—that is what they say in effect?

Mr. Justice RIDLEY: Is it a doctor's prescription?—No, it is a wholesale chemist's.

Mr. DUKE: Dr. Tucker's is a doctor's prescription.

Mr. ELDON BANKES: Is that so?

Mr. DUKE: Mr. Tucker was in the box yesterday and told you who his brother was, and that he is a well-known physician.

Mr. ELDON BANKES: He invented it.

Mr. DUKE: He prescribed it; he compounded it.

Mr. ELDON BANKES: Yes, he compounded it.

Mr. DUKE: It is the prescription of an American doctor.

Mr. Justice RIDLEY: There is no difference.

Mr. DUKE (to the witness): There are good doctors in the United States, are there not?—Certainly.

And apparently one of them has contrived to hit the thing for curing asthma with a specific which you say can be produced more cheaply than Oppenheimer's?—Yes.

Mr. Justice RIDLEY: *Do you know any specific for asthma?*—There is no actual cure for it, so far as I know.

That does not answer the question. Do you know anything which produces the same effects on asthma as have been proved to have resulted from the use of this specific?—Certainly.

Mr. Justice RIDLEY: *I should like to know what it is.*

Mr. DUKE: Perhaps you mean datura or stramonium. I think I saw a person smoking a cigarette of datura or stramonium?—There are many drugs which will relieve asthma.

Are they not all temporary in their action?—Yes.

And do not they lose their effect after repeated recurrence of asthma?—Not necessarily.

But do they not frequently? Are they not frequently kinds of things which lose their effect?—Sometimes they do.

And do not many of them, if not all of them, cause very great discomfort and physical damage to the patient by interference with his lungs?—No, certainly not.

For instance, the inhalation of smoky vapour. Is not that much more likely to hurt the patient than the inhalation of the vapour which is produced here?—The inhalation of smoky vapour is injurious to some people.

Seriously injurious?—It produces bad effects in many people; it has done.

And do doctors go on prescribing that kind of treatment nevertheless because asthma is such a terrible ailment?—Doctors are careful as regards prescribing these smoke medicines. If a doctor found that it did not suit the patient he would adopt some other form of treatment.

Did you hear the evidence of the numerous witnesses who came here for the plaintiff this morning and said, "We had been treated for years by medical men and they failed to relieve our asthma"; did you hear that?—Yes, I heard that.

Is that not common experience with regard to the treatment of asthma?—Is what common experience?

Is it not common experince that you find an entire failure to relieve the patient from the liability to constant paroxysms of asthma?—No.

Do you mean that the doctor usually does produce such effects as have been spoken to here this morning?—Certainly.

He does?—Yes.

Then these are unfortunate instances where the doctors failed?—I should say that these cases, many of them, had not been thoroughly treated by a doctor. They may have consulted a doctor once or twice, but I should say they had not been under a thorough course of treatment.

name and address of the purchaser, the name and quantity of the article, the purpose for which it was wanted, attested by signature, and it must also have the label "Poison." So you will see how careful the legislature is in safeguarding the public generally from the sale of these particular things which I shall show you in a moment are contained in this specific of Mr. Tucker's from indiscriminate sale. That fact would be known, and is known, to the medical profession generally, and, indeed, to most persons, and there is this further fact known to the medical profession, because we have heard now from the plaintiff's own witnesses that it was generally known in the medical profession, at any rate by the year 1903, that this particular specific contained cocaine. Now, gentlemen, you will bear in mind the circumstances under which this article was written to which I will have to call attention in a moment, and the fact that the specific was sold without regard to any of these precautions, and, indeed, without any of these precautions; and, on the contrary, it had upon it what, as was pointed out by the coroner, and, no doubt, you will understand, is often understood by the common people as being a mark of genuineness and authenticity—it had the Government shilling stamp. Now, what was the composition of the liquid which was sold in this way by Mr. Tucker? We have had it analysed and we find by analysis that the ounces which you may buy do not always contain the same quantity of ingredients, apparently. If that is so it would indicate that there is not very great care taken in the preparation of it by the people who are responsible for the preparation, because our analyses vary to this extent; take cocaine for instance; one sample which was analysed was found to contain about a grain and a half, or thereabouts, of cocaine, per ounce, but another sample which we analysed contained about 2·28 grains, or thereabouts—a considerable quantity in excess of what there was in the first sample; and it undoubtedly does contain in considerable quantities cocaine and atropine and sodium nitrite. Now sodium nitrite is not a poison. Cocaine and atropine are, but the combination of these sold indiscriminately in this way will be proved before you to be, in the opinion of men standing as high in their profession as anyone can possibly do, to use their own words, a serious danger to the public. Now, why is that so?

Mr. Justice RIDLEY: That is not what you said in the libel.

Mr. ELDON BANKES: Yes, my lord.

Mr. Justice RIDLEY: It is not, Mr. Bankes.

Mr. ELDON BANKES: What the libel says is that it is a fraud upon the public.

Mr. Justice RIDLEY: Yes; but that is not the same thing.

Mr. ELDON BANKES: That is a question for the jury.

Mr. Justice RIDLEY: If you charge a man with fraud you must prove that he is guilty of it. That is not a question of public interest at all, but it is a question of which you must prove the truth.

Mr. ELDON BANKES: Of course, my case to the jury is this——

Mr. Justice RIDLEY: I have not any doubt at all about it that if you charge a man with fraud you must prove that he is guilty of it, or you are guilty of libel.

Mr. ELDON BANKES: It depends what your lordship means by "fraud."

Mr. Justice RIDLEY: Dishonesty.

Mr. ELDON BANKES: I submit I am entitled to say of this system under which this specific is sold that it is a fraud upon the public.

Mr. Justice RIDLEY: That is not what you have said.

Mr. ELDON BANKES: It is a question for the jury.

Mr. Justice RIDLEY: You have charged him with fraud.

Mr. ELDON BANKES: It is a question for the jury, surely, as to the meaning of the libel.

Mr. Justice RIDLEY: I agree; but it seems too plain that that is what you have said, or I should not have put it so.

Mr. ELDON BANKES: I am sure your lordship will not prejudge the question.

Mr. Justice RIDLEY: It is hopeless. You have not said that this is a serious danger to the public. Where are the words in the libel which say that?

Mr. ELDON BANKES: I am commenting upon a certain state of things. One of the things upon which I am commenting is that this specific, containing these drugs in dangerous quantities, is being sold indiscriminately; that is the first thing. I say that it has been sold indiscriminately without any warning as to its character and with an encouragement to use it to any extent.

Mr. Justice RIDLEY: That is not what you have said in the libel.

Mr. ELDON BANKES: Those are the facts upon which I am commenting, and I respectfully submit to your lordship that I am entitled——

Mr. Justice RIDLEY: I must ask the jury what they think about the meaning of the libel.

Mr. ELDON BANKES: I am obliged to your lordship.

Mr. Justice RIDLEY: I have great difficulty in the case, as I have told you, from the outset. You have not said that, but you have something much worse. You charge him with fraud and give the reasons. There is the price of the article.

Mr. ELDON BANKES: Gentlemen of the jury, I am sure you will realise that the question ultimately is a question for you. Undoubtedly the word "fraud" has been used. It is a word which has many meanings, and it is a question for you as to the meaning in which it was used in this particular article. I suggest to you that this particular article, or note, or whatever you call it, uses the word in this sense: the writer is saying that this specific is a fraud upon the public; the circumstances under which it is sold, the nature of the specific, the way in which it is advertised, what is said about it—all those are material matters for you to consider when you are asking yourselves whether this word "fraud" in that connexion is a word which may legitimately be used by persons who formed a very strong opinion upon the subject.

Mr. Justice RIDLEY: You must prove it is true.

Mr. ELDON BANKES: I have an authority about that.

Mr. Justice RIDLEY: So have I, and I am speaking from it.

Mr. ELDON BANKES: Of course. I will discuss it with your lordship now if your lordship wishes it.

Mr. Justice RIDLEY: When you choose to. My view is that if you choose to charge a man with such an offence as fraud it is an attack upon his character, which is not a matter of public interest and which you must justify.

Mr. ELDON BANKES: Of course, if your lordship rules that there is no justification, there is an end of the case.

Mr. Justice RIDLEY: That is what I think.

Mr. ELDON BANKES: If your lordship takes it upon yourself to rule it now I have nothing more to say.

Mr. Justice RIDLEY: I should like to hear your argument about it, because that is my view of the law.

Mr. ELDON BANKES: Does your lordship wish me to argue it now?

Mr. Justice RIDLEY: If it comes to that, I do. I should like to know how you put it. I have understood that to be so for a long time. I see your junior in a book which he has written—a very able book—suggests that to be the fact, and I think I have an authority to that effect.

Mr. ELDON BANKES: I should like to refer your lordship to an authority if you wish to hear me now.

Mr. Justice RIDLEY: If you wish to deal with it now, do.

Mr. ELDON BANKES: I rather understood that your lordship wished me to do so now.

Mr. Justice RIDLEY: I am rather subject to you. You may wish to bring a body of evidence here to justify, not the truth of the matter, but to prove that it was a matter of public interest.

Mr. ELDON BANKES: Yes, my lord.

Mr. Justice RIDLEY: And that I conceive to be the fact; it is a matter of public interest if you deal with the general question relating to the sale of specifics which contain poisons.

Mr. ELDON BANKES: Yes, my lord.

Mr. Justice RIDLEY: But the thing is as to the character of the person who has done it in this case.

Mr. ELDON BANKES: I say nothing about the man's character.

Mr. Justice RIDLEY: Then if you have attacked his character by charging him with fraud he is entitled to say: "I am not fraudulent and you must justify it."

Mr. ELDON BANKES: It is a question as to what the libel means.

Mr. Justice RIDLEY: Yes.

Mr. ELDON BANKES: It is ultimately for the jury to decide.

Mr. Justice RIDLEY: I think I shall have to leave it to the jury.

Mr. ELDON BANKES: If your lordship pleases; and then perhaps it will be convenient for me to say what I have to say to them now.

Mr. Justice RIDLEY: I do not wish to stop you, but at the same time I had better warn you that my present mind is breathed out through the mouth necessarily?—I do not think one can say that.

Did you see Mr. Tucker operating the thing yesterday?—A considerable part of it would be breathed out.

There could not be any absorption of cocaine into the system from what was breathed out, could there?—No.

There could not be any absorption except from the particles which were in contact with the lining of the inner surface of the lung?—Yes; there would be absorption there.

There would be some absorption there, but the effect of the absorption would wear off almost immediately?—A minute quantity of the drug would be absorbed into the circulation and would be carried round in that way.

It would be discharged out of the system?—Not for some little time.

What do you call some little time—a day?—Probably about a day.

And the gentleman who spoke this morning may have been one day getting rid of such portion as he retained of 1/2000th part of a grain of cocaine which he had inhaled into his lungs and of which he had breathed out part?—I think that figure is hardly correct, is it?

Put it right; give me some other.—You said in ten squeezes—that is one inspiration—there is 1/2000th part of a grain?

Yes. But I understand there would be a great many inhalations of the vapour during the day.

You think there might be more during the day—that the patient might not be better after the first. We cannot get it mathematically accurate?—From what I have heard the patients had several inspirations.

They are recommended to have four?—Yes.

Mr. ELDON BANKES: No.

Mr. DUKE: Yes, four times a day.

The WITNESS: Four or five times this process is to be gone through, but each time there would be several of these ten squeezes.

Do you think it is correct to say that a man might ultimately get 1/2000th part of a grain of cocaine into his system to be discharged by the ordinary natural processes?—I think he would get a good deal more than that.

What is the standard dose of cocaine which is mentioned in Squire's Pharmacopœia?—One-sixth to half a grain, or one-twentieth to half a grain.

Are you sure about that?—I think that is so.

Are you sure it is not a good deal more?—It is one-twentieth to half a grain—the official dose.

At what intervals?—That would be one dose.

How often a day is it given, do you know?—It might be given two or three times a day.

So that a man might get a grain and a half in the course of a day?—No; that would be a dangerous dose to give. The maximum dose is not the dose which is usually given.

He might get a grain of cocaine in a day?—A man might if he would take it, but it does not follow that it would be a safe dose.

I did not ask you that, but I want to see what is done in the profession. How is that cocaine administered?—It may be administered by the mouth.

Into the stomach?—Yes.

So that that is sure to circulate through the system?

Mr. Justice RIDLEY: In a liquid form or how?—It would be dissolved in water.

In some water by itself?—Yes.

Mr. DUKE: What is the largest quantity you have known administered in a day without hurt?—Of cocaine?

Yes.—It is a drug which is hardly ever given by the mouth in my experience—very rarely given indeed.

What is the largest quantity you have known given in a day? I do not mean in your own personal practice, but known as a matter of scientific knowledge?—It is a drug which is given very little by the mouth, and I could not tell you the largest quantity which I recollect. I have known of so few instances where it has been by the mouth.

I quite accept what you say. You are telling us of what the practice of other people is with regard to administration by the mouth?—Yes; it is hardly ever given.

You spoke of the impropriety of administering cocaine in cases of heart disease?—Yes.

And in cases of long-standing consumption, did you not?—Yes, advanced consumption.

And in any other cases?—Kidney disease; and bronchitis I think was the other one.

Is that because cocaine would aggravate the malady?—It is because when the heart is weak and feeble any drug which has a depressing action on it may be most dangerous; and I consider that even a minute quantity of cocaine would be dangerous in some forms of heart disease.

1/10,000th part of a grain?—I think you are rather underestimating the quantity which would be taken. It would probably be rather more than that. One might say that if a drop of the stuff were taken that would contain 1/2000th part of a grain, and that would correspond to 100 compressions.

A drop of the stuff requires 100 shots from that atomiser?—Yes.

And of that 100 the greater part of the vapour produced will be breathed out through the mouth; it will not remain in the lungs at all?—A certain part of it will.

Obviously the greater part, necessarily. You do not suggest that a man is going to hold his breath until this vapour has disappeared into his system, and there is a vacuum in the lung; you do not suggest that?—No.

He must breathe it out, must he not?—He must breathe out part of it.

If he did not promptly breathe it out, if the vapour was absorbed, a vacuum would occur in the lungs?—Yes; a considerable part would be breathed out.

All these figures are necessarily speculative, are they not?—Certainly; you can get no exact amount; but with one drop there would be 1/200th part of a grain of cocaine and one might take 1/500th part of a grain as being the amount retained. That would be in 100 compressions—1/500th part of a grain of cocaine.

1/500th part of a grain of cocaine might be retained out of 100 compressions by a person who thought he had asthma, and in fact had heart disease?—Possibly, yes.

Do you find that the case is frequent of people who suppose they have been suffering for years from asthma, but, in fact, have been suffering all the time from heart disease?—I find they are quite common.

That a man suppose he has been suffering for years from asthma, and, in fact, his trouble has been heart disease?—Heart disease, or one of those conditions which I have mentioned.

Or kidney disease?—Yes.

Or advanced consumption?—No, not advanced consumption, of course, because death would occur.

Heart disease or kidney disease?—Yes, or emphysema.

Has his doctor shared the mistake with him during those years?—No.

How are you able to tell us that the man had suffered for years from kidney disease, and was under the delusion that it was asthma?—Because I have seen a great many patients—hospital out-patients, who come up and tell me: "I have got asthma," and I find they have not got asthma, but they have got one of these condition which I have mentioned.

I will take the case of one of those patients. Suppose one of those patients had the use for a week of one of these inhalers, and tried it upon himself, would the specific relieve his symptoms or not?—I do not think it would have any effect at all in relieving his symptoms.

Do you suppose that a man who has had the use for a week or fortnight of a thing which did not relieve his symptoms is then going to buy it for £3?—No.

Is there any other ailment except asthma which this specific, so far as you are aware, does relieve?—I should say that it would probably relieve some conditions such as hay fever.

Any others?—And catarrhal conditions it might relieve.

Those would be asthma and conditions analogous to asthmatic conditions?—It might relieve them.

But asthma is the ailment which it unquestionably does relieve, is it not?—In many cases no doubt it does.

That being so, as far as you have heard in the course of this trial, what is there upon which you would say that the plaintiff here has been fraudulent in selling this specific as a remedy for asthma?—I could not express an opinion.

Is there anything, or is there nothing?—I could not express an opinion about it.

I am going to press you a little. You have been here during this trial?—Yes.

Is there anything you have heard in the course of this trial upon which, as far as you are concerned, you would say that the plaintiff was fraudulent in selling this specific as a remedy for asthma?

Mr. ELDON BANKES: I submit that is a question for the jury, and not what this witness's particular opinion may be;

that they receive that they will send him the money and he will be in the same position, practically, as if he had received it at first. It is quite true that they have that opportunity of testing it, but Mr. Tucker gave them the opportunity of testing it because he is satisfied that the drug is so potent and so powerful that it is bound to give them such relief that they are certain to send their money; but he does not take any steps to satisfy himself that the specific so sent, though it gives temporary relief, will not do the man ultimately considerable injury. I say when you find these sums charged under those circumstances it is a legitimate ground for using strong language with regard to such a system. You have heard the details of the differences in price and you have probably formed your own opinion about them. You have heard the amount which he receives annually for the sale of this specific. You know what his expenses come to, and I shall probably have afterwards to say a word to you about them. But I want you to bear in mind what our point is with regard to that. It is not merely the fact that what may seem to be an exorbitant price is charged, but the circumstances under which it is charged—that it is asked of a man who has been given no opportunity of being examined, no opportunity of being told whether it is likely to do him permanent good or permanent harm. Mr. Tucker, you know, when he sends this out, goes, as I suggest to you, a great deal further than the case justifies, and a great deal further than he himself now is willing to justify. I ask you to look at these things and to say that when he sends these out with this specific for the fortnight's cure he is content to rely upon the fact that he thinks the patient will get immediate relief; but he does represent to the patient that not only will he get immediate relief, but the stuff, if he uses it, will cure him. Now what justification is there for that? He has sought to draw the distinction, and he says "I mean by 'cure' that it will relieve the attack from which you are suffering at the moment, but I cannot and do not suggest that it will prevent it ever coming on again." If you read these instructions you will see that he draws the distinction between relief and cure. Let me read one passage. He says: "You will notice by the above instructions that it is necessary for the vapour to reach the lungs in order to arrest the attacks, heal the mucous surfaces, and cure the disease." This is part of the system under which this specific is sold, and I ask you again, What do you say of a man who comes here and tells you that he does not profess to cure and that the stuff will not cure, but the stuff will relieve and because the attacks are relieved the patient's general health will improve, but that he does not profess to cure asthma? And what do you say of the system under which it goes out on trial, and the patient, who undoubtedly will receive immediate relief, is told here distinctly and definitely "And what is more, if you buy this it will cure you." And, gentlemen, it does not end there, because there is another expression in these instructions to which I will ask your special attention. What is meant by this statement to the patient: "If you are in the habit of using alcoholic stimulants, morphine, opium, or other narcotics, abandon their use." Is it not to indicate to persons receiving this specific that such things are not given to asthmatics, and that if he will take this in substitution it will benefit him? What do you think of a person doing that if in fact the stuff contains, not alcoholic stimulants, morphine, opium, or other narcotics, but it contains cocaine and atropine? What can be said for a system part of the machinery of which is the use of this thing to induce patients to believe, not only the broad statement that it will not harm them, but the statement that "these obnoxious things are bad for asthmatics, give them up, take my treatment instead"; whereas in fact you find that there are more powerful and potent poisons in his mixture than these the use of which he says is to be avoided. There is another point I want to mention, and I will ask you to bear it in mind. What is meant by that list of questions which is sent out with the specific? What is the object of that? Is the object of that to lead the patient to think that he is in connexion with some qualified medical practitioner who will be able to judge from these answers whether his case is a fit one for this treatment? Is that the object? What other object can there be? You will remember I put to him question after question, and I said, "What do you want to know that for; what good is it to you?" and his answer was "It is my brother's question." I said to him, "Were they not framed by your brother, who is a doctor, in order that on receipt of the answers he might judge whether the specific was one proper to be sent to that patient or not?" and he had to admit it. Then why is it sent out from this villa at Herne Hill by people no one of whom possesses any medical knowledge at all, except for the purpose of inducing the patient to believe that he is dealing with a person who can judge by those answers as to whether the specific is one suited to his case?

Now, gentlemen, those are matters entirely for you. I want you to pay the attention to my evidence which you have so kindly paid to the evidence of the other side, and I can tell you shortly what it consists of. I first of all shall call evidence to prove the analyses of this liquid in order that you may be in possession of the information as to what it contains. I then shall call, gentlemen, a large body of medical evidence, persons about whom it cannot be suggested that they come here from any indirect motive of benefiting the medical profession. I hesitate to give you their names because of course I am not always sure that at the moment I can get persons in this position to come here at the time when their evidence will be wanted; but I feel sure that I shall be able to bring before you persons in the position of Sir Douglas Powell, and Sir Lauder Brunton, and Mr. Tilley, and many others who are at the head of the various branches of their profession, and who will tell you in substance this—that in their opinion the sending out of this specific indiscriminately, containing cocaine as it does, is a danger to the public, because cocaine is an extremely insidious drug, and some people are extraordinarily susceptible to it, and that its use under these conditions in their opinion is likely to produce danger to the public. They will say that in their opinion the quantities, although small, sprayed in this way are sufficient in certain people to produce this cocaine habit. I shall also call one gentleman particularly who has had under his treatment a number of persons who have suffered through the Tucker treatment.

Mr. SMITH: I do not want to take any objection, but if my friend is going into this in detail I should ask him to reserve it until I can take a formal objection to the evidence. If my friend states to the jury the effect of it now the point of the objection has gone, but I mean at the proper time to object to this evidence.

Mr. ELDON BANKES: I want to fight this case perfectly fairly, and therefore I will not go into any detail about it, but, in order to explain this to you and to prevent any misconception which you may be under, this witness will tell you—I am not going into details—that these people are suffering from what he calls the Tucker habit, and he will explain to you exactly what it is, and the effect upon the patient. It is not perhaps quite accurate to call it the cocaine habit, but it is a form of the cocaine habit, and I think he calls it the Tucker habit. He will tell you the difference, if there is any difference, between the two. I want to make that plain because possibly I may have not made the matter quite plain myself before because I did not quite understand what the distinction was.

With those few preliminary observations I will now call my evidence. I have not addressed you, possibly, on some points upon which I ought to have, because, as I have told you, I am most anxious to call certain gentlemen this afternoon in order that they may be liberated, because I know their time is very valuable.

CLARENCE ARTHUR SYMMONS, *examined by* Mr. FRASER.—I think you are a clerk in the employment of the defendant's solicitors, Messrs. Potter, Sandford and Kilvington?—I am.

Did you in pursuance of instructions from your principals go to Mr. Tucker's house in Herne Hill in July, 1907?—Yes, I did.

On the 8th July, I think it was?—Yes, the 8th July.

I think you saw the plaintiff, Mr. A. Q. Tucker?—I did, yes.

What did you ask for?—I asked for two ounces of Dr. Tucker's specific, and he gave me a two-ounce bottle, but I said I would prefer two separate ounce bottles, so he took that back and gave me the two separate ounce bottles, and I gave him the 16s. and came back.

I want you to look at the bottles, please. (Bottle handed to the witness.)—That is one of them.

It was sealed up, was it?—Yes, just like this, without the label on it, with a shilling stamp over it.

Now look at the other one, please. (Handing bottle to the witness.)

Mr. SMITH: Is there any difference?

Mr. ELDON BANKES: There is no difference; it is merely to identify them.—Yes, that is the other one.

Mr. FRASER: These are the two?—Yes.

Mr. Justice Ridley: You will have to get to that point at last.

Mr. Eldon Bankes: I do not in the least desire to argue it. It is very difficult to argue the case and take the evidence at the same time.

Mr. Justice Ridley: I know; but this evidence is quite useless, if my view of the case is correct. We shall be here for I do not know how long, if my view of the law is correct.

Mr. Eldon Bankes: I am sure your lordship will bear with me; we are before the jury.

Mr. Justice Ridley: Yes, but you see this evidence does not help me.

Mr. Eldon Bankes: We are only now on re-examination upon evidence which has already been given.

You were asked some questions yesterday about Mr. Oppenheimer's specific.—Yes.

Would your opinion about that specific be the same as your opinion with regard to Mr. Tucker's specific if it was used indiscriminately in the same way?—Yes.

Mr. Justice Ridley: Are you aware that it says on the bottle that it is perfectly safe to use it?—That implies that it is being used under medical supervision, I take it.

Not at all. "In compliance with the Sale of Poisons Act this preparation is labelled poison, but, nevertheless, it is perfectly safe if inhaled by means of the aeriser or vaporiser."

Mr. Eldon Bankes: Your lordship will also see it is accompanied by a statement in the list which I have not got a copy of.

Mr. Justice Ridley: "To be used as directed by the physician." Yes, but it says it is perfectly safe.

The Witness: I do not think that is sold except to physicians; I do not think one of the public can buy it.

Mr. Justice Ridley: I do not know. Your observation made me put this to you. I know it is sold with a safe label on it, and that is all I know.

Mr. Eldon Bankes: My friend Mr. Duke read this out from the list yesterday: "There is a further statement that this specific can be purchased wholesale by the profession from Messrs. Oppenheimer."

Mr. Justice Ridley: This direction is made for the person who uses it, is not it?

The Witness: But the doctor would buy it.

Mr. Justice Ridley: "It is perfectly safe if inhaled by means of the aeriser or vaporiser."

Mr. Eldon Bankes: And under the physician's direction.

Mr. Justice Ridley: That is on the other side of the bottle.

Mr. Eldon Bankes: But it is on the bottle.

Mr. Justice Ridley: But independently of the physician it says it is safe.

Mr. Eldon Bankes: That is Oppenheimer's view.

Nevertheless, is that Oppenheimer safe if used indiscriminately?—No, certainly it is not.

So your observation would apply equally to Oppenheimer, although they put that there, if it were used indiscriminately and not under the physician's directions?—Certainly.

You were asked the question yesterday by my friend, Mr. Duke, about the official dose of cocaine?—Yes.

You said, I think, that was one-twentieth to half a grain. Does the fact that that is given as the official dose indicate that it may be safely used in cases, for instance, of heart disease?—No, the official dose implies that it is being given for a proper purpose under medical supervision. Cocaine would be a dangerous drug to give in any dose in a case of heart disease.

That is merely the official dose for the administration of the drug in a proper case?—Yes.

In spite of the questions which were asked you yesterday by Mr. Duke, what is your opinion as to whether sufficient cocaine could be absorbed by the continued use of the Tucker stomiser to cause injurious effects upon persons suffering from heart disease, or kidney disease, for instance?—I am quite certain that sufficient could be absorbed in those cases to cause serious affections.

Mr. Justice Ridley? I have had all this before.

Mr. Eldon Bankes: With reference to persons suffering from heart disease getting relief from the use of the specific you were asked yesterday if a person were suffering from heart disease and if he were suffering from asthma and sent for this specific and used it would it give him relief?—Yes.

You answered that it would not give him relief.—It would not give him relief in pure heart disease or pure kidney disease, but if the heart disease or kidney disease were complicated with asthma or bronchial catarrh then it would give temporary relief; but the effect of the drug, if continued for some days, would be very injurious to the heart.

Mr. Justice Ridley: We had better understand about this Oppenheimer bottle. It has got on the neck "Poison; not to be swallowed; must only be used with the aeriser or vaporiser"; then in the front "to be used as directed by the physician," and on the side, "in compliance with the Sale of Poisons Act this preparation is labelled poison, but nevertheless is perfectly safe if inhaled by means of the aeriser or vaporiser." That is what it states on here.

Herbert Tilley, *examined by* Mr. Eldon Bankes.—I think you are a Fellow of the Royal College of Surgeons of England?—Yes.

You are surgeon to the Ear and Throat department of the University College Hospital of London, surgeon for diseases of the nose and throat of King Edward VII. Hospital and formerly surgeon for Golden-square Throat Hospital?—Yes.

Have you for some time been familiar with this Tucker's specific?—Yes, as used by patients.

Have you had the opportunity of observing the effect of it upon patients who have come to you?—Yes.

You have been made acquainted, I think, with the result of the analysis of this liquid?—Yes, I heard it yesterday afternoon.

You are aware that it contains, amongst other things, cocaine and atropine?—Yes.

Are you familiar with the nature and effect of those drugs?—Yes, particularly with cocaine.

Is it a drug which is used in medical practice?—Yes.

Is it a drug the use of which is dangerous?—Yes, without particular care.

Will you give your reason for that statement?—Cocaine is one of those drugs which has a very potent effect upon the region to which it is applied, when it is applied locally, or on the constitution when it is either absorbed or taken in some form of liquid or injection. There is no means of knowing before it is used, either by the local application or by its injection, whether that particular patient possesses what is known as an idiosyncrasy to the drug. An almost fractional amount in one case will produce very alarming symptoms, and in another case it may have no particular effect; but you cannot by any means tell before you administer whether the individual case will stand it or not, and therefore you must commence with very small doses, and you must watch its action as you go.

You say it may be followed by alarming results?—Yes.

How does the drug act to produce those results?—Supposing the patient is affected by it? You mean to say we will assume the patient cannot stand cocaine?

Yes?—And he has given to him what to him is an overdose?

Yes?—In the course of about three to five minutes he would probably say: "I begin to feel so curious; I feel faint; my heart is beating very fast." You notice he is getting pale and getting a cold perspiration on him, and becoming what we should term anxious; that is to say, he is in a very uncomfortable mental and physical condition. That is what you might call a mild case of acute poisoning.

Are some patients more susceptible to cocaine than others?—Yes, curiously so.

Are there certain cases of diseases in which it is extremely dangerous to use cocaine, for instance heart disease?—I should say yes, but my experience in practice does not deal much with heart disease and therefore I could not speak with the same authority in that respect that I possibly might in others.

In your opinion is it safe to use cocaine indiscriminately?—Certainly not.

And does that answer apply even though the doses may be extremely small?—Yes, because the dose, however small, may be a large dose for the individual who uses it.

Are you familiar with the instructions which Dr. Tucker sends out with the specific?—I read them.

Do you think that those instructions are likely to lead to the continued use of this specific?—Yes.

What is the effect of cocaine? Is its action cumulative or not?—I should say that its effect is cumulative rather than its action; there is a distinction there.

Is the use of this specific, in your opinion, likely to be injurious to patients, or to some patients, if they continue its use for a *considerable time*?—Yes.

Have you yourself noticed the effect of the use of this specific upon patients who come to you?—Speaking generally, yes.

Mr. Justice Ridley: I have got all that before.

Mr. Justice RIDLEY: There is not any spray.

Mr. DUKE: I suggested that the witness should describe what he means.

Mr. ELDON BANKES: The vapour; we mean the same thing.

Mr. Justice RIDLEY: The spray would not come into contact with the bronchial tubes according to the evidence before me. I have not got evidence of any spray which could possibly get there. I am only dealing with the evidence.

Mr. ELDON BANKES: Is your lordship referring to the difference between vapour and spray?

Mr. Justice RIDLEY: Yes, I think you had better use the word vapour.

The WITNESS: I do not think "vapour" is a correct scientific term. A vapour is invisible and does not contain solid particles. Call it a fine spray.

If you do not object I shall call it vapour, because I shall know what I mean?—Yes, but scientifically a fine spray would be the more correct term.

I would rather say vapour if I may, because I shall be able to keep my notes of this case correct, but I quite understand what you mean. What would happen to the vapour?—The vapour would come into contact with the bronchial tubes and the spasm of them would be relieved by the atropine and cocaine present, and also the nitrite of soda would assist that action.

Mr. ELDON BANKES: In what way would they act?—By deadening the sensibility. The cocaine would act in that way and the atropine would also act in a similar way.

So that by the use of the drugs in this way you would expect to get immediate relief from a paroxysm of asthma?—Yes, I should expect it.

That would be the natural result of using these powerful drugs?—I should expect in true asthma that the spasm would be relieved and relief would be given in many cases.

In your opinion, as a concluding question, is it safe to distribute this specific in the way in which it is distributed?—No, I do not think it is.

Mr. Justice RIDLEY: That is not the point at all.

Cross-examined by Mr. DUKE.—Do you think it is fraudulent to distribute it?—I should not like to express an opinion.

You would want to know first whether it was honestly distributed, would you not, or whether anybody was intentionally deceived about it?—I should prefer not to express an opinion.

You are here with your opinions about this matter.

Mr. Justice RIDLEY: Is there any fraud in this matter?

Mr. DUKE: Suppose I had a bottle of this specific and an atomiser and an asthmatic friend whom the members of your profession had totally failed to relieve, and I handed it to him and said: "Look here, I have heard during two or three days evidence which satisfies me that this will do you good"; would you say I was guilty of a fraud upon him because there was cocaine and atropine in it?—No, I should not say you would be guilty of a fraud.

It would be most unjust to say so, would it not?—I should say it would be unjust.

And if that is what the defendants in this action substantially have done about Mr. Tucker, what do you think of that; is it just or unjust? Perhaps you would rather not express an opinion?—I do not think that that is an opinion which I ought to express.

If you tell me that you would rather not, I will not press it.

Mr. Justice RIDLEY: Very well, leave it.

Mr. DUKE: I am going to ask you about two or three of these things which you have been giving us evidence about. You have made an analysis?—Yes.

Are you in general practice as a medical man?—Yes, a consulting practice.

Mr. Justice RIDLEY: What is the rest of it? Will you ask him; we have got three grains at present.

Mr. DUKE: I was going to ask him that.

You have three grains out of what quantity?—A fluid ounce.

Three grains out of 440?—Yes.

What are the other 437 grains?

Mr. Justice RIDLEY: We have nitrite of soda.

Mr. DUKE: Yes, there is nitrite of soda, too. Cocaine was 2·28 grains and atropine 1·57.—The atropine was 0·67.

What was the nitrite of soda?—15·25.

Were there any other specific ingredients?—Glycerine. Then there was some oily matter.

Do you know what it was?—I think that that arose from some balsam which was put in.

Do you know?—Yes.

You are sure?—Yes.

It was oily matter which arose from balsam; what quantity was there of that?—0·67 grain; benzoic acid, 0·49 grain; then there was a trace of silica, 0·24 grain; oxide of magnesium, 0·11 grain; the glycerine I have mentioned, and the rest was water.

How much glycerine?—20 to 30 per cent. by volume.

Mr. Justice RIDLEY: Not per grain you mean?—No, by volume.

Mr. DUKE: About 20 or 30 grains possibly would be glycerine?—No, more than 20 or 30.

Because the specific gravity would be different?—20 or 30 per cent.

I did not follow that; that is about one-fourth?—About one-fourth.

Do you think you could make this preparation?—I think so.

Have you any confidence in being able to make it? You have given your analysis. Have you any confidence that you could make it?—I think that I could make a preparation which would have the same action.

But are you sure that you could make this preparation?—I do not say that it would be absolutely identical, but it would have the same physiological effect.

Why is it that you cannot be sure that you could make a preparation identical with this in its constituents?—The colouring matter might be different and certain details.

I will leave out colouring matters. What are the other matters besides colouring matter?—If I had the same colouring matter and the same ingredients as in the analysis the preparation would be almost exactly the same.

Are you always able to ascertain vegetable oils with certainty in analysis?—When there are small quantities present one cannot——

Cannot with certainty say what they are?—Cannot with certainty say exactly what they are.

Do you think that there may be in this composition some small quantity of vegetable oils which you cannot with certainty identify?—I do not think the vegetable oils would have any definite effect.

Perhaps you would not mind going back and answering my question now. Do you think there may be in this specific some vegetable oils in small quantities which you cannot with certainty identify?—You can detect them as vegetable oils.

But you cannot with certainty say what they are?—I could not say what they are.

That is what I call identifying them. You think that may be so?—There are some there, yes. I said so—oily matter.

That is what you call oily matter?—Yes.

That is rather an uncomplimentary sort of description of it; it does not prepossess you with it, does it? It is just possible that the inventor of this specific might attach a good deal of importance to what you call the oily matter?—I tasted this oily matter and examined it; it seemed to be quite inert.

I did not ask you that. It was put there on purpose evidently, was it not?—Yes, possibly.

And it is conceivable that the inventor of this specific may have supposed, rightly or wrongly, that it was an important ingredient in the specific?—It may have been supposed so.

Mr. DUKE: Your lordship identified a bottle this morning.

Mr. Justice RIDLEY: Yes, I put the figure 1 on it. (Same handed to the witness.)

Mr. DUKE: Just look at that and see if you recognise it.

Mr. Justice RIDLEY: When was that put in, I have forgotten?

Mr. DUKE: It was produced by one of the witnesses who said he had tried a specific which he had obtained in the Tucker atomiser, but it was ineffective for the cure of asthma.

Is that a preparation of a well-known firm of wholesale druggists?—Yes.

Oppenheimer, Son, and Co., Limited?—Yes.

Are the ingredients practically the ingredients which you say this preparation of the Tucker specific contains?—I do not see the ingredients on the bottle.

Are they not stated there?—No.

Do you know Oppenheimer's list?—I have seen it.

Just look at that and see if it is Oppenheimer's list which is in general use among people who deal in drugs and see if the last witness? You have indicated you do not entirely agree with him.—My view is this: I believe the evidence, so far as it went yesterday afternoon, was to this effect, that the amount that came out of the spray by the ordinary spray was infinitesimal, and could that amount be deleterious. I think that is your point, really.

You shall tell me, and I will accept it from you: Is your view that an infinitesimal quantity could be deleterious?—The amount that comes out of this spray I think is deleterious if continued. Of course, once used it has a passing effect and will produce no harm, but the continued use will certainly produce harm, in my opinion.

I would rather deal with the specific case and not generalities. You heard the specific evidence given by the last witness. I only want to know whether you will agree with it or whether there is any point you wish to make clear?—If you will ask me the specific points I will answer them.

I thought perhaps it would conduce to brevity if you could state, after listening to his evidence, whether there was any specific point you wished to dissent from?—I think if you just put to me one or two points I would prefer to answer them.

You agree as regards the number of grains of cocaine per fluid ounce?—Yes.

You accept all that?—I accept the analysis yesterday.

You would accept the statement that it would take about 100 compressions to exhaust a drop of the specific?—I think that has been ascertained; I do not mind accepting that.

I do not gather that you dissent, either, from the view that the exhalation must get rid of some of the minute proportion of the cocaine that there would be in the drug?—Possibly, but what remains in gives rise to very marked symptoms.

I do not know whether you ought to say that.

Mr. Justice Ridley: Really, that does not seem to answer the question; it is simply confusing. What have we got to do with the symptoms? It does not give rise to the symptoms at all in some of the cases. We are dealing with quantities. Leave out the symptoms.

Mr. Smith: I am going to ask you some questions about the symptoms in a moment, but leaving symptoms quite out of the question, do you agree that a considerable proportion of the cocaine, a very minute proportion of the cocaine which we know to be in a drop, is got rid of by exhalation?—I should think a very small quantity.

Perhaps Mr. Tucker will just take some of that in and discharge it. (The plaintiff did so.) Is not your view that a very inconsiderable proportion of cocaine is discharged?—Not inconsiderable. (The plaintiff repeated the operation.)

You would not form an unfavourable prognosis of Mr. Tucker's case with those two applications?—No, I think he can do it yet again.

You would not like to do it yourself?—No, I am very susceptible to cocaine.

You are not a victim to the cocaine habit?—No, thanks.

Do you mind telling me scientifically, in that exhalation, which would appear to cover a considerable volume of vapour, very little of the cocaine would be discharged?—Because I think there is very little in that.

Your point is really that very little would be discharged in the exhalation because there has been so very little in the exhalation?—Yes.

We are reaching common ground, then.

Mr. Justice Ridley: What proportion of what is taken in will come out?—I do not know at all.

Mr. Smith: You cannot form any view?—No.

I will put a strong case. If it all came out, these gloomy views which we are encouraged to form about the cocaine risk we can put aside?—If it all came out.

You do not know how much comes out?—No.

If you are wrong about the proportion which stays in all these melancholy prognostications fall to the ground?—Yes, but I think by the fact that it relieves so quickly a good deal must be taken.

You do not think it is the temporary passing through that would alleviate at all?—No.

That is your only reason for forming this view?—Which view do you mean?

The only view up to the present time which you have announced to me.

Mr. Justice Ridley: Is the cocaine the only thing that alleviates asthma?—I should think the atropine and possibly also the nitrite of sodium.

Mr. Smith: What proportion of those stays in?—I do not know anything about the proportions that stay in and I do not know anything about the proportions that come out. I know it relieves the symptoms and has a marked effect, and therefore some must stay in.

You do not know what proportion of these ingredients remains in the system, or whether any of them do?—They must remain there, that is obvious.

You do not know how much?—I do not know.

However minute they may be?—I do not know how much remains in or how much comes out.

Of course, if the greater part of it is expelled it would considerably modify the view you have expressed?—If it is, but I think it is not.

Your view, as I understand it, is that it is not a prudent thing, nor indeed a safe thing, for this to be used in this way without medical supervision; is that so?—I think it is imprudent.

That is as far in the direction of the unfavourable sense as you would feel able to go?—I should say even more; I should say it is very unwise for a patient to be constantly using a remedy of this kind.

Mr. Justice Ridley: Suppose he used it for seven years?—Then I should think it seven times as unwise as if he used it for one year.

Yes, I quite understand that, but what would be the effect upon his health in seven years?—I think you could only tell by examining the individual case that had used it for the time.

Mr. Smith: Of course, the learned counsel did not take much opportunity of cross-examining the witnesses on that point.

Mr. Justice Ridley: We have had witnesses who have used it for fully that time.—I think our experience would be we could bring plenty of patients who had had to give it up because it has upset them.

Mr. Smith: I am at some difficulty in dealing with this point. If a patient had been using it for seven years your view is his case would be seven times as bad as if he had been using it only one year?—I think he would be worse at the end of seven years than if he had used it for a much shorter period of time.

Is Sir Stephen Mackenzie a man of high reputation in his profession?—I believe so.

Do not you know him?—Not personally.

But you know his reputation?—Yes.

You know it is high?—I grant you that.

Do you wish to make any qualification?—No.

None at all?—No.

Then without qualification his reputation is a high one?—Yes.

I suppose he is quite as capable as you are of making an analysis?—Well?

We will not make comparisons; they are invidious. You have heard that Sir Stephen Mackenzie has sent more than once for this specific?—I have not heard it.

You heard it in evidence, not cross-examined too?—I had not heard it.

Then assume it to be the case.

Mr. Eldon Bankes: I did not object, but, of course, there is no evidence that he took it; he may have sent for it for analysis.

Mr. Justice Ridley: When did you get that evidence in?

Mr. Eldon Bankes: There are a good many things said which I did not object to. It came out in this way: Mr. Duke in his opening said he was going to call people who used it, and, amongst others, Sir Stephen Mackenzie. Thereupon he was told Sir Stephen Mackenzie was not here, and the thing dropped; that was all that happened and I think my friend ought to confine himself to that.

Mr. Justice Ridley: There was something else said.

Mr. Smith: Yes, let me remind your lordship. What happened was, my friend Mr. Duke inadvertently said he was going to call Sir Stephen Mackenzie. In point of fact we attempted to serve a subpœna on Sir Stephen Mackenzie and discovered that he was on the continent. We then tendered the evidence of the plaintiff that Sir Stephen Mackenzie for a period of six years had been in the habit from time to time of sending for this specific. We could have put in letters if my friend had cross-examined in any way.

Mr. Eldon Bankes: You could not have used the letters. Really, you are going beyond what you ought

Mr. Smith: My lord will tell me whether I am.

Mr. Justice Ridley: "Sir Stephen Mackenzie is one of

Did you hear one of the gentlemen say that he had been for years under medical treatment and got steadily *worse*?

Mr. Justice RIDLEY: In Lord Ashburnham's case he went to a very eminent doctor, and finally the doctor told him to go to Mr. Tucker.

Mr. DUKE: That is quite a common case, is it not?

Mr. Justice RIDLEY: Then he recovered.

The WITNESS: Of course, he may not have had consistent and thorough treatment. I do not know the particulars of the treatment which he had before he went to Mr. Tucker.

Mr. DUKE: But he told us; he said his doctor had seen him on and off and had been treating him for 20 years, and then told him, "You go and get Tucker's specific"; do you know that?—Yes, I have heard that.

And I suppose you believed it?—Certainly.

Have you any sort of doubt at all that that is quite a common thing in the treatment of asthma by the methods which you find in the books?—I do not think that it is a common thing for ordinary medical treatment to fail and for this particular form of treatment to have to be taken up.

I never asked you that. Is it a common thing in the treatment of asthma that the treatment found in the books is practically powerless to prevent the progressive liability to asthma?—I should not say it was common; I should say it does occur.

Does it frequently occur in serious cases of asthma?—Yes.

Do you think it is a fraud for a man who has a specific for the treatment of such cases as that to charge £3 for it to a man who wants it? Do you think it is necessarily a fraud?—No; but I think a man ought to be qualified to sell the preparation.

Mr. Justice RIDLEY: That is another matter altogether. I have not a word to say about that, but that is not what has been stated in this libel. I say it again for the third time.

Mr. DUKE: You think he ought to be qualified. Does that mean that nobody ought to interfere with the relieving of human ailments unless he is a qualified doctor, because he may do more harm than good; is that what it means?

Mr. Justice RIDLEY: Will you take it in this way: He was the agent for his brother, who was a qualified man; his brother was a qualified doctor in America and had taken a degree, and he is his brother's agent. What do you say to that? Does that make any difference? He is not a doctor but he trusts a man who is and who has made the mixture.—I think that this particular mixture ought not to be sold indiscriminately by a person who is not qualified.

Mr. Justice RIDLEY: I will not press the other point.

Mr. DUKE: Is your view that Dr. Tucker or Mr. Tucker ought to hand the thing over to the Society of Apothecaries, for instance, in order that qualified medical men may earn their livelihood by dealing in it; is that it?—No; I think that these powerful drugs should not be sold except by a person qualified to sell them, either a chemist or a doctor.

Then is your view that Mr. Tucker should forthwith cease to sell this thing?—I think he should comply with the conditions of the Act.

I wish you would tell me whether your view is that as a matter of propriety, whether people want it or not and whether it will cure them or not, he should cease to sell it?—No.

Then you think he may go on selling it?—I think he should comply with the proper conditions.

What conditions do you recommend—as a matter of honesty only; I am only dealing with honesty. What conditions would you recommend which you say would entitle him honestly to sell it as a valuable specific to people who are suffering from asthma?—I think that the preparation should be labelled "Poison" for one thing.

Do you know that 25,000 people have been using this—that is, 25,000 separate commodities of this kind have been sold to patients who required them in the last ten years?—Yes.

And that not a scrap of harm, so far as appears up to the present time, has come to any of them, and that they are glad to come here and say that it has done them good? Do you realise that?—I do not realise that not a scrap of harm has been done to any of them. I have that stated, but I should be inclined to doubt that.

We will take it as far as it goes. Have you heard of any harm that has been done to the witnesses who have come here up to this time?—I have heard of none to any of those witnesses.

Take it that that is the state of things with regard to them and that there are 25,000 other people who have been using this thing during the last nine years. What practical necessity is there—I do not know whether there is or is not a statutory necessity, that may have to be considered—but what practical necessity is there for labelling this little phial "Poison," whereas it has never hurt anybody so far as we know?—I should say probably it has done harm to some of those 25,000.

You think it has, although Mr. Tucker has not heard of it?

Mr. Justice RIDLEY: Even in the quantity contained in it?—Yes.

Mr. DUKE: I must ask you one or two questions, and I shall not take long about them, with regard to that statement of yours. You gave me your quantities of cocaine and atropine?—Yes.

Which of them would you regard as in your view the more deleterious?—The cocaine.

And you said there is 2·28 of that. Is that per cent. or grains?—Grains per fluid ounce.

That is 2¼ in 440, is it not?—Yes; it would be 1/200th part of a grain in a drop.

Mr. ELDON BANKES: Is that cocaine or atropine?—That is cocaine.

Look again. Have you not made a mistake?—It is 1/195.

Mr. DUKE: How much will *that* exhaust, a drop or less than a drop, do you think (squeezing the bulb of the atomiser)?—Less than a drop.

How many of them would exhaust a drop?—I have not made the experiment.

I only ask you to tell me roughly.—I daresay about 100.

So that when a man has discharged it 100 times he would have used up about a drop?—Yes.

You know what the process is, when you have learnt it, to fill the lungs by that discharge?—Yes.

How many of them do you think a man could stand in his lungs at a time?

Mr. ELDON BANKES: One of your witnesses said ten.

Mr. DUKE: Somebody said you can take ten.

The WITNESS: *From three to ten.*

Mr. Justice RIDLEY: In each squeeze there is 1/20,000th part of a grain.

Mr. DUKE: Let us follow that up.

Mr. Justice RIDLEY: It is almost impossible to think of.

Mr. ELDON BANKES: But it does good and may do harm.

Mr. DUKE: The specific does good. You flatter yourself that you have found out the ingredients.

Mr. Justice RIDLEY: You do not take the whole 2·28 of a grain at once; you have six months to spread it over. Does not the effect of the first administration of squeezes pass off before you come to the time when it is necessary to administer the next?—Certainly.

Then it is not an accumulative effect: the quantity taken each time is what has to be looked at. You cannot take it all together and say that you have taken two grains of it?—No.

That is quite clear, is it not?—Certainly.

The effect passes off?—Yes.

Mr. DUKE: I want to make it quite clear and see what mischief it is said that Dr. Tucker is doing.

Mr. Justice RIDLEY: There are 100 squeezes wanted to a drop.

The WITNESS: In 100 squeezes there would be about 1/200th part of a grain.

Mr. Justice RIDLEY: You are quite right.

Mr. DUKE: So that in one squeeze there would be 1/20,000th part of a grain?—One squeeze would probably not do any good.

I knew that would be said. We will just follow that up.

Mr. Justice RIDLEY: When he is thoroughly getting on he can take ten at a time.

Mr. DUKE: Somewhere between three and ten fills the lungs. Suppose you are a confirmed inhaler and you take six—or I will take the extreme case of a man who took 10. He would inhale 1/2000th part of a grain of cocaine with each volume of the vapour, as I call it, which he discharged and which got into his lungs?—Yes.

That is, he would have the possibility of absorbing it?—Yes.

He would inhale 1/2000th part of a grain and he would have the possibility of absorbing some of it?—Yes.

Will you tell me what proportion of the vapour which is inhaled into the lungs would be in contact with the lung surface?—It would be impossible to give you——

Is it not a minute portion?—A considerable portion.

Is not the greater part of the vapour which is inhaled this by Dr. Mitchell Bruce, and no question was asked by my learned friend at all to suggest that it was under his supervision.

Mr. Justice RIDLEY: He was never told there was any cocaine or atropine in it and it is obvious there was no particular care or supervision in it in his case because he did not know there was any poison in it. He said: "I was not told it contained cocaine or atropine"; therefore it is clear I should think that he was recommended to take it according to the instructions. Perhaps I am wrong. You see what I mean. I will read the whole evidence if you like.

Mr. SMITH: I should be glad if your lordship would just remind us.

Mr. Justice RIDLEY: "I am 67 years of age. I had asthmatic troubles for five or six years, violent attacks of breathlessness, principally in the daytime, not at night. I tried many treatments and on one occasion went to Mont d'Or and Nauheim baths. They were not much use for it. I consulted several doctors, and I tried all recognised remedies. A year ago in November I had an acute attack, and I consulted Dr. Mitchell Bruce of Harley-street. He gave me a tonic."

Mr. ELDON BANKES: Would your lordship stop there for a moment. This is what I relied upon, and therefore I did not ask any questions:—"Did you consult anyone?—I consulted Dr. Mitchell Bruce of Harley-street.—Was that the first time you had been to see him?—No; off and on I had seen him a good many years, I daresay 20 years or more perhaps"; so I took it that he was Dr. Bruce's patient.

Mr. Justice RIDLEY: Very likely he was. I have not taken that down, but I have no doubt it is right.

Mr. ELDON BANKES: I understood he was a patient of the doctor.

Mr. Justice RIDLEY: He did not state it at this moment because this is the evidence-in-chief.

Mr. ELDON BANKES: I was reading the evidence-in-chief and that is why I interrupted. It comes just between what your lordship took down. You do not seem to have taken down that answer.

Mr. Justice RIDLEY: No, I do not.

Mr. ELDON BANKES: No doubt it did not occur to your lordship as being material.

Mr. Justice RIDLEY: May I go on?

Mr. ELDON BANKES: Certainly, my lord.

Mr. Justice RIDLEY: "He gave me a tonic, but as to breathlessness could only recommend Mr. Tucker's cure." I daresay those words are shortly taken too. "A Paris doctor told me of it before. I found the address out from Messrs. Savory and Moore, and went straight to the place. There I saw a lady and she showed me the atomiser. I bought it outright, and have used it constantly since, especially in London. It removes the breath troubles absolutely. It has not the slightest ill result, and I think I am distinctly better than I was a year ago. I have once had to buy some more liquid. Cross-examined: The attacks came perhaps six or seven times a day." Then I have no doubt other questions were asked, but this is all I have got in answer. "London is a very unfavourable place. I do not use it except when I want it. I gave the lady information about my complaint. I was not told it contained cocaine or atropine." That is all I have about Lord Ashburnham.

Mr. SMITH (to the witness): Taking it quite shortly, your view is that if that advice was given and no arrangement was made for supervision that is extremely unwise?

I personally should think it was unwise.

You will not put it higher than that; you do not agree with it yourself?—I do not agree with it myself.

But you recognise that a competent medical man might take a different view?—He apparently knew Lord Ashburnham's state of health very well, and whether it was possible for him to take this.

Then your view is that if a doctor know his patient's general state of health he might with propriety recommend this specific without arranging for supervision?—I do not think so. I think he would have to assume that the patient would consult him afterwards, to see whether the specific was doing him any injury or not. I should certainly in my own case.

Supposing the doctor arranged that in case the specific was doing injury afterwards he should come and consult him, you would see no objection to it?—Less objection than otherwise, but personally, as I say, I should not use it. I mean to say I cannot defend what other men might do. I personally should not use it.

You have heard Mr. Tucker say that he had on his books 300 doctors of medicine?—He might have.

You think they are all making a mistake?—I think they are unwise, and I am bound to say so.

Do you mean unwise in the interests of the profession?—No, unwise in the interests of the patient in a great many cases.

Mr. Justice RIDLEY: In their own cases that means?—Yes.

Mr. Justice RIDLEY: You do not think their cumulative experience in actually making use of this specific is likely to be of no weight. Does not their cumulative experience coming in the shape, in many cases, of repeated orders impress you?—Not very much.

Not 300 doctors? They are all qualified.—I daresay they are.

Mr. ELDON BANKES: May I suggest that the fact that 300 doctors have once ordered it (if it is the fact, and I am not disputing it) does not show that they continued to use it, or that they did not cease the use of it afterwards. You are pushing the answer farther than it will go.

Mr. SMITH: The plaintiff can give the names and addresses of all the doctors, and I ostentatiously invited my learned friend to ask for them, when, of course, the orders and repeated orders could have all been given. My learned friend, if I may venture to say so, was extremely well-advised not to ask for the names, and therefore they were not given.

Mr. ELDON BANKES: The names would not help you.

Mr. SMITH: Perhaps the suggestion is that all these doctors gave one order.

Mr. ELDON BANKES: No, it is not indeed, but I submit you are pressing the answer farther than it legitimately will go.

Mr. SMITH: I do not want to be unfair, but what it comes to is this. The witness says however many times the doctors ordered this specific it would not change his view.

The WITNESS: Not the slightest. I have seen the evil effects myself of cocaine and of this remedy, and therefore it would not influence me whoever thought they might advise it.

You have seen the evil influence of cocaine in the case of persons addicted to the habit, and that would not change your view in reference to this atomiser whatever 300 or 3000 doctors might say?—No, because I have seen it with this atomiser.

Take, for instance, the case of Mr. Bateson. You did not hear Mr. Bateson give his evidence?—No.

He is a member of the Bar, you know?—Yes.

He has to make extensive use of his thinking powers. I want to ask you about that case. That was a gentleman who utterly failed to gain relief from the medical faculty.—May I ask what the medical faculty did for him?

He said they administered various poisons to him.

Mr. Justice RIDLEY: I think as it is short I might read that evidence also.

Mr. ELDON BANKES: He said they fed him on strychnine.

Mr. Justice RIDLEY: I will read what he said as far as I can; that is the best thing. "I am a barrister-at-law. I have been liable to asthmatic attacks from childhood until I bought Tucker's specific about four or five years ago. I am now rising 42"—that is what he said. "It got worse and constantly I could not sleep at all, but after I bought this I have been able to sleep perfectly well and have had no trouble with asthma at all. My earliest recollection is being under Sir William Jenner. I had recurring attacks then, though I daresay there was relief from time to time"—from the medical treatment that means. "The longer I have used it the less I have to use it. I hardly require it at all now. I pay about 8s. for either 12 or 18 months which would be adequate certainly for 12 months. I volunteered my evidence. Cross-examined: I have been told it contains poison, but all the doctors have fed me on poison. There is nothing on the bottles. I had to use it constantly when I first started. Doctors have ordered me cocaine for hay fever. Re-examined: Sir William Jenner fed me mostly on arsenic, and it was suggested to me to use cocaine for hay fever." I think it was he who suggested it.

Mr. SMITH: Yes, I think it was.

Mr. Justice RIDLEY: "I have never used care with it. I used it as frequently as I wanted it, perhaps three or four times in half an hour, and relief always came very quickly."

The WITNESS: It seems obvious that his diet now is and I submit that is always so. It is not a proper question to put to a witness when it is the question which the jury have ultimately to decide.

Mr. DUKE: The answer to that is that this is an expert witness——

Mr. Justice RIDLEY: You will have to put a department of the case, and ask him if that is fraudulent.

Mr. DUKE: Yes, I could do it in that way; but I am not asking him as to whether he considers that the plaintiff is fraudulent, I am asking him whether there is anything which he has heard in this case, as far as it has gone, upon which he would say that the plaintiff had been fraudulent in selling this specific as a remedy for asthma, and that I submit I am entitled to put.

Mr. ELDON BANKES: I object to the question, and I submit that it is not relevant.

Mr. Justice RIDLEY: I do not see the distinction. I think you must be content with putting the question and drawing the inference. I shall have to ask the jury that question, I can see.

Mr. ELDON BANKES: Very well, I will leave it where it is.

THIRD DAY.

Mr. Justice RIDLEY: The jury have made application to the court with regard to the length of this case. I do not know whether you can come to any agreement.

Mr. ELDON BANKES: My friend and I have agreed that the jury shall treat each day as a separate case.

Mr. Justice RIDLEY: It is proper, and no doubt you will agree it is proper.

Mr. ELDON BANKES: We have agreed.

Dr. WILLIAM HENRY WILLCOX, recalled. *Re-examined by* Mr. ELDON BANKES.—You were asked yesterday with regard to your practice, and you said you have a consulting practice?—Yes.

And you also spoke about the out-patients at St. Mary's. Do you hold an appointment at St. Mary's?—I am physician to the out-patients at St. Mary's Hospital, and also physician to the out-patients at the Great Northern Central Hospital.

I will come to deal with your experience with regard to them in a moment. You were asked a good many questions yesterday with regard to the quantity of this vapour, as we have agreed to call it, that could be absorbed by a patient, and you were asked about the effect of ten compressions. Have you got a copy of Dr. Tucker's instructions?—No, I have not. (Document handed to witness.)

Will you turn to page 6? You will find there the directions that Mr. Tucker sends out to his patients?—Yes.

You see there he says that the length of time required in using the atomiser in order to get relief will vary from two to five minutes according to the severity of the attack?—Yes.

And also, on page 5, he indicates that the right way to use the vaporiser is to inhale and compress during the inhalation?—Yes.

I am only taking this as a test, but one of the witnesses, Mr. Symonds, has told us that during one inhalation he makes ten compressions?—Yes.

How many inhalations would a patient make in a minute?—He might make half a dozen, I should think.

So that in one minute at that rate he would get 100 compressions?—60.

Supposing he were to continue that for five minutes he would get 300 compressions?—Yes.

Mr. Justice RIDLEY: That is if he went on constantly at that rate.

Mr. ELDON BANKES: But your lordship will see that Dr. Tucker says, if I may use the word dose, that the dose continues from two to five minutes, so you are to compress from two to five minutes. Of course, I quite agree it depends on the skill of the patient how many he will be able to take in.

Mr. SMITH: Your lordship will recollect he was not cross-examined when he said the strongest man could not do it more than ten times running.

Mr. ELDON BANKES: Mr. Symonds said he could do it ten times.

Mr. Justice RIDLEY: He said he could not do it more than about three times when it began, and when he got better he could do it ten times.

Mr. ELDON BANKES: I must get a figure. I quite agree it will be a maximum figure, but I only want to get the maximum to compare it with Mr. Duke's suggestion about the minimum figure.

Assume that for the moment; that would be 300 compressions in five minutes?—Yes, and that would correspond to about 1/66th of a grain of cocaine.

So that in order to absorb one grain at that rate a patient would have to take 66 doses?—That is so.

That is to say, apply the vaporiser according to those directions 66 times and to use it at that rate?

Mr. Justice RIDLEY: There is a mistake in the *Times* this morning. I suppose it is my fault for making it, as usual; but I am reported to have said this: that there was 1/20,000th of a grain in a drop. That is not what I said, nor did anybody. It is 1/20,000th of a grain in a squeeze. It is a most important mistake, and I cannot believe I said that.

Mr. ELDON BANKES: It is very confusing.

Mr. Justice RIDLEY: It makes people believe there is a very much smaller proportion of cocaine in this stuff than there is. People ought to be more accurate, as I said before. I do not think I said that, but if I did it is, of course, wrong.

Mr. ELDON BANKES: It is very difficult to express oneself accurately in this case.

Mr. Justice RIDLEY: I should have thought that persons dealing with this case would have understood what the point was.

Mr. ELDON BANKES (to the witness): That would take 66 doses?—Yes.

Is asthma a peculiarly distressing complaint?—Yes, very distressing.

Would a patient naturally fly to anything which would give him or her relief unless they were warned against an excessive use of it?—Yes, certainly.

With regard to the effect of cocaine, you were asked yesterday how long it would take a patient to excrete the amount of cocaine that they would take under this system in a day, and you told my friend Mr. Duke?—Yes.

But does the fact of excreting the cocaine do away with the effect?

Mr. SMITH: My friend had better not lead quite so much.

Mr. ELDON BANKES: Does the effect of cocaine on the body remain although it may be excreted?—Cocaine is a very powerful poison and it causes damage to the heart cells and to the brain cells.

Mr. Justice RIDLEY: I do not think you answered the question; please answer the question.—The damage would remain to the cells of the body.

You say it would remain?—Yes, and I was explaining why.

You say it is a cumulative effect?—I say the effect is cumulative, although the poison itself is excreted.

Mr. ELDON BANKES: In your opinion, in the course of time would the effect of these quantities of cocaine, if used largely, have a material effect upon the patient's health?—Yes; undoubtedly they would be injurious.

Mr. Justice RIDLEY: They must be?—Yes, must be.

To anyone?—Yes, if continued for a long time in large doses.

Mr. SMITH: What is a long time?

Mr. Justice RIDLEY: We have had a number of people who say it was not.

Mr. ELDON BANKES: Does the fact of these people coming here to say it had no bad effect upon them affect your opinion at all?—No.

Will you say why not?—Because I know how powerful a poison cocaine is, and that if its use is continued for a long time it will, I know, cause damage.

Mr. Justice RIDLEY: What do you mean by a long time, may I ask?—It depends on the individual.

Mr. ELDON BANKES: Does the susceptibility to cocaine vary enormously in different persons?—Yes, a very great deal.

And some people take it for a long time in considerable quantities without it doing them any harm?—Yes.

Whereas the same amount to another person in much less quantities and for a very much shorter time would do them great harm?—Yes.

Is that a reason, in your opinion, why a patient who is taking cocaine in any quantities should be carefully watched by some competent person?—Yes, I think it is most important.

Mr. Justice RIDLEY: That is not what you have said in the libel.

Mr. ELDON BANKES: I am sure your lordship will forgive me.

Has Mr. Tucker defrauded Mr. Bateson, for instance?—No, but he has defrauded patients whom I know because he has not cured them and the pamphlet says that it produces a cure.

This is your argument and I shall have an opportunity of dealing with it?

Mr. Justice RIDLEY: Does a doctor always make a cure? He does not promise.

It is very hard on the doctor if he is a fraud because he does not make a cure?—I do not think he would promise to cure.

Mr. Justice RIDLEY: I think I have heard him do it.

Mr. SMITH: Then your view is that Mr. Tucker is a fraud?—I think it is a fraudulent proceeding. I do not know that Mr. Tucker himself is——

Let us be quite clear about that before the jury. Your view is that this is a fraudulent proceeding, and as you have heard, Mr. Tucker is responsible for it, and you think he is taking part in a fraudulent business?—I think it is a fraudulent business to send out a remedy or specific, whichever you like to call it, which you state will cure but which does not cure.

That is your whole reason for saying so—this statement in the pamphlet? Have you the pamphlet there? "Specific for the perfect relief and cure of asthma and hay fever." That is the only reason you have got for saying to the jury what nobody else has said so far, that this is a fraudulent system?—I think it is a fraud so far as it promises what it does not and cannot carry out.

And this is what you found yourself on?—There are other statements in that which are not true.

I would like to have all the statements which would lead you to take the view that this is fraudulent. We are getting further than we have done before. This is No. 1. I will hand you the pamphlet. (Same handed to the witness.)—Perhaps I might wait for a copy in which I made some notes on the margin.

Have any copy you like. (Copy handed to the witness.) Just refer me to the page of the pamphlet which led you to form the view that this is a fraud?—On page 6 there is a statement here: "You will notice by the above instructions that it is necessary for the vapour to reach the lungs in order to arrest the attacks, heal the mucous surfaces, and cure the disease."

Page 6 of what?—Of this pamphlet.

Mr. Justice RIDLEY: That is not the pamphlet; that is the instructions.

Mr. SMITH: Your lordship recollects the evidence that this was written by Dr. Tucker.

Mr. Justice RIDLEY: Yes.

Mr. SMITH: "You will notice by the above instructions that it is necessary for the vapour to reach the lungs in order to arrest the attacks, heal the mucous surfaces, and cure the disease." I note that. Is there anything else?—I do not agree with what is here on page ——

I do not mind what you agree with or what you disagree with; I do not care in the least.

Mr. Justice RIDLEY: What do you want to say about that paragraph, "You will notice," and so on? I thought you referred to that.

Mr. SMITH: Where is the dishonesty? that is what I want.—I do not think it is true; it is published as a fact.

You have given me one statement, or two statements, that is all.—Here is a point in which this vapour is supposed to heal the mucous surfaces. So far as I know, there is no wound there or anything which you can consider is absolutely anything that you can heal in the sense of healing a mucous surface by blowing in this specific, this oil.

You think he is wrong?—I think he is wrong.

And your suggestion to the jury is that it is a fraudulent statement?—I think it is a fraudulent statement.

Is there anything else?—On page 7 of this larger book, the top paragraph, it says, "We now offer to suffering humanity the result of 20 years' experience which has finally worked out a cure for asthma and hay fever, as well as all other catarrhal diseases of the air passages." That is absolutely untrue.

You say it is absolutely untrue?—Quite.

So that even if witnesses come forward to say that they can always cure attacks of asthma by the use of that it does not influence you at all?—"As well as all other catarrhal diseases." I say that that is an untrue statement.

I want to have all those passages on which you found yourself. Are there any more?—There are the last five lines on page 8. You will see it is stated: "We reverse the order of things and think we can prove that the catarrhal affection is the primary cause of the spasm and not the effect." That I do not think is true.

That is fraudulent, is it?—I think it is a fraud to publish it as fact and lead people who cannot understand.

It is not a thing as to which there can be any honest difference of opinion?—I do not think that.

Are you sure?—Yes, I think I can bring plenty of evidence to prove it.

You are charging dishonesty?—Yes.

You do not do that on hypotheses, I suppose?—No.

You are sure that this is such an error as to be incompatible with any theory of honesty at all?—I think to put it on that broad basis and to send this out stating it as a fact is taking advantage of their credulity, which is otherwise a fraud.

I quite understand your general view but I am now asking you for the specific grounds upon which you base that. Do you mind dealing with those first and you can afterwards get back to general grounds. Are there any more passages?—This is on page 6, the second paragraph: "Asthmatics who have organic heart disease or weak heart can use the remedy with perfect safety."

Your view is that they cannot?—My view is that they cannot.

Mr. Justice RIDLEY: Is that your personal experience?

No; it is not my personal experience, because my line of work of recent years has not led me to treat heart disease.

Mr. SMITH: And although it is not personal experience you say it is a fraud; you state that?

I think the statement will be borne out by other witnesses.

Did you hear one or two witnesses who were called yesterday, members of the medical profession? Were you here?—I was here from 3 to 4 o'clock.

Were you here when Dr. Clark was called?—No.

He was a fully qualified medical practitioner?—Yes.

Do you know that he said he suffered himself from asthma and that eight years ago he obtained Tucker's specific, that he got instant relief and has used it continuously ever since with benefit and has never found the slightest craving for it?—He personally might have done so.

You would agree that so far as he was concerned it was a remedy?—I have told you already that I have agreed that many people might use this under supervision. He being a medical man might know the symptoms.

It might be used with great advantage.—He may use it with advantage, yes. So might you use morphia with great advantage.

But the evidence is not that people have used morphia with great advantage; I am dealing with asthma.—Excuse me, one of the most potent and easiest methods of relieving a violent spasm of asthma is the injection of a small dose of morphia.

Mr. Justice RIDLEY: He also said this: "I have recommended it in a number of instances and it will do nobody any harm."—I cannot agree with that statement.

If another medical man says that, though you do not agree with it, it is rather strong to say that is a fraud. I suppose you will say that is fraud?—No; it is personal experience.

I suppose this is this gentleman's personal experience too. I want to know where we are. This pamphlet is founded upon the personal experience of Dr. Tucker. Therefore one is the same as the other, except that one is given upon oath and the other is not. It is rather strong to say that this is fraud.

Mr. ELDON BANKES: Your lordship will remember that Mr. Tucker said here over and over again he did not claim that this specific cured asthma.

Mr. Justice RIDLEY: Yes; I know he did, and I do not think it is true to say that he did claim it.

Mr. ELDON BANKES: There, again, that is a matter of opinion. A person may fairly form the opinion that he did claim it. This gentleman formed the opinion that where he says on page 8 of these instructions, "If necessary repeat the third time and by thus persevering with the treatment the disease can be perfectly controlled and finally cured," he was drawing the distinction as I submit between relief and cure.

Mr. Justice RIDLEY: You have to read the whole pamphlet together.

Mr. ELDON BANKES: Certainly.

Mr. Justice RIDLEY: I think reading pages 6 and 7 together you will see that he does not claim a cure for the asthma in the sense in which this gentleman thinks he does.

Mr. ELDON BANKES: Well, I was going to ask you now what has been the effect that you have noticed?

Mr. SMITH: I should like to ask your lordship, unless it is taken in the same way and substantially in the same proportion, whether or not this would be evidence. There is no dispute, of course, in many cases of persons who have taken cocaine in large quantities, that they are very much injured by it. If he is going to speak to persons who have taken appreciably the same dose and the same atomiser of course I do not object.

Mr. ELDON BANKES: I am speaking of atomisers, and I am speaking merely of the use of the Tucker specific.

The WITNESS: I suppose I may not give the case where I am told "I have given it up because I have felt it growing upon me."

Mr. ELDON BANKES: I want you to tell the jury what is your experience of the use of Tucker's specific with any patient or patients that have come to you.—My experience of it is that it gives relief and that the relief leads them to continue taking it under circumstances which are disadvantageous to themselves. May I explain that? I mean this: supposing a patient is suffering from asthma and takes this remedy he gets relief. The asthma may be caused by some condition which could easily be relieved otherwise, but because he gets relief the patient continues to take the remedy, and the time goes by when the real cause of the asthma could have been removed once for all had he only known of it, but he is satisfied with the relief and he goes on until it is impossible to remove the real condition, thus making it impossible to effect a cure.

So that the time passes by in which the patient can really be cured by anybody?—Certainly.

Is it possible for the specific itself to effect a cure?—I have never known a case.

Mr. Justice RIDLEY: Asthma, I believe, cannot be cured at all?—Yes; it can be cured, but I have never known a case cured by this so-called specific. I should like to state that I do not say all cases of asthma can be cured, but there are certain cases many of which I am quite sure can be cured permanently.

Mr. ELDON BANKES: Are you familiar with what is known as the cocaine habit?—Quite.

How does that affect a patient?—Well, it is practically like all drug habits. Supposing we were to take an ordinary weak solution of cocaine, one of the commonest methods of using it is for the patient to obtain a small vaporiser, nebuliser, aeriser, or whatever term you like to give to the instrument, and just blow it into each nostril and draw the vapour through. In the course of a few moments, supposing they are suffering from a little obstruction or difficulty of breathing, all that passes off. Then the patient experiences a sensation of what is called by a French phrase the *bien-être*—that is to say, a sense of well-being, a sense of elation. No task would be too great for you to overcome. You are capable of any amount of energy. Then after that comes the inevitable reaction in which you get hopelessly depressed. Then you go back to your remedy again, and so the thing goes on until the patient becomes an addicted cocainist, as we call it. Besides the effect it has on his mental condition in the weakening of the mind it will make him irritable and nervous, and in the chronic cases they suffer from sleeplessness and want of appetite. I am speaking now of an ordinary bad habit of cocaine.

Is it worse than all the drug habits?—I am sure it is worse than the morphia habit.

And more difficult to cure?—It is more difficult to cure because the patient in the morphia habit will like to get cured and try to help you to cure him, but the cocainist does not want to get rid of his habit, and will try and elude you in your efforts to cure him.

Is it a habit very easily to be acquired?—Very easy.

And in certain patients who are extremely susceptible the cocaine habit is acquired by the use of small quantities?—Possibly, because in the individual case the small quantity may have a very great effect upon him.

In your opinion is the use of this specific for prolonged periods calculated to produce the cocaine habit?—Yes, I think it is calculated to do so.

I think you yourself have, have you not, written or lectured upon the precautions that ought to be taken with regard to the use of cocaine?—In the last edition of my work on diseases of the nose and throat I have devoted a paragraph to it, in which I have laid stress on the fact that I think medical men ought to be very careful in allowing a prescription containing cocaine, even in small doses, to pass into the hands of their patient because they never do know what will be the outcome of it provided the patient is addicted to its use.

Mr. Justice RIDLEY: I do not think I can take that down: it is the same thing over again taken out of your book.

Mr. ELDON BANKES: Of recent years have the profession generally taken much greater precautions with regard to prescribing cocaine than was formerly the case?—Yes, especially in the United States of America, where it is better known and its evils.

Is that because of the increasing knowledge of the bad effects of the use of cocaine?—And the knowledge that the public very easily attain the habit of using it.

Has your attention been called to the case of the man Cushing who died of consumption?—Yes, I read of it.

Are you able to express any opinion as to the desirability or otherwise of using cocaine in cases of consumption; would that come under your notice?—It would in the case of consumption of the throat, where one uses sufficient just to obtain ease before taking food sometimes, but one would never give it as a continual form of treatment—I mean to say, in the form of a prescription.

Mr. Justice RIDLEY: I do not think that would be material, because this is not recommended for consumption.

Mr. ELDON BANKES: No, but your lordship will remember that the origin of this statement either by the coroner or by us was, as your lordship will see stated in the article, it had been used by a man who died of consumption.

Cross examined by Mr. F. E. SMITH.—Before I pass away from that I want to ask a question about this drug habit. As far as taking cocaine is concerned, do you say the cocaine habit is easily acquired?—Yes.

I suppose that would be the same as far as all drug habits were concerned?—No, because all drugs have not that seductive influence which cocaine has.

Has not morphia, for instance, got a seductive influence?—Morphia has not got the seductive influence of cocaine.

Has not it a well-known seductive influence?—But in another ten years cocaine will have a much greater reputation for seductive influence.

That is your view about it. You may be right. Tell me. What is the kind of dose where the cocaine habit in the extreme form exists that can be taken without the destruction of human life?—You mean to say, supposing a patient is a cocainist and is in the habit of taking large doses what is the largest dose?

Yes.—I do not know; I believe it varies. I believe you can take 10 grains of it, or even 15.

I suggest to you, before passing away from this, that a dose of 90 grains has been recorded over a considerable period?—That is quite possible.

I do not know whether you were present in court yesterday?—Yesterday afternoon only.

You heard the evidence that was given by the last witness?—Yes.

I mean with regard to the amount of cocaine that would be absorbed into the system by the use of this atomiser?—Yes.

Do you accept that evidence?—Personally, not on all points, I should say. I do not think it is possible to say how much is absorbed; I do not think the amount that would be absorbed really has anything to do with it.

Well, I did not ask you that.

Mr. Justice RIDLEY: I am sure it has something to do with it?—Something, but the question of the amount absorbed has really not so great a bearing as the symptoms produced by the actual amount that is administered in the individual case.

Have you got to the symptoms at all? Supposing there are no symptoms?

Mr. SMITH: Of course, we are considering it entirely without reference to the symptoms for the moment. That is the whole point of the question, but even this gentleman does not seem to appreciate it quite.

Mr. Justice RIDLEY (to the witness): You must be wrong, because the quantity absorbed must have something to do with it.—Within limits, but generally speaking, it is not the amount absorbed but the effect which the drug has on the individual case.

Mr. SMITH: Does that mean you do not attach very much importance to the amount absorbed?—Of course I do; it is the whole point.

If it is the whole point perhaps you will tell me with brevity the respects in which your view differs from that of

Mr. Justice Ridley: You may say it is "a specific for asthma," but it is not a fraud.—It is a specific for the relief of the asthmatic seizure, but not for the cure of asthma.

He does not say that. He says "A specific for asthma."—Therefore I take it we are allowed to regard it as we like and have our own opinion.

I do not follow you. I think a "specific" is something which cures and so does everybody else, I should think.

Mr. Smith: Do you really put it as a scientific proposition to the jury that when a firm of wholesale chemists describe a mixture as a specific for asthma the common-sense meaning (as you are so fond of common-sense) to put upon that is not that it is going to cure asthma? Is that *your suggestion* to the jury?—I do not say what they mean by that at all. I do not know what they mean by that. I should suggest that they know enough of asthma to know that this is not going to cure it but only to relieve it.

What I am asking is, whether, when we are told that this is in every respect similar to the preparation in question, with the knowledge, mind you, that we claim to cure attacks—"In every respect similar to the preparation in question," and is "practically a specific for asthma," do you say to the jury that this does not mean that they claim to cure it.—I do not know what they mean to claim. I do not think it does.

But if they did mean that it is fraudulent?

Mr. Justice Ridley: Will you let me see the book. (Same handed to his lordship). A specific is a cure I should think.

Mr. Smith: I should have thought so.

Re-examined by Mr. Eldon Bankes.—With regard to Oppenheimer's list, is that the list of well-known wholesale chemists which is published for dissemination amongst medical men and chemists?—Yes.

And you understand their statement to mean that it is a specific for the relief of asthma?—I cannot believe that a firm of that reputation could wish medical men to believe that they can cure asthma.

I want to know if they used the word as meaning "cure" would your opinion of them be the same as of Dr. Tucker?—I am bound to say I should consider it a fraud.

There is no distinction in your mind whether it is Oppenheimer or Tucker?—Not a bit.

If he advertises this stuff as a cure?—If a man tells me he can cure a disease, and he only *relieves* it, I consider it is—it is my way of looking at it, I use the term fraud; you may say misrepresentation; I do not care what you call it, I call it a fraud.

Before giving an opinion had you carefully read these instructions of Mr. Tucker and these other doctors?—Yes.

And rightly or wrongly did you come to the conclusion that he drew a distinction between relieving the attacks and curing the disease?—No, my impression is that the public reading that—the ordinary public—would take it that they have got something in that which is going to cure.

And it is upon that that you form the opinion which you express?—Yes.

Mr. Justice Ridley: In the pamphlet.

Mr. Eldon Bankes: And the instructions. The instructions are equally specific. Your lordship will see there is a distinction; I am not saying whether it is right or whether it is wrong.

Now a very *few questions about the many* things which you have been asked about. You were asked how much cocaine a confirmed cocainist could absorb?—Yes.

My friend referred to some statement in some book showing that a cocainist could absorb 90 grains?—Yes.

Does the frequent use of this drug or any other drug enable a person to take very much larger doses the longer they take it?—Yes, enormously. The simplest instance, of course, is morphia. A patient will be perhaps quite brought under the influence of morphia by one-sixth or a quarter of a grain the *first time* he uses it, but if he becomes addicted to it he could take five, 10, or 15 grains a day.

Can a person with the confirmed morphia habit or a confirmed cocainist, or a confirmed alcoholist take quantities with impunity which would kill any ordinary person?—Yes, *certainly.*

I mean with whisky or anything else?—Yes.

You are asked about the quantity of this vapour which would be absorbed by the compressions of this inhaler, having regard to the fact that a good deal is blown out. It is suggested to you that there may be a mere passing through of this vapour. Supposing there was anything in the nature of a mere passing through, would it have any effect at all upon the person in relieving his symptoms?—No; some must be absorbed.

And is that obvious from the fact that the asthma is relieved?—Yes.

Of course, the exact quantity that is absorbed *it is im*possible to say?—Quite impossible.

Obviously some would be expelled, and obviously some would remain?—Quite.

You have been asked questions about various persons who have been called as witnesses, and I understand you to say it is unwise for anybody to take this specific without supervision?—Yes.

But is it quite possible that certain persons may take small quantities of it without doing themselves any harm at all?—Quite.

And, of course, it may relieve them greatly?—Yes.

The necessary effect of using cocaine in this way must be to relieve the symptoms—the immediate paroxysm of asthma?—The cocaine, the atropine, and the other constituent, nitrite of soda.

They will necessarily get relief because of the action of these very potent drugs?—Yes, probably.

And in your opinion it is quite conceivable that a great many people may use it in small quantities for a long time and get relief without any obvious harm?—*Yes,* a certain number might.

And, of course, taking the case of a doctor who was using it, he presumably would be a man who would be aware of the danger of using it in an improper manner?—*Yes.*

Mr. Eldon Bankes: I wanted to call some other gentlemen very much, but Dr. Waldo, the coroner, I must call because he has an inquest this afternoon, and I must call him out of order.

Mr. Justice Ridley: Very well.

Dr. Frederick Joseph Waldo, *examined by* Mr. Eldon Bankes.—I believe you are a Doctor of Medicine of the University of Cambridge?—Yes.

Mr. Justice Ridley: And one of the coroners for the City?—I am coroner for the City of London and for the borough of Southwark.

Mr. Eldon Bankes: I think you did on the 1st of July, 1907, hold an inquest upon the body of a man named Cushing?—Yes.

Prior to that time had it come to your notice or knowledge as to what Dr. Tucker's specific consisted of or contained?—Yes.

What had you heard about it?—I had seen——

Mr. Duke: I object to what he had heard. We cannot have evidence of what he had heard.

Mr. Justice Ridley: The fact that he knew of it is admissible.

Mr. Duke: Yes, that is another matter.

Mr. Justice Ridley: We cannot have what he had heard unless he got it from Tucker himself.

Mr. Eldon Bankes (to the witness): Had you heard anything of what it contained?

Mr. Duke: I object.

The Witness: Yes, I had heard that it contained atropine and cocaine.

Mr. Eldon Bankes: My friend objects to it and if he does not choose to ask, very well.

Mr. Justice Ridley: It is only admissible if this came from information by Dr. Tucker.

Mr. Eldon Bankes: I submit not, but at this stage I will not press it.

You had heard of this specific?—I had heard of his cure.

Mr. Justice Ridley: And of its contents?—Yes.

Mr. Eldon Bankes: Was evidence given before you at that inquest?—It was.

And amongst other witnesses was there a witness, Dr. Paton?—Yes, he was the gentleman who was present after the death of the patient and he gave evidence and on my order he made a post-mortem examination *of the body.*

Before you did he give evidence as to what was the cause of death?—He did.

What did he say?—He *said* that the immediate cause of death was failure of the respiration and heart failure, due to advanced *pulmonary tubercular* disease, which is in plain English consumption of the lungs.

Long-standing consumption?—*Long*-standing consumption of the lungs. The actual words he used were what I first gave—respiratory failure and heart failure, due to long-standing pulmonary tubercular disease.

During the inquest was anything said about Dr. Tucker's our oldest patients and is still"—(looking at letter of October, 1907); that is the piece of evidence I have got.

Mr. Smith: The letter was tendered.

Mr. Eldon Bankes: The letter is not evidence.

Mr. Justice Ridley: The evidence is he is one of Mr. Tucker's patients.

Mr. Smith: Assuming that to be so, that, of course, would astonish you greatly?—No, it would not at all.

I understand your view to be that nobody gets permanent relief or any chance of a cure from this?—No; I think so.

Assuming it to be the case, would not it surprise you that Sir Stephen Mackenzie should use for years and order for years a drug that might make him a slave of the cocaine habit, which gives him no chance of permanent cure and injures his health?—I am surprised he uses it in that way.

I thought you said you were not surprised?—I am not surprised that he orders it.

Mr. Justice Ridley: But you do not deal with it. He is a patient for six years, it is said.

The Witness: Is Sir Stephen Mackenzie referring to himself or some patient?

Mr. Smith: No, to himself.

Mr. Eldon Bankes: We do not know that.

Mr. Justice Ridley: Yes, "One of my oldest patients."

Mr. Eldon Bankes: That is all he said, but it is no more evidence than that he supplied the stuff.

Mr. Smith: The evidence is that he is a patient, and my friend did not cross-examine.

The Witness: Because Sir Stephen Mackenzie used it himself it would not influence me in thinking it was a right thing to do.

You would merely think Sir Stephen Mackenzie was wrong?—I should think if he was using a drug for himself *he knew its possibilities*, and he had sense enough to know how much he could use.

But with people who have the sense to know how much they can use you think it is to be recommended?—With great care.

We are getting at something. This specific, if used with great care and among persons who understand its use, is one that may be used in cases of asthma?—Not by the lay public. I am referring to medical men.

I *guarded myself by saying* "If properly recommended"; so we are at least on common ground so far, that this specific is a good specific for asthma if administered under medical advice and with medical supervision?—Yes, I think you might say so.

You make the concession rather grudgingly, but you have no doubt about that, have you?—Well, I am only speaking for myself. I see a good deal of asthma, but I very rarely, in fact never, prescribe this remedy.

That I can quite understand, but still you accept the view I put to you a moment ago?—Generally speaking, I can conceive it might be done.

As regards the witnesses who gave evidence, you know some 20 witnesses of the highest position, both socially and professionally, have been called in court. I do not know whether you were here?—I was not here.

Assuming it to be the case that many of those witnesses stated that they had exhausted all the resources of your profession without getting relief—you follow me?—Yes.

And consulted all the most eminent physicians without getting relief, do you say such a man, if he thinks he can get relief by using this specific, is unwise *to do so*?—Yes.

All the doctors had had a try at him without success.—Are you quite sure they all had?

Perhaps they had not been to you?—No, I was not suggesting that

Assuming that they have tried competent medical advice for a considerable period without success, do you say to such a man, if he finds that Mr. Tucker's specific gives him relief, he is unwise to avail himself of that relief?—I should take very great care to point out to him the risk he was running by using it constantly.

I am sure you would, but having taken care to point out to him the risk he was running should you think such a man, having failed to get relief from the profession, was wise or unwise to get relief where he could find it?—I should think he might use the thing, but I should warn him to use it with the greatest discrimination.

So do we.

Mr. Eldon Bankes: That is the whole point; you do not warn people that it is to be used with caution. You say it is perfectly harmless and they are to use it as much as they can.

Mr. Justice Ridley: Take Mr. Symonds' evidence. He was recommended the remedy by one of the leading physicians of the West of England. He has got relief and has used it for seven years.

Mr. Eldon Bankes: We do not suggest people cannot use it and get relief.

Mr. Justice Ridley: You have said this is fraud. How can it be fraud? It is hopeless.

Mr. Eldon Bankes: Your lordship uses that expression, but supposing there are 25,000 people to whom this is sent, and of those 25,000 half have benefited and half have not. I am putting it as a supposititious case. If they say it is suitable and it is absolutely harmless and the more you take the better it will be I submit that a person who holds a strong opinion is entitled to say that is fraud.

Mr. Justice Ridley: I do not think he is; if he chooses to say a person is guilty of fraud he must prove it and justify it. In this case you have not done that. You have said the fraud was in this man, that he was guilty of fraud.

Mr. Eldon Bankes: No, pardon me, my lord.

Mr. Justice Ridley: Yes, you have.

Mr. Eldon Bankes: That is for the jury, really.

Mr. Justice Ridley: You have said it was fair comment on a matter of public interest.

Mr. Eldon Bankes: I have the authorities that I can refer to in a moment.

Mr. Justice Ridley: I know some of the authorities, and I daresay you know others to the contrary, but that is what I mean. If you had said that this is a thing that ought not to be done, that this *medicine* is a *dangerous one* which ought to be adminstered only under medical supervision, and by medical prescription, as this gentleman says, it would have been fair criticism on a *matter of public interest* without question, I think. No jury would have failed to find it so, but if you choose to say this Mr. Tucker is guilty of fraud because he has sold it at *such a price*, *because* he has been supplying the public with poison and robbing them, that is not a fair criticism on a matter of public interest.

Mr. Eldon Bankes: If *your lordship will pardon* me, *I* am fully aware of your lordship's point.

Mr. Justice Ridley: You said he has been guilty of fraud, robbery, and poison.

Mr. Eldon Bankes: I am fully aware of your lordship's point; I intend to deal with it, but I ask to give my evidence.

Mr. Justice Ridley: I really did not wish to discuss the matter at this moment. It arose in this way; we go on with this point which keeps off the libel.

Mr. Eldon Bankes: I think if my friend had thought the evidence was not admissible he would have objected to it, but he feels that it is relevant and I ask that it should be taken without objection.

Mr. Justice Ridley: I imagine it may be relevant to the issue in case there be any case for the jury to support what you claim—namely, that this is a fair criticism on a matter *of public interest*. My great doubt at present is whether there is any evidence to go to the jury at all on your side.

Mr. Eldon Bankes: Your lordship I am sure will defer your decision upon that.

Mr. Justice Ridley: You have not justified it and you ought to have done; that is the long and the short of it.

Mr. Smith: Were you in court while Lord Ashburnham was giving evidence?—No, I was only here yesterday afternoon from 3 o'clock to 4 o'clock.

His lordship said *that* he was recommended Tucker's specific by Dr. Mitchell Bruce?—Yes.

I want you to tell me about Dr. Mitchell Bruce. Is he a competent physician?—I am not here to express any opinion upon any of my professional colleagues.

I quite see your difficulty. You would not agree with the advice which he gave?—I should not personally prescribe Tucker's remedy for an asthmatic patient.

Assuming that Dr. Mitchell Bruce recommended it to Lord Ashburnham without any arrangement at all to personally supervise its use your view would be that that was very wrong?

Mr. Eldon Bankes: We have not any evidence that that is so.

Mr. Smith: Yes, we have.

Mr. Eldon Bankes: Lord Ashburnham said that he was a patient of Dr. Bruce. He recommended it and presumably, therefore, if he was a patient he would continue to consult him while he was using it.

Mr. Smith: As a matter of fact the only statement made by Lord Ashburnham was that he was recommended to use

Was it then that for the first time you told THE LANCET people or their representative that you had said "Gentlemen, the remedy is a fraud"?—If I did tell them so, it must have been the first time. Of course, I had sent this paper with this document.

That is immaterial to the question which I am asking you: It appears by the pleadings which are before the Court that at some time between the 9th July and the 21st November the defendants decided to allege that you had said, "Gentlemen, the remedy is a fraud." Did they so decide, as far as you are aware, upon a statement which you then made to them?—I could not say; I do not know.

Did you see them or their solicitor?—Their solicitor saw me.

Was that some time in the summer or autumn of last year?—Yes, it might have been then, but I really cannot remember the date.

Did you and he read over the newspaper extract together.—Yes, I believe it was produced.

Was there any discussion between you about it and about the possible view that what you appeared by the newspaper report to have attacked was the Government system, whereas the defendants had charged a personal fraud against Mr. Tucker? Was there some discussion between you about that?—I cannot remember that.

I wish you would charge your memory about that. You did discuss the newspaper report, did you not?—Yes, I can remember that being produced.

Did you also discuss the fact that THE LANCET had charged the plaintiff with personal fraud?—I think it is very possible that on that occasion—as I say, I cannot remember details—I probably might have said that it was a fraud, but I intended the word "fraud" as against the so-called Tucker remedy, and not as against the use of the Government stamps.

So that, although the newspaper might have led a reader to suppose you had been attacking the Government system, when the discussion took place and THE LANCET were being challenged with having accused the plaintiff of personal fraud you said you thought it was a fraud.—Yes; that I used the word "fraud" as against the Tucker cure and not as against the use of the Government stamp.

So the reporter of the other paper of which you have an extract before you was quite mistaken in supposing that you were attacking the Government system?—Yes, he was entirely wrong.

And Mr. Norman, the local reporter who was here in the box yesterday, was quite wrong about it, too.

Mr. ELDON BANKES: Have you got his report?

Mr. DUKE: I have not his report of the evidence.

The WITNESS: I have not heard any report of the evidence.

Mr. ELDON BANKES: I have had three reports and they all disagree.

Mr. DUKE: This is what he said: "The coroner never to my recollection said that Tucker's dealing or remedy was a fraud. I should have recollected it; it would have been good copy."

Mr. Justice RIDLEY: He said he had no distinct recollection.

Mr. ELDON BANKES: His report does not say anything about fraud.

Mr. DUKE: He says: "I should have reported the fact if the words had been used about Tucker."

You, of course, sitting in your court as coroner are privileged to attack people's character without hearing them?—It is my duty as a coroner if I think occasion occurs to give expression to that view to the gentlemen of the jury.

I follow what you say, that you regard yourself as having a duty?—I do most certainly.

With regard to persons who are not before you?—If the occasion warrants, certainly.

If you think so?—Yes.

You know that you are privileged in whatever language you use in what you regard as the exercise of that duty?—I believe I am. I swore when I was first coroner that I would do my duty to the public, and I consider that is my duty.

I daresay you also know that a newspaper does not occupy the same position?—No, I presume they have not the same privilege that the coroner would have.

They have not that immunity.

Mr. Justice RIDLEY: I hope not, indeed. (To the witness.) You are not liable at all; you are quite right.—I believe any judge is not liable, my lord.

No, not at all.—A coroner is a judge of record.

Mr. Justice RIDLEY: I think you are perfectly right.

Mr. DUKE: Do you not know in the ordinary course that before you are going to condemn a man you call him up and say: "I am going to criticise your conduct; what have you to say about it?" Do you know that?—In this case I was quite satisfied——

Never mind this case. Do you know that—that in an ordinary case before a judge is going to condemn a man, as you say, for fraud he has him before him and tells him and hears what he has to say? Do you know that?—Yes, if there is occasion for it.

But in your court you did not consider it necessary?—No, I did not; I was quite satisfied with the evidence before me.

Had you ever analysed this specific?—No, I never have, but I knew what was in it according to the books——

We will see about that. Had you ever received an analysis of it?—I had a qualitative analysis of it.

Was it a qualitative analysis which so far as constituents were concerned shows some such constituents as are spoken of in the evidence here?—Yes, both atropine and cocaine.

That you had seen and that you believed?—Yes, I knew well about that some time before.

That is, that you had become aware of it as a doctor?—Yes, or as a coroner.

I will ask you which it was?—I happen to be a medical coroner—both ways.

I am quite aware that you are a medical coroner. Do you suggest to the jury that in any inquest which you had ever conducted any evidence was ever given about this specific until this case of Cushing?—Yes, the widow told me that her husband——

Mr. ELDON BANKES: He misunderstands the question.

Mr. DUKE: Let me put my question again to you. Do you suggest that at any inquest you ever conducted except the Cushing inquest any evidence was given about this specific?—No, I cannot remember that any was.

Mr. Justice RIDLEY: It is your knowledge as a doctor then?—Yes.

Mr. DUKE: Had you known anybody who had ever used this specific?—At that time I cannot say that I had.

That is all I asked you. With regard to Oppenheimer's list did you know that Oppenheimer had produced and put upon the market an asthma specific in imitation of this specific?—I had never heard so until I heard so in this court.

But did you know that some eminent English drug firm had produced and put upon the market an asthma specific in imitation of Dr. Tucker's asthma specific?—No; I never knew such was the case until I heard it in this court.

You know it now?—Yes; I do.

Does it surprise you at all?—No; I cannot say it surprises me.

You regard it, I take it, as quite a proper thing that Oppenheimer's should produce this specific and sell it wholesale at 3s. 6d. an ounce and describe it as an asthma specific, and say that it produced the effects which the American specific produces? You regard that as a natural thing?—I have never said so.

Do you?—No; I do not if, as you say, it is described as a specific. I take "specific" in the English meaning—I mean very much the same as "cure."

Quite?—If they say they profess to cure and to cure indiscriminately, and throw this broadcast about to all those who take it without being seen by a medical man or under the supervision of a medical man, then I should say it is very wrong.

Mr. Justice RIDLEY: Is it a fraud?—I should say it was fraudulent.

Mr. DUKE: Leaving out all those aggravating circumstances which you have mentioned, do you mind dealing with the plain statement of Oppenheimer that this is a specific for asthma? Do you want to say that that is fraudulent too?—I say so if they profess to cure asthma. In my opinion real spasmodic asthma is an incurable disease and I should say it is distinctly fraudulent—that is unless, of course, under medical supervision. I do not know what those people do—whether they sell it to medical men or how it is dispensed.

Then the person who would be licensed to say that he applied a specific for asthma must be a medical man?—I think it should be given under the supervision of a medical man certainly, otherwise it would be most dangerous to the public.

If a medical man has ever described it as a specific for cocaine and atropine, which seems to suit him. He is being now fed on cocaine and atropine I take it instead of arsenic.

Mr. Justice RIDLEY: Do you think that is a fair answer really?—No, I am simply arguing because he has already said he has been fed on arsenic.

Mr. Justice RIDLEY: He only used that phrase because it was put to him.

Mr. ELDON BANKES: No, he used it playfully; it was not put to him.

Mr. SMITH: You were only speaking in play too, were you not?

The WITNESS: I did not mean that, of course.

Mr. SMITH: Just for a moment to get a serious explanation that would seem to show that you have *here* a case of a sensible professional man to whom the doctors have failed to give any substantial relief.—I should like to know what the doctors have done and what the treatment was.

Of course there was every opportunity to ask him, and my learned friend very wisely did *not* take it. You must assume that the doctors gave him *proper* advice.—He refers back a very long time to Sir William Jenner's time when the treatment of asthma was not so well known as it is now.

He did not say that he ended with Dr. Jenner's advice, and it is reasonable to assume that he was given competent advice by qualified medical practitioners?—Yes.

Taking the case of a man like that—and the jury heard his evidence—assuming he did fail to get relief from qualified medical practitioners, you do not seriously suggest to my lord and the jury that he is unwise to use a specific from which he derives constant relief which has done him *no harm up to now*. That is your view, of course, if I understand it?—That he is unwise to use it? How often does he use it?

Mr. ELDON BANKES: He used an ounce in 12 or 18 months.

Mr. Justice RIDLEY: "I used it *formerly* as *frequently* as I wanted it."

Mr. ELDON BANKES: But he said he exhausted one ounce in 12 or 18 months; that is a very infrequent use, of course.

Mr. Justice RIDLEY: "Perhaps three or four times in half an hour."

Mr. ELDON BANKES: Yes; whenever he had an attack; but he only used an ounce in 12 or 18 months.

The WITNESS: I should assume in that particular case that not very much harm has come of it. Whether it will in the course of time of course I do not know.

That is a grudging testimonial. Would not you go further and say that considerable good seems to have resulted from it?—He has relieved the symptoms, but apparently he is not cured.

He never was cured before and he did not get relief before?—He is not cured now, is he?

No, but he gets relief?—But that has not cured it. You assume that it is a cure.

As a matter of fact I think he did say that the asthma began to go. "Since using this specific I can always sleep."

Mr. Justice RIDLEY: "I hardly require it at all now."

Mr. SMITH: The cocaine habit is making very slow progress in that case, is it not?—Yes.

Mr. ELDON BANKES: Do deal with it seriously. We do not suggest that he had the cocaine habit.

Mr. SMITH: It is so difficult to treat it seriously.

Mr. Justice RIDLEY: Dr. Tilley's evidence goes to this extent that it is almost necessary that everybody should have the cocaine habit if it is used in such quantities.

Mr. ELDON BANKES: It is all a question of degree. I hoped I might save time by agreeing with my learned friend. I do not suggest that any appreciable harm would come to a man who used an ounce of this in 12 or or 18 months. It may be unwise, but it would give him relief I agree, and I agree that no appreciable harm would come to a person who used it in those quantities, and as long as a person confines himself to those quantities no harm would come to him.

Mr Justice RIDLEY: I do not think Dr. Tilley agrees with you.

Mr. ELDON BANKES: I do not know whether he does or not.

Mr. Justice RIDLEY: He said that it was not safe to use it in these doses at all.

The WITNESS: In what doses, my lord?

In doses such as in this specific?—I do not remember having said so.

"It is not safe to use indiscriminately, even in small doses."—Indiscriminately, yes.

Mr. SMITH: What does that complication mean?—It means that a confirmed asthmatic will carry that with him and use it every ten minutes or quarter of an hour or half an hour during the day, and my whole point is that with a person who used it so frequently as that and so often this drug must be acting upon him deleteriously. With regard to a person taking it once now and again, I am not prepared to say that it is going to do him irreparable harm.

Mr. Justice RIDLEY: You also said this: "I consider that this specific used for a certain amount of time is calculated to produce the cocaine habit."—I think it does because I have seen it.

Mr. SMITH: Do you accept the view that an ounce used in a year or 18 months could be used with impunity?—Not by some patients. I do not think some patients could use that with impunity.

Taking the case of a patient like Mr. Bateson, who finds he can use it with impunity after years of experience, who gets alleviation from these attacks, and who finds he has to use it less and less, do you say it is unwise of him to use this specific?—No, because if he goes on using it less and less he ceases to use it at all.

And he has the advantage of being cured?—It will be the first case I have known of a cure from it.

One lives and learns.

Mr. Justice RIDLEY: A witness was called yesterday, Mrs. Pimm, and I do not think she has much the matter with her now.

Mr. SMITH: No, she is very robust.

Mr. Justice RIDLEY (to the witness): *Did you see her?*—No, I did not.

Mr. SMITH: I suppose the appearance of external robust health is quite compatible with the cocaine habit. One may look very healthy and yet be addicted to cocaine, I suppose?—In the early stages of the habit, yes.

To deal with Mr. Bateson's case I gather that you agree that if the necessity for using the specific occurs less and less and the attacks grow fewer he was wise to use it?—If he used it with discretion, yes.

You cannot use it with more discretion than by using less of it, according to your view?—No.

Then let us have it without any qualification. Mr. Bateson is quite right to use it?—Mr. Bateson might be.

And you would say as it is right for Mr. Bateson to use it Mr. Tucker has done a service, at least to Mr. Bateson, by putting it on the English market?—At least to Mr. Bateson.

At any rate he has benefited somebody. Now let us take Mrs Pimm's case. Were you in court when Mrs. Pimm was called?—No.

She was a lady who described herself by saying graphically that she was a perfect wreck and could not do any work at the time when she was first introduced to Tucker's specific. I think she uses it less, too, but my lord will tell me if I am wrong there.

Mr. Justice RIDLEY: There is not so complete an account of her case as there is of the others and she was not cross-examined. I think.

Mr. SMITH: No, I think she was not.

Mr. Justice RIDLEY: "I have had asthma since 1891 and was quite a wreck five years ago. The doctor gave me no relief. I tried *everything* I could think of. Somebody recommended this specific four or five years ago and I got it on trial and paid for it. It gave me relief instantly and I have never been laid up since. I have never acquired the cocaine habit."

Mr. SMITH: There is one sentence which your lordship did not take, that she always had doctors in her house before.

Mr. Justice RIDLEY (to the witness): You did not see her?—No.

Mr. Justice RIDLEY: The chief part of her evidence was her appearance, I think?

Mr. SMITH: Yes, her robustness.

Mr. Justice RIDLEY: I never saw a more healthy-looking person.

Mr. SMITH (to the witness): There again, if she had to take *less*——?—If it will save time, I am not prepared to deny that you might bring plenty of people whom it has relieved and whom it will continue to relieve, but that does not alter my opinion that the indiscriminate prescribing or ordering of that is an unwise procedure.

You do not put it higher than that; you simply say that it is unwise?—I think it is a fraud.

You think it is a fraud?—Oh, yes.

Have you had submitted to you the instructions which Dr. Tucker sends out and the pamphlet explaining the treatment?—Yes, I know them generally.

Have you also had submitted to you the analysis of the mixture?—I have.

Do you find that the analysis shows that the liquid contains cocaine and atropine and sodium nitrite?—Yes.

Are you familiar with the nature and effect of those drugs?—Yes, I am.

Are they known drugs in medical science?—Very well known, yes.

Take, for instance, cocaine. What is the nature and effect of cocaine?—It has a localised effect upon any membrane or absorbent surface to which it is applied and it has a general effect.

Is its effect cumulative?—The effects are cumulative, yes.

Is it in its nature a dangerous drug?—Yes; it is a dangerous drug—that is, a very small dose may be fatal.

In certain diseases is it a drug which it is not proper to use?—Yes; it would only be used for very few diseases.

May I take the case, for instance, of heart disease?—It would have to be used with very great caution. It would be very rarely used in heart disease.

Take kidney disease.—It would be rather a dangerous remedy in kidney disease.

And take consumption—phthisis. That is the third one which has been mentioned.—It would only be used in consumption as a local application for the throat affection.

Do all those three diseases—heart disease, kidney disease, and some forms of consumption—present symptoms sometimes which are very difficult to distinguish from the symptoms of asthma?—I do not think there should be any difficulty.

I do not mean for a doctor.—I do not think a doctor should find any difficulty.

Would a patient very often mistake them?—It is quite possible; yes.

Do you find in your practice that sometimes asthma is associated with heart disease or associated with kidney disease or associated with consumption in the same patients?—The symptoms of asthma are so associated sometimes.

In your opinion is it safe to sell any specific containing cocaine indiscriminately?—I should say it was unsafe.

Have you read Mr. Tucker's instructions to patients how to use his specific?—Yes.

Have you noticed that there is no warning that it is to be used with caution?—I noticed that particularly.

Is asthma a very distressing complaint?—Very distressing.

And if a patient found something which would relieve the attacks, he would be very likely to use whatever it was very frequently, would he not?—I should say so.

Having regard to those conditions, do you think that the continued use of this specific in certain cases is likely to be injurious?—Yes, I think so.

In what way would it produce injury?—It would produce injury to the nervous system and weaken the heart function.

Are you familiar with the cocaine habit?—I have seen a case or two of it; I am not very familiar with it.

With regard to cocaine, I think one witness has used the expression that it is a seductive habit?—Yes.

Is it a habit easily acquired?—Yes.

Does it differ with different patients? Are some patients more susceptible than others?—Yes.

And some patients take safely quantities which to other people would be extremely unsafe?—I should say so.

Do you say that with regard to symptoms likely to be produced?—People vary very much in their sensitiveness to the drug, and they vary very much in their disposition to take drugs like cocaine and morphia, and so on.

Do you think the frequent and repeated use of this specific over a long period is likely to produce the cocaine habit?

Mr. DUKE: That is a very leading question.

Mr. ELDON BANKES: But I must put it.

Mr. Justice RIDLEY: He says he has only seen a case or two.

Mr. ELDON BANKES: Can you form an opinion from your general experience?—Certainly. In any particular person inclined to habits of that kind it would be likely to produce the cocaine habit.

Cross-examined by Mr. DUKE.—You were called in to this case, I suppose, merely as an eminent medical man after this action had been instituted?—I presume so.

Mr. Justice RIDLEY: Is that so?

Mr. DUKE: You say you presume so. What I mean is, had you heard anything of this matter until after the action?—No.

We have not seen the author of this publication. Do you know who the man was who wrote the statements complained of?—I have no knowledge of it at all.

I think what you have told us has been chiefly with regard to cocaine. Is it the fact that consumptive people may suffer from asthma, or not?—It is not impossible for a consumptive patient to have asthma.

You say it is not impossible?—It is not very common in fact.

It is a great deal more trying and distressing for a consumptive patient to have asthma than it is in the case of a person who was free from phthisis?—I cannot say about that.

You have no opinion about that?—Asthma is a very painful affection in whomsoever it occurs.

I should have thought it would be much more painful and distressing in the case of a person who had a deadly disease?—They are not very commonly combined.

In the case of heart disease, have you found asthma combined with heart disease?—Not through asthma as a rule, except that the heart, towards the end of the asthmatic illness, gets disabled and in that way complicates the asthma.

Is not one effect of asthma to steadily affect the action of the heart?—The effect of asthma is to weaken the action of the heart.

If you found a person whose health was steadily degenerating from asthma who by any sort of remedy was relieved from severe attacks of asthma and thereupon experienced a good recovery of general health, that would indicate, would it not, that the heart was getting stronger?—That is rather a complex question. Will you put it again?

Mr. Justice RIDLEY: I think what counsel means is this: If you relieve the asthma would you relieve the heart?—The remedy used for the asthma deteriorates the heart.

Mr. DUKE: Suppose you found a person getting ill as regards general health, and the asthma relieved and the person getting better, does not that show an improved condition of the heart?—It shows an improved condition of the asthma and a relieved condition of the heart.

Mr. Justice RIDLEY: We have had evidence of that about General Stewart.

Mr. DUKE: And by General Lane.

Mr. Justice RIDLEY: Yes.

Mr. DUKE: Will you tell me whether the symptoms of asthma, which, as I understand, are simulated by some of the diseases you have mentioned, are relieved by any treatment of asthma?—It is very possible that any spasmodic might relieve such symptoms.

I rather gathered that that is a different view from what Dr. Willcox gave us yesterday; but that is your view?—Yes.

It would relieve what I call simulated symptoms of asthma arising from organic disease?—It may be relieved by any spasmodics.

Had you yourself become aware of this remedy?—Oh, yes.

Mr. Justice RIDLEY: When did you become aware of it?—In the course of my practice I have met with patients who have used Tucker's cure.

Mr. DUKE: Have they gone on using it?—Some of them have.

You did not think it necessary peremptorily to stop them, or anything of that kind?—I have felt it sometimes necessary to stop the use; in other cases I have given very serious cautions as to the excessive use of the remedy.

At any rate, patients of your own have gone on using the specific?—I have no doubt; I do not know.

We have had a Mr. Pickmeyer here yesterday who had been a patient of yours.—I have no recollection of his name. It is very possible.

Mr. Travers Pickmeyer?—I may have seen Mr. Travers Pickmeyer. I see so many patients that I cannot recollect.

I quite follow; but it may recall it to your mind if I say that this was a gentleman who was sent to Mont d'Or.—I have sent a good many people to Mont d'Or.

Asthmatic people?—Yes.

Mr. Pickmeyer was sent to Mont d'Or; he came back from Mont d'Or not benefited, and then was referred back to advice at Harrogate. He told us yesterday that he failed to get any sort of relief from the medical treatment he had had?—Yes.

Mr. ELDON BANKES: We say so. We may be right or we may be wrong, but if we formed the opinion that he is claiming a cure in the full sense, we are justified in saying that a person is committing a fraud on the public if he sends out a medicine with that statement when he himself knows that it will not cure.

Mr. Justice RIDLEY: But that is entirely a travesty of the evidence in this case.

Mr. ELDON BANKES: I am sorry I do not assist; I thought I might save time.

Mr. Justice RIDLEY: You do not help me at all in this case. I am trying to keep to the evidence and I will not be taken from it. (To the witness): You say it is a fraud because you disagree with him; nothing more or less.—I do not, pardon me, my lord. May I express again what I believe?. I think it is a fraud for a person to send out any drug or medicine of any kind and to lead people by a pamphlet such as this to believe that they can be cured when he himself allows that he cannot cure and does not cure.

He does not say that in the pamphlet at all.—I think the plaintiff gave evidence here that he agreed they did not cure and did not pretend to.

Mr. SMITH: And you would say in the same way that it was fraud even if he could cure each successive attack of asthma?—I do not follow you.

I should have thought it was very simple.—To you, perhaps.

Even if it is a fact that he can cure each successive attack of asthma although he cannot remove the liability to asthma you would say it is a fraud?—My point is that in using the word "cure" here I assume he uses it in the sense that the public would accept it—that is to say, an absolute cure of the disease.

You do not follow me in the least. There are two things; one is to cure all liability to asthma and the other is to cure specific attacks as they develop in the person liable to asthma. Do you appreciate that distinction?—Yes.

Supposing it to be the case that Mr. Tucker can in fact cure specific attacks of asthma, although he cannot guarantee that there will not be a recurrence, do you still tell the jury that he is fraudulent?—How do you speak of a "cure" and in the next breath say "recurrence"? If you "cure" a cancer and it returns——

Have you ever heard of such a thing as curing a cold?

Mr. Justice RIDLEY: Are you aware that this pamphlet was not sent out?—I was not aware of that.

This thing is not sent out with the instructions at all; you seem to treat it as though it were.

Mr. ELDON BANKES: I think it is sent out.

Mr. Justice RIDLEY: No, not until it is asked for.

Mr. ELDON BANKES: His answer was that he sent out the pamphlet to anybody who made any inquiry.

Mr. Justice RIDLEY: Yes.

Mr. ELDON BANKES: Of course, the persons who make the inquiries are the persons who afterwards inquire for the treatment.

Mr. SMITH: You can imagine, I suppose, *curing a cold* being perfectly consistent with the person whose cold is cured having another in *six months* or three months?—Speaking of a cold, yes; but I think the term "cure" is not what the public would take it to be in that case.

You shall have the opportunity of explaining it in a moment, but so far as the reasonableness of using the term is concerned you would agree that a man *may* say he can cure a cold and yet the man *may* have another in six months?—I quite agree.

Why cannot a man say with equal reasonableness, "I cure and relieve a specific attack of asthma, although I cannot prevent the man who is constitutionally liable to *asthma* getting future attacks?—Because in one of these pamphlets he says, "Not only relieve, but cure," indicating some difference between the two.

Will you point it out?—It is here somewhere. I cannot tell you the page, but we read it just now.

Mr. Justice RIDLEY: It is just after the long paragraph which you have not read which describes the operation of the thing. He says: "We now offer to suffering humanity the result of 20 years' experience, which has finally worked out a cure for asthma and hay fever as well as all other catarrhal diseases of the air passages."

Mr. SMITH: Is it possible that you do not see a much more reasonable explanation of using the word "relieve" and "cure"?—No.

Let me see if I can suggest it to you, although I have not the advantage of your scientific experience. Does it not suggest to you that to "relieve" an attack may be to assuage it and to make it less severe, and that a further stage in the alleviation is the "cure" of that specific attack? Does not that seem to you a perfectly reasonable distinction?—*I am bound to say* that if a man told me I had cancer and he would cure it I should understand by the term "cure" that I need not look for a recurrence.

Is your serious suggestion to the jury that the case of cancer is more analogous to the case of asthma than a cold in which you agreed to my description?—No; I think I agree with you there that a cold is more analogous than the case of cancer.

Do not let us complicate it by illustrations that do not apply at all. A cold being more analogous to asthma you will agree that if it be the fact that Mr. Tucker can cure specific attacks of asthma—you follow me?—Yes.—You do not object to the use of the word "cure" so guarded?—Yes, I do. I think you ought to say "relieve" specific attacks.

It comes to this, that even if Mr. Tucker can cure specific attacks of asthma you object to him telling the public so?—No, I do not.

Then you do not object to his telling the public that he can cure specific attacks of asthma?—I do, because he cannot.

You will not follow the hypothesis. I based my question upon a hypothesis. Assuming it to be the fact that the various witnesses who have spoken of it are right in saying that specific attacks of asthma can be cured by *this*, you would not object to Mr. Tucker saying that he could cure them?—I should, certainly, publishing it in this particular form.

You do not assist me by telling me what the words are.—It is simply the use of the words and the application of commonsense to the ordinary English language. If a man says to me, "I can relieve your attack of asthma," I understand what he means, but if he says, "I can cure it by this treatment," I go away with the idea that he has done something, and that I need not look for a recurrence. I cannot explain it better than that.

You cannot understand Dr. Thomas Clark saying that though it contained cocaine and atropine it is in such small quantities that it has no ill-effect, even though he has such a lot of it in his system? You would say he is wrong and you are right on the broad principle of common sense.—I should say he might come across cases where that small amount of cocaine might produce damage to the patient, or so shroud the symptoms that the patient could not get proper relief.

Although you have no personal experience of it you prefer your opinion to his?—Because many patients who have been using it have applied to me and have said——

We cannot have what they said to you.

Mr. ELDON BANKES: You asked the question.

Mr. SMITH: I have not asked that question, and Dr. Tilley knows I have not.

You know Oppenheimer's mixture, I suppose?—Yes.

Have you seen this in the book published by Oppenheimer: "Many inquiries from important medical men having *reached us* regarding a certain preparation for asthma recommended by an American doctor, we introduced our Neboline compound, No. 21, which is similar in every respect to the preparation in question and which from the reception accorded to it seems to meet all requirements." Then there is this note in italics: "Practically a specific for asthma." Have you seen that note?—I see it now.

You have not seen it before?—I may have seen it a year or two ago.

Is that another fraud?—Does it promise to cure asthma here?

No, but it is just the same thing.—He does not say it is a specific for the cure of asthma.

You think it means a specific for the aggravation of asthma?—No; possibly for the relief of it.

Mr. Justice RIDLEY: Are you honestly giving that evidence?—I think so.

Mr. SMITH: Do you think that is a good distinction? Practically a specific for the relief of asthma. I do not see why we should allow——

If it had been a specific for the cure of asthma you would say, of course, that was fraudulent?—I should have thought it was distinctly a fraud, absolutely.

They are very respectable people, are they not?—Yes.

any directions or cautions as to how frequently it may be used with safety they overdo it and they suffer, and they suffer particularly with regard to their hearts. Their hearts will naturally tend to become overstrained towards the end of the disease and become more easily affected by the strain.

Further cross-examined by Mr. DUKE.—Will you tell me when was the first time any person who had used the Tucker specific came to you?—I am afraid I could not tell you that; it would be some years ago.

When was the last time?—I daresay it may be within a few weeks or a few months.

Do you know one or the other?—No; I could not tell you.

Have you any positive recollection of seeing any person who has used the Tucker specific during the last 12 months?—Yes, I think I have.

Is it one or more?—I think I have had several.

Have you any distinct recollection of any during the last 12 months?—Well, I saw a patient about ten days ago and I saw a patient, it may be, three weeks ago.

Both of whom had used the Tucker specific?—Yes.

Are both of them still using it?—One of them had relinquished the remedy because she found it did not do her any good and she flew to some other specific. She had used Tucker and relinquished it.

Because she found it had not done her any good?—She had used different remedies at different times.

She did not go on with Tucker?—I think not.

She did not find it so overwhelmingly successful that she went on with it?—Quite so.

In the other case, did you permit that patient to go on using it?—I cannot say in that particular case. I certainly was aware that the patient was using the drug and I said, "You must use it with caution."

That is your recollection; that you were aware the patient was using the Tucker specific and you said, "You must use it with caution"?—Use it with caution.

Have you any recollection of any other case which you can state to the jury except those two cases of use among your patients of the Tucker specific?—Yes, I have.

Will you give me the case before that?—It was a case a few months ago I saw who had been using Tucker very considerably and got into the way of using it too much and her husband consulted a throat specialist about the case and by his advice she had relinquished the drug, and she was the better for it.

Was she suffering from asthma?—She was suffering from asthma.

Apparently she had no difficulty in giving it up?—I cannot tell you. I think she had great difficulty in giving it up.

But she did relinquish it?—She had the courage to relinquish it.

Do you know anything as to the moral circumstances, whether there was courage or effort? She found it did not suit her?—Her husband found it did not suit her, consulted a specialist, and induced her to relinquish it.

Have you seen other cases of the same kind?—Yes, from time to time.

Further re-examined by Mr. ELDON BANKES.—When you say this lady's husband found it did not suit, how do you mean, that the specific did not suit her or that she was using it to an extreme?—She was using it to excess.

And it was in consequence of that that she was taken to the doctor?—I cannot say. She was taken to the doctor and he found she was using this remedy too much and induced her to relinquish it.

Sir LAUDER BRUNTON, *examined by* Mr. HUGH FRASER.—You are a Doctor of Medicine and a Doctor of Science, and I think you are a Doctor of Laws of Edinburgh University, an Honorary Doctor of Laws of Aberdeen, a Fellow of the Royal College of Physicians, a Fellow of the Royal Society, and a Fellow and Member of various other societies, and the author of numerous medical works?—Yes.

Has the chief study of your life been the action of drugs and their application as remedies of disease?—Yes.

You are familiar, of course, with the nature of cocaine?—I am.

Will you just state shortly the nature and effect of cocaine as a drug?

Mr. DUKE: I have not asked that question in cross-examination about the nature and effect of cocaine. I do not want to stop my learned friend from giving evidence about the nature and effect of cocaine, but I think it would shorten it.

Mr. ELDON BANKES: It is very difficult to ask the exact question, but if you do not object to it we will not prolong the examination.

Mr. DUKE: I only wished that the evidence should not be prolonged.

Mr. ELDON BANKES: We shall not prolong it.

Mr. Justice RIDLEY: It is only a question of degree. I believe that it is recognised that cocaine is in the list of poisons, but poisons range over the whole Pharmacopœia; nearly everything is a poison if you take enough of it.

Mr. FRASER: Is the effect of cocaine as a drug cumulative or not; what do you say about that?—That depends upon the meaning you take to the word "cumulative." If you mean by "cumulative" that the drug accumulates in the system I say No, but if you mean that the effects produced by the drug are cumulative I say Yes. The drug passes out, but the effects that it produces during its application remain behind. Shall I explain that a little more fully?

Please.—Cocaine is a substance that only medical men as a rule are acquainted with, but everyone knows the effect of alcohol. A man drinks a glass of whisky; the whisky passes out but the effect of the whisky remains, and if he goes on nipping, nipping whisky after whisky all day long, although the whisky has passed out of him, the effect remains with that man. The same is the effect of cocaine. Small doses of cocaine *per se* pass out, but the effect they produce remains.

Do you say it is a proper drug to administer, even in small quantities, without caution?—No.

Do you say that it is proper to administer it at all except under medical advice and medical supervision?—It is unsafe. I should therefore say it is improper.

Will you tell me, please, why you say it is unsafe?—Because the effect of cocaine differs so much in different individuals that one man may take a large dose of it and it may produce no effect, and another man may take a very small dose of it and produce a great and unexpected effect. It is the same way, really, with alcohol. One glass of whisky may make a man drunk, and another man may take a dozen whiskies in the course of the day and they will produce no apparent effect. It is just the same with cocaine.

Would it have to be used with great caution if anybody were suffering from heart disease?—It should be used with caution in all cases, and especially in the case of heart disease.

Or in the case of kidney disease?—There also it should used with caution.

Or in the case of consumption?—In all those cases, the reason being that cocaine has a certain tendency to weaken the heart, and in all those diseases that is a condition to be avoided.

May a person suffering from any one of those diseases have asthmatic symptoms which he, the patient himself, might simply think indicated asthma and nothing else?—Yes.

I think you have had submitted to you the analysis of Tucker's specific, and I think also you have seen the instructions issued with the specific?—Yes.

Do you say that taking the specific in accordance with those instructions is a safe thing to do or not?—For a large number of people it would be quite safe, but there are certain persons who would be particularly susceptible to cocaine, and for those it would be unsafe. If I may revert again to my illustration of alcohol as a well-known drug, there are millions of people who take alcohol all their lives long, and in large quantities, and are not a bit the worse, but there are certain persons to whom alcohol is a poison, and a very small quantity is enough to do them serious damage and to bring on the alcoholic habit; so it is with cocaine.

Are you familiar with what is known as the cocaine habit?—Familiar in so far as I have had to acquaint myself with the observations of others in order to lecture upon it at St. Bartholomew's Hospital; I am not acquainted with it personally.

Mr. Justice RIDLEY: You have not met anyone who had it?—I have met one man who, I believe, had it, but it was only after his death that I learnt about it. I did not know of it during his life.

Mr. FRASER: Would this Tucker's specific cure asthma or not?

Mr. DUKE: I object to evidence in chief upon this matter.

specific?—Yes. What was said about that?—The instructions were handed to me with an illustration of Dr. Tucker's atomiser.

Is that the paper, or a similar paper (handing document to the witness)?—It is a long time ago, over a year ago, but so far as I can remember there was a similar paper with a picture——

I think this is the actual one but I am not sure. (Document handed to the witness). Perhaps you will recognise it?—I distinctly recognise this one with "Dr. Tucker's asthma specific" upon it, with the words "asthma, hay fever, bronchitis, catarrh," with a picture of the apparatus, and with the address, "Onaway, Half Moon-lane, Herne Hill, S.E. All correspondence should be addressed to A. Q. Tucker, General Manager."

Is that the document handed to you or a similar one?—It is a long time since I have seen it.

To the best of your recollection I mean?—To the best of my recollection.

Mr. Justice RIDLEY: Had it the name and address?

Mr. ELDON BANKES: Had it a picture of a man using the atomiser?—I would not be positive about that, because I have not seen it for so many months; I am sure about the front one. It was a paper, *so far as I can* remember, similar.

Mr. Justice RIDLEY: I have the paper signed by Cushing, or at least the paper *filled* up by Cushing, if it is any good at all. Perhaps it would assist you to look at that. (Handing same to the witness.)—I have not seen this paper as filled in.

Mr. ELDON BANKES: He did not have the questions; it was the instructions.

To the best of your belief it was that or something similar?—Yes.

Was anything said about the deceased man having used this?—Yes; it was said that he had used it for some time, both the atomiser and the fluid used with it. Evidence was given also as regards the price paid.

Do you remember what was said about the price?—It was said that the price paid was 3 guineas for the atomiser and 8*s.* an ounce for the fluid. I have since heard that £3 was the right price.

I am speaking now of the evidence before you?—That was the evidence, 3 guineas for the atomiser and 8*s.* an ounce for the fluid.

When you heard that evidence did you make any observation yourself about this thing?—I did.

What was it you said?—In reference to the atomiser and the fluid—that is the treatment—I said that I considered it was a quack remedy, and I also said that it was a fraud.

That is what you said in open court at the inquest?—I did.

I am not saying for a moment whether you were right or wrong in what you said or thought, but did you think it was a matter which required ——

Mr. DUKE: I object to what the coroner thought. What he said is evidence, of course.

Mr. Justice RIDLEY: What he said must be evidence in this case, because it is material to the issue.

Mr. ELDON BANKES: Very well, I will deal with that.

Mr. Justice RIDLEY: But I do not think that what he thinks is evidence.

The WITNESS: I will give my reasons, my lord, for using those two words.

Mr. ELDON BANKES: I think you did not give any reasons in court, did you? I want all you said, as far as you remember, in open court about it.—I cannot remember at this lapse of time—it is over a year ago—whether I gave my reasons. I know what was in my mind at the time.

Of course, I cannot have it unless you expressed it, but you have told us, in fact, what you said in open court.—Yes.

Cross-examined by Mr. DUKE.—Did you send, or cause your clerk to send to THE LANCET office a newspaper report of the inquest?—I did.

I call for it. Did you send it because it is an accurate account of what had taken place?—I sent it to the editor of THE LANCET to do what he liked with it, because I considered it a matter of interest to the profession and to the readers generally of THE LANCET.

Now, would you mind answering my question: Did you send it as an accurate report of what had taken place.—I did.

Will you look at it? (Handing same to the witness.)

Mr. Justice RIDLEY: Is that the one you showed Norman yesterday?

Mr. ELDON BANKES: No, this is not the one which was shown to the reporter. This is the *Morning Advertiser*.

Mr. DUKE: This is the one which was sent; I do not care which it is; I do not think it is the *Morning Advertiser*.

Mr. ELDON BANKES: Yes, it is a cutting from the *Morning Advertiser*.

Mr. DUKE: I am not sure about that.

Mr. Justice RIDLEY (to the witness): What do you say about it?—This is the one I sent.

Is it an accurate report?—As far as it goes. Of course, this is a very short report.

Mr. DUKE: But at that time it struck you as an accurate report of what you said so far as it was material. Now let me read it: "Proprietary Medicines. In the course of an inquest held at Southwark yesterday"—that is how it ran, and then I suppose it was your clerk who wrote in the words "by Dr. Waldo."—No, those are my words.

You wrote them in?—Yes, I wrote those.

"In the course of an inquest held at Southwark yesterday," and then you wrote in "by Dr. Waldo," "on the body of Alfred Albert Cushing, aged 42, a labourer lately living in Queen's Buildings, Southwark, who died of consumption last Friday, the widow said her husband never cared to have a doctor as he thought doctors did no good. He doctored himself, she said, and any medicine he was told of he would buy He was taken ill on Dec. 22nd and never rallied. It was stated that the deceased used an inhaler which cost 3 guineas and the spray 8*s.* an ounce. The instrument was an American invention, and the deceased bought it from a gentleman in London. (The Coroner): It is a quack remedy. People reap fortunes from proprietary articles. Is that right?—(Dr. Paton, a witness): I do not think so.—(The Coroner): The Government do not guarantee proprietary medicines, but the people think they do. The sooner the Government do away with it the better. "They get thousands a year from the system.—(Dr. Paton): Most of these things are harmless.—(The Coroner): But it is a fraud." Is that what took place?—Yes; as far as it goes.

Mr. Justice RIDLEY: Was the fraud in the Government stamp?—I did not make use of the term "fraud" as applied to the stamp; it was applied clearly to the cure—Dr. Tucker's so-called cure for asthma and bronchitis and other affections.

Mr. DUKE: Did you keep copies of any other reports?—No; I have not.

Just look at this and see if you saw that in the newspaper (handing cutting to the witness).—I do not remember ever having seen this. I may have seen it, but of course it is a long time ago now; it is over a year.

But it is a report of that inquest, is it not?—Yes; apparently.

There the reporter evidently understood you as saying that the system of stamping these things with Government stamps was a fraud—Yes, I see what you mean; it says "The system is a fraud." That differs from the one which I sent to THE LANCET.

That puts upon the other the meaning which I suggest it actually bore.—Which is incorrect.

Let us see how that may be.—That is not correct.

We shall have to look at the document for ourselves. The one I first gave you was the one which you sent to THE LANCET as being a correct account of what had taken place?—Yes, it was.

When did you communicate with THE LANCET again about this matter?—THE LANCET wrote to me, so far as I can remember, asking me for papers that were handed up in court.

That was after this action was brought, was it not?—I cannot say that. I think it was before. I instructed my clerk to send them. My clerk would really know more about that than I; I did not myself send them.

When did you see THE LANCET people or their solicitors about this matter and give them some further information as to what you are alleged to have said at the inquest?—I believe that was subsequently to the action.

So I *suppose* it was.—I was asked by THE LANCET to give information, but I could not tell you the date.

I have the pleading before it was amended, which had been delivered on the 9th July and it was redelivered as amended on the 21st November. Was it some time between the 9th July and the 21st November of last year?—It might have been; I really could not remember.

them, but it is not to the credit of the dentist to publish these cases, and so many more of these cases exist than are published, so that the other dentists do not know the risk to the full extent.

Mr. Justice RIDLEY: I think we had better get back to the point.

Mr. DUKE: Had not you better recommend the dentists to THE LANCET, do not you think?

Re-examined by Mr. ELDON BANKES.—Even in modern practice the use of cocaine in dentistry is not followed to the extent it was?—I do not think so.

Mr. DUKE: That is a leading question.

Mr. ELDON BANKES: You have been asked about the natives of America chewing the coca plant?—Yes.

Is cocaine the concentrated extract of the coca plant?—It is the active principle, yes.

And of course it would be in a very different degree of strength from what it would be if the leaf was chewed?—It is.

HENRY ALEXANDER FRANCIS, *examined by* Mr. ELDON BANKES.—You carry on your profession at 2, Henrietta-street, Cavendish-square?—Yes.

Mr. Justice RIDLEY: What are you?—A Bachelor of Medicine and Surgery, Cambridge.

Mr. ELDON BANKES: I think you have full Cambridge qualifications and are a Member of the Royal College of Surgeons and a Licentiate of the Royal College of Physicians, London?—Yes.

I think for some considerable time you have devoted your attention largely to the treatment of asthmatic cases?—Yes, about 11 years.

And a very large number of people have consulted you with reference to asthma?—Yes.

And amongst those patients have you had a considerable number who have been using the Tucker treatment?—I have a large number.

Before I come to your actual experience with those patients I want to ask you generally about this specific. You know of what it consists, do you?—I have heard analyses and I have heard it in court here.

Have you heard of analyses of it before you came into court?—Roughly, yes. I have seen printed formulæ which are reputed to be the analyses; I never took much interest in them.

What do you think are the active constituents of this specific?—From what I have heard and what I have seen, I should say chiefly cocaine, atropine, and hyponitrous acid—the nitrite element in the form of sodium nitrite. I did not know it was sodium nitrite.

Mr. Justice RIDLEY: We do not want all these over again.

Mr. ELDON BANKES: I will ask you generally, Do you agree with what has been said by the medical witnesses you have heard with reference to the action of cocaine?—Yes.

So I need not go though it in detail. In your opinion is cocaine a dangerous drug to use except under very careful supervision?—Very.

Do you think that the use of this Tucker specific with the instructions that accompany it is likely to cause injury in certain cases?—I do.

What would be the nature and kind of injury you would expect to find having regard to these constituents of the specific?—I could deal better with the injury that I have found than the theoretical injury.

From your experience what do you find is the injury to patients from the use of this specific?

Mr. SMITH: I should like to refer to the pleadings on that. I do not know how far my learned friend proposes to go on this line of question. We are now coming to particular observations made. If we had had warning on the defence that any issue of that kind was going to be raised it would have been perfectly easy for us to have had hundreds of people here who have used it instead of a limited number. It is a new case altogether against me.

Mr. ELDON BANKES: It is evidence of our statement that these drugs are dangerous. I do not mind whether I give it as the result of the doctor's actual experience or whether I ask generally what his view is in regard to it.

Mr. Justice RIDLEY: Evidence of your statement that they are dangerous?

Mr. ELDON BANKES: Yes.

Mr. SMITH: That is in the amended defence, it was not in the original defence. The only statement relevant to that point is: "The constituents of the said specific are cocaine and atropine." That is the original defence, and added to that is "which poisons are dangerous if used without medical advice." In a plea of fair comment surely if the case to be set up by the defence was going to be that the use of this specific had in fact produced deleterious consequences to persons who made use of it, we ought to have been given some warning so that we might have dealt with that in our own case or made arrangements to deal with it. As my learned leader reminds me I do not recollect any cross-examination of the plaintiff adequate to suggest that that is the line to be adopted by the defendant.

Mr. ELDON BANKS: I suggested to him it was extremely injurious to the patient's heart and very improper to use it in cases of heart trouble.

Mr. DUKE: This is a very material matter. It is sought now, as I understand, to give evidence of some specific instance.

Mr. ELDON BANKS: No, not of specific instances at all.

Mr. DUKE: Well, even worse than that, to make a general statement that certain persons within or without the knowledge of the witness have been injured by the use of this specific. There is no possibility of effectively cross-examining to it, and there is no possibility of rebutting it. There is no knowledge as to who the persons are so that they could have been seen, or it could be ascertained whether they had used the specific or not, and we have not had the opportunity.

Mr. Justice RIDLEY: You do not call anyone who was injured by it.

Mr. ELDON BANKES: I do not call any one of this gentleman's patients.

Mr. Justice RIDLEY: Then I think I must say it is very objectionable evidence, but I think I must admit it.

Mr. DUKE: But how am I to deal with it?

Mr. Justice RIDLEY: I do not know indeed, but I think we must take it. I think it is a very objectionable form. I think particulars should have been given of this. You charge the man with fraud, but this is not the way to prove fraud.

Mr. DUKE: It is said that the plaintiff could be charged with fraud for certain things. Now it is proposed to give evidence that certain persons, with or without his knowledge, have or have not used the specific.

Mr. Justice RIDLEY: I think I must take the evidence, but I think it is very objectionable.

Mr. DUKE: I submit it is inadmissible. Here is a plain issue of fraud, and this is evidence which is not relevant to any of the questions raised.

Mr. Justice RIDLEY: I think I must receive it for what it is worth.

Mr. ELDON BANKES: I propose to put the question in a form in which I think my learned friend ought not to object.

I ask you as a medical man whether or not the use of this specific is likely to be dangerous?—Certainly.

I ask you to explain what, in your opinion, you mean by dangerous, and how it affects patients or is likely to affect patients?—The chief effect observed is on the heart. Certainly you would say that the patient when he has further attacks of asthma is much more likely to have heart complication and heart embarrassment than he would have had previous to his using Tucker. Another thing is when they have used it for a great many years so that they have had an accumulation of the remedy the nervous system generally becomes much affected and the muscular system also later on, but I think that the most important observation is the weakening effect on the heart.

Is that what you would expect to find from the frequent and repeated use of this liquid containing the constituent which we now know it to contain?—It is exactly.

Have you in your experience observed that that is the effect of it?

Mr. DUKE: You understand that you are asking these questions at your own risk.

Mr. ELDON BANKES: Certainly.

The WITNESS: That is quite a common experience.

Is asthma a very distressing complaint?—Very.

Is this specific one that is likely to relieve the attacks of asthma?—I have never seen anything that will relieve a mild attack of asthma so readily.

And to what do you attribute that?—I attribute it to the specific. Until recently I have not really thought whether it was atropine or the cocaine, or the nitrite of soda. I think it is all three, especially as the imitations do not seem asthma then in his case you would not describe it as a fraud?—I should describe it certainly in Tucker's case as a fraud most distinctly.

Never mind Tucker's case. I understand your view with regard to Tucker although I have not asked you. Do you know what the question was which I asked you?—I understood you to say if this were dispensed by a properly qualified medical man.

As a specific for asthma?—I should say it was distinctly wrong if he described it as a cure.

Would you say if it was given by a medical man as a specific for asthma that that was a fraud on his part?—I should say it was.

Why?—Because asthma is an incurable disease in my opinion.

But suppose he took the view that he was able to repel the attack whenever it threatened, would you still say——*That is another thing altogether.*

Would you say still that it was a fraud on his part?—No; *I would not if under his supervision and he did* not profess to cure the disease. Certainly that would not be a fraud in my opinion.

The whole substance of the matter with regard to a transaction of this kind, fraud or no fraud, is one of the honesty of the person who is acting, *is it not?—Yes.*

As to Tucker's honesty, I understand you to say that you formed the worst possible opinion?—I have certainly formed a bad opinion.

That is what I gathered, but I wanted it clear from you. Having formed the worst possible opinion of Mr. Tucker, what you told The Lancet has induced them to take the responsibility of expressing that worst possible opinion. That is so, is it not?—They could do what they liked. I sent them the cutting.

Is that not what has happened?—Yes.

Mr. Justice Ridley: Why did you send it to them at all?—Because I considered it a matter of scientific interest for The Lancet to do as they liked with, both for the medical readers and general readers.

You sent it to a newspaper so that they might publish something about it?—Yes; I think that medical students and medical men should know about these remedies and secret remedies because the patients very often consult medical men, and I think it is only right that they should be able to give proper answers to questions which may be put by the patients.

Mr. Duke: All I asked you was whether The Lancet had come up in your judgment to a complete expression of your view of the fraudulent conduct of Mr. Tucker?—I have read what they said in their article. They simply repeated what I said—that it was fraudulent—and agreed with me.

You have no doubt that the issue which The Lancet raised about it was whether Tucker was personally guilty of fraudulent conduct? You have no doubt about that?—I do not know what The Lancet thinks about it.

That is what you thought about it?—I thought it was fraudulent, certainly.

On Tucker's part. That is what you wanted them to think about it, was it not?—I did not express any——

Was it your intention that they should think that?—I simply left it with the Editor of The Lancet to do what he liked with.

Are you satisfied that they have taken the view which you say you took?—Of course the view I took that it was fraudulent and a quack remedy they certainly have taken, but I say nothing about the comment they made and the rest of it.

Tell me which is the part that you are not going to countenance.—I have read all of it; I have read it through.

Mr. Justice Ridley: Do you mean about the advertisements?—Yes.

The plaintiff has never advertised at all.—No, the plaintiff never advertised.

Mr. Duke: Just look at this and see which is the part which you think goes beyond what even you intended.

Mr. Eldon Bankes: He did not say that.

Mr. Duke (to the witness): Never mind Mr. Bankes; look at the document, please.—They mention my name as the Coroner: "rightly stigmatised this mode of dealing"—meaning the plaintiff's—"as a fraud." I quite agree with that.

I quite understand. Which is the part you do not agree with?—I do not say I do not agree with any part of it but I am not responsible for what The Lancet may have said.

But you do not draw any distinction.—Do you want me to say whether I consider that fair comment?

No, I do not want your opinion about fair comment.—Because I can say that.

Mr. Justice Ridley: The jury will have to say that if there is any case for them, but you say it was fraudulent because he said it was a cure.—Yes, but I could give my further reasons.

That is the reason you give us at present?

Mr. Eldon Bankes: No, he did not say that with submission.—My reason for saying it was this, that I consider that true or spasmodic asthma is an incurable disease and cannot be cured by drugs although I do most certainly agree that it may be alleviated and relieved; but with regard to bronchitis, bronchitis is merely, in my opinion, a symptom of many distinct diseases. It is a symptom of gout; it is a symptom of heart disease.

Mr. Duke: Could we stop there?—No one remedy can cure all these forms of bronchitis.

Mr. Justice Ridley: You are not asked all that, as you know very well.

Mr. Duke: There is only one other thing which I am going to ask you and that is this: have you ever tried to cure asthma or to relieve asthma with Tucker's specific?—No, I never have.

So that you have no personal experience in an asthma case of whether it will either relieve or cure?—Not with this *particular cure.*

Not with Tucker's cure?—No—or specific; it is the same thing.

Re-examined by Mr. Eldon Bankes.—You have been asked and you have stated that you are a medical coroner. Do you practise at all as a doctor?—No, I do not. I give *my whole time to my duties* as coroner.

Mr. Justice Ridley: He has medical knowledge.

Mr. Eldon Bankes: Yes; you have medical knowledge because you hold the high qualification of Doctor of Medicine at Cambridge University?—I do.

But you do not any more practise?—No, I do not at present. I have practised in the past.

You have no interest in The Lancet newspaper, I need hardly say?—I have no interest whatever.

You sent that newspaper account to The Lancet?—I did.

Two different newspaper accounts have been put in of this inquest and there is a third, all differing, but at the time you sent it did you notice particularly as to whether or not it used the word "fraud" correctly in the newspaper report—at the time you sent it?—I did.

I mean at the time you sent it.—Yes; I read it and looked through it carefully.

Does it correctly reproduce what you said with reference to the fraud—I mean the newspaper report?—It does.

Just look at it again.

Mr. Duke: He has said that it does. You cannot cross-examine him.

Mr. Eldon Bankes: I understood him to say it did not.

The Witness: It says, "But it is a fraud"; that refers as I read it to the treatment—Tucker's so-called cure for asthma and other complaints.

Mr. Justice Ridley: It does not necessarily follow; but I am sure we shall all take the witness's evidence as reliable. It would not necessarily follow from the report itself because it might be thought to have something to do with the price; it might be "thousands a year from the system," and also it might have regard to the stamp.

Mr. Eldon Bankes: You read the report as though it indicated that you had used the word "fraud" with reference to the system. You read the report in that way?—I read it as referring to the treatment.

And in that sense you say you think it was accurate?—Yes.

And therefore you sent it to The Lancet?—Yes.

You are now asked about what you said to The Lancet at subsequent dates. Did you see the solicitor with reference to your evidence in this action?—I did. He called upon me.

Did you then tell him what had actually happened?—Yes, I did.

Did you in substance report the evidence which you have given here to-day?—I did.

Sir Richard Douglas Powell, *examined by* Mr. Eldon Bankes.—I need hardly ask you about your qualifications; you are the very well-known physician?—I am.

Have you been asked to consider the matters arising in this case?—Yes, I have.

two or three times at the most instead of blowing themselves up with it, that they had better desist from using the remedy entirely.

I am asking you as to the two or three times, not blowing themselves up with it. Do you leave them upon each occasion of inhalation, that is of the two or three times a day, to inhale until the attack is relieved or until the paroxysm is relieved?—If they cannot get relief from two or three inhalations they must not go on and fill themselves up with it.

Do not you know that it is exceedingly difficult to many people to inhale at all, that ordinarily it is a difficult thing to inhale effectively?—Well, they require a little practice.

I come back now to the gentleman you spoke of.—I think I can tell you his previous address.

He seems to be a gentleman who received the treatment in July, 1900, and the balance of his supply of fluid in January, 1901; is that the gentleman?—Very probably.

Do you know his initials?—I rather fancy it is C., or C.E.

Do you know where he had been living before?—He had been in St. Andrews.

Then we may take it it is the same person?—It is the same man, I think.

We may take it from you that this is a gentleman whom you advised not to use the inhaler more than two or three times a day. When was that?

Mr. Justice RIDLEY: It was last week, was it not?—No; some three or four months ago.

Mr. DUKE: He told you that for five years he used the inhaler and derived undoubted benefit from it.

Mr. Justice RIDLEY: That is three or four months ago?—I believe so; I cannot remember exactly. It was three or four months ago I saw him first.

Mr. DUKE: He told you that for five years he had used the inhaler and derived undoubted benefit from it?—As far as I remember. What makes me fix the five years is because in the history of the man's case he told me that two years ago he had been very strongly urged by a doctor to desist from using this remedy, because the time would come when he would be sorry, and it would break him up.

What is his time of life?—I suppose he is 50, perhaps older—55.

What is he suffering from?—Asthma.

Anything else?—Practically nothing else.

Any trouble of the heart?—He has had very great heart symptoms.

For many years?—I could not tell you that without my book.

Has he suffered from heart symptoms all the time?—Certainly latterly, the last few years.

But I am asking you now?—I cannot tell you without seeing the man again.

How many times did you see him?—I suppose I have seen him roughly six to ten times so far.

When you came to advise him with regard to the specific knowing that he had heart symptoms you advised him to use it not more than two or three times a day?—May I explain?

Is that the fact?—Yes.

Yet you say this is a thing which he ought not to have used at all; is that so?—Not as you put it.

But you say it is a thing he ought not to have used at all?—He would be better without using it at all and I told the man several times he made a mistake to stop using it suddenly because he went into a very serious condition as a result of lacking the immediate stimulating effect of the use of it.

He was worse after he left off using it?—For the time being.

For how long?—Nearly ten days or a fortnight I suppose.

After that did you find some substitute for him?—I found a remedy.

What remedy did you give him?—I treated him in my own method of treating him.

Is that a method of burning the nose?—It has to do with burning the nose and general health and diet.

Having used the inhaler beneficially for years, and being put off it, and being the worse for it I suppose he had his nose burnt?—You put it in that way, but that is not quite correct.

That is accurate, is it not?—No.

He had used it in the early years with benefit?—He had used it in the early years with benefit, but when he came to me he was in a very serious condition indeed, I considered, from the use of the remedy and the return of the asthma which he had very seriously. The man has not any heart disease, but he *has* heart weakness which is the result partly of the asthma, and which has been aggravated, in my opinion, by the use of the Tucker.

Does not that depend entirely on whether the Tucker counteracted the effect of the asthma?—But it *did not*, that is the point. By the time he came to me it had little or no effect upon him. Yet he could not stop using it as I have found in several cases.

But you found that he did stop using it?—After I had urged him.

He had not had his nose burnt until he stopped using it?—Well, not until I burnt it.

You stopped him using the Tucker, and burnt his nose instead?—Yes.

Re examined by Mr. ELDON BANKES.—My friend wishes to make a joke of this case, but at the time the gentleman came to you was he in a serious state of health?—Yes, he was in a serious state of health.

Did you ascertain how frequently he was using the specific when he came to you?—Practically using it constantly.

What do you mean by constantly?—20, 30, or 40 times a day. I am speaking not of the exact number of times in that particular case, but I imagine from what he told me he used it from 20 to 30 times a day.

Is that a condition in which a patient might very likely get, in your opinion, if he was using this stuff without warning?—Yes.

You told him that he had better stop it and use it only two or three times a day; but you say he stopped it altogether?—Yes. I had intended he should use it two or three times a day; that was to break him of it. My intention was to stop it as I had with other patients.

When he dropped it, you say he got into a very serious condition indeed. What is that due to? I put it down chiefly to nervous exhaustion and heart trouble that he suffered from more than the asthma when he stopped the remedy. I put that down to the lack or want of the stimulating effect, the immediate stimulating effect of the drugs which he had been using.

Is that the condition of things you find in a patient suffering from any habit of this kind?—Exactly.

If you stop it immediately there is a temporary collapse?—This man went into a very similar corresponding condition to a chronic alcoholic case; if you stop his liquor altogether he is quite likely to go into a state of delirium tremens, and stopping this man's Tucker in that way had a similar effect.

AUGUSTUS JOSEPH PEPPER, *examined by* Mr. HUGH FRASER.—You reside at 13, Wimpole-street, Cavendish-square? I think you are a Master of Surgery, London, a Bachelor of Medicine, a Fellow of the Royal College of Surgeons, England, and surgeon to St. Mary's Hospital?—Yes.

I think you have had submitted to you the analysis of Tucker's specific prepared by Dr. Willcox?—Yes.

And you have seen the instructions and the pamphlet?—Yes.

You are familiar with the nature of these drugs, cocaine, atropine, and so on?—Yes.

What is the action of cocaine?—Locally an anæsthetic; internally a heart depressant.

Is it a drug that can be properly used even in small doses except under medical advice?—No.

Is it a drug which requires to be used with the greatest care even in small doses in the case of a person suffering from heart disease?—Certainly.

Or if a person is suffering from kidney disease?—Certainly.

Or from consumption?—Yes.

Is it not the case that if a person is suffering from any one of these diseases which I have mentioned he may have asthmatic symptoms?—Certainly; we speak of them as cardiac asthma and renal asthma.

And the ordinary layman who is ignorant of things medical might very well think he was merely suffering from asthma?—Certainly; I should say in nine cases out of ten where the ordinary public think they are suffering from asthma they have no true asthma at all; it is merely a symptom of another disease, a more general disease.

You are familiar with the analysis of this specific?—Yes.

I am not putting that as a reflection at all upon medical treatment, you understand?—Yes.

Mr. Justice RIDLEY: Pickmeyer did not go to Harrogate. One witness did. He was a wine merchant. One witness was ordered to Nauheim and another gentleman went to Mont d'Or. I think that was Lord Ashburnham.

Mr. DUKE: Yes, my lord; I was not in court when his evidence was given.

Mr. Justice RIDLEY: It was Lord Ashburnham who went to Mont d'Or.

Mr. DUKE: Undoubtedly; but Mont d'Or is a place where asthmatic people are sent, and Nauheim is another place.

But you do not remember Mr. Pickmeyer's case specifically?—I cannot.

In a great number of cases it is notorious that asthma quite resists medical treatment?—It is a very obstinate complaint, yes.

And I do not gather from your evidence that you at any rate would think it improper that a medical man should prescribe either cocaine or atropine or a fluid which should be compounded of those ingredients for the treatment of his own patients if he thought fit?—If he thought fit certainly he would have the right.

Mr. Justice RIDLEY: Do you know of a better specific than this for asthma?—There are a great many specifics, my lord.

Do you know a better one?—They all contain much the same thing.

As this one?—I do not think many of them contain cocaine, but they nearly all contain atropine or belladonna.

Is it within your knowledge that those other specifics having once been begun fail in their operation after they have been used for some time?—Patients get accustomed to them all and they have to use them more and more frequently and sooner or later they suffer from the use of the remedy. That is my experience.

It is the fact, as we have heard, and it is correct that they are similar, you say, but without cocaine?—They are all more or less secret remedies and I cannot answer for the composition of any of them. I only know from their effects upon people I have seen that they do contain similar remedies of the belladonna class. I cannot be sure about the cocaine. That is a much more subtle drug.

But "contain similar remedies" would be right, and they all begin to fail in their operation and have to be used in larger quantities?—They have to be used in increasing quantities because the patient acquires a habit of using them.

I understand that you cannot compare them with this one, that is, with this particular specific of Mr. Tucker as to their effectual or ineffectual use?—In some cases I have known one remedy to give more relief than another. They vary in that way.

Have you been in court during the whole of the hearing or have you come in this morning?—I have been in court for the last two hours.

But you were not here yesterday?—I was not here yesterday.

We had several gentlemen here yesterday, some of whom at any rate said that they had such freedom from attack now that, carrying the specific with them, they did not find the necessity to use it?—Yes.

That does not show a tendency to increasing user, does it?—I did not hear the evidence and I cannot say.

I am asking you to assume for the moment that I am giving it to you accurately. If you assume that the witnesses who have been here had suffered grievously from asthma and had come to such a condition since they used the specific that they had practically discontinued the use of it, although they kept it by them, that would not show a tendency to increasing user, would it?—You cannot take individual cases.

But we must take individual cases?—I am afraid you cannot.

Do you mean that we ought to have the whole of our 25,000 users here?—I am only speaking of those cases where relief has been given by using anti-spasmodic remedies, which are the most powerful remedies in our Pharmacopœia and are extensively used by medical men.

And have not acquired a tendency to increased use?—I have no evidence of that.

But it must enter into the consideration of the conclusion scientifically, must it not?—I am afraid my opinion was given on cases I have known to the contrary. You asked me for my opinion.

I am cross-examining on your opinion and you gave it to me?—Yes.

You told us you had this pamphlet. I wish you would take a copy. It is said that this is put about to suggest that this thing produced an absolute cure. Take page 17 of this pamphlet, where the testimonials begin. I am not going to take more than three or four of them, but I must call your attention to that. Have you got it?—I have.

Take paragraph 3 in the first: "Your specific, whether it cures or not, is simply marvellous in the prompt relief it affords;" take the next at the fourth line.—Yes.

"I cannot of course say I am cured of asthma; but for the past five months, in which I have used your instrument, I have had greater freedom from attacks, and, what is of great importance, a ready and effective means of relief which has never failed me." Now take the next page, the second line: "I have used the remedy for nearly nine months, and though I am not in any way cured, during that time I have been in no way bothered with asthma." I am not going through the whole of them. I have taken the first three testimonials. Are not those representations to the people to whom this book is addressed that there are people at any rate who will find themselves cured by the use of this remedy?—Yes; they are using the most powerful remedies in the Pharmacopœia, and I do not see why they should not be benefited by them.

Further examined by Mr. ELDON BANKES.—My learned friend's cross-examination has enabled me to ask questions which I could not have asked before, but which I am desirous to ask now. Yours is, I think, a consulting practice?—Yes.

Have you had a number of patients come to you who have been taking this Tucker's specific?—I have seen a good number altogether.

My lord has asked you a question about these asthma remedies generally and their effect and you have told him that patients get accustomed to them and have to take gradually more and more and finally get into the habit of taking them. From your personal experience is there any difference in the cases you have had before you between patients taking other kinds of remedies and patients taking Tucker's remedies in that regard?—No; I could not say there is any difference.

You have said in answer to my learned friend that you have felt it sometimes necessary to stop the use of Tucker's specific altogether and in other cases to say that it should be used with extreme caution?—Yes.

What cases have they been in which you have ordered it to be stopped?—In a certain number of these cases patients fly to the remedy with great facility. They use it too much and they get weak and irritable hearts in consequence. It affects them through the heart. That is my experience.

In your practice have you found cases of patients actually being injuriously affected by the too frequent use of this liquid?—I have in some cases to advise them to stop the remedy and in others to use it with very great caution.

And is that because of the actual injurious effects upon those particular patients which you have found this remedy has been causing?—It is like all other powerful remedies of the class. People are apt to take it too frequently and to get injured by the use of it. The remedy gives them relief; they fly to it on very slight appearances of the symptoms and they acquire a habit, such as the morphia or the opium habit. That is how I look at it.

And the acquisition of that habit is accompanied by injurious results to them, and you say chiefly to their hearts?—It spoils their hearts.

Have you found any of the cases in which you have ordered it to be stopped that they have stopped it?—Sometimes I have not seen the patient again. They consult me and go. They take my advice or leave it as they like.

You have said in answer to my learned friend that asthma tends to weaken the heart?—Yes.

What is the operation of the cocaine with reference to the heart?—It is a decided depressor of the heart.

If you use a remedy which tends to depress the heart if you are suffering from asthma which itself tends to weaken the heart is that a good thing for you?—Of course, the first effect of any remedy, and I take it the active agent in Tucker's remedy as I understand it (because I have only just learned the composition of it) is atropine and the first effect of this drug is to diminish the spasm, and inasmuch as it relieves the spasm it relieves the pressure on the heart, but as the patients go on using the drug over and over again without

And, unfortunately, the failure of the medical profession to relieve it is very common, is not it ?—I daresay.

Re-examined by Mr. ELDON BANKES.—You were asked a question which I could not ask. You were asked whether anybody could honestly speak of dealing with this system as a fraud ?—Yes.

Before giving your answer had you carefully read these instructions and considered the nature of the specific and its possible effect ?—Certainly.

Have you personally any feeling against Mr. Tucker at all ?—Not at all.

Did you only come to the conclusion which you expressed to Mr. Duke after considering those materials ?—I did.

Whether it is right or wrong you still honestly hold that view ?—I do, certainly.

In your opinion is the indiscriminate sale of this specific liable to cause real serious mischief and injury to the persons who buy it ?—Certainly, I think it is pernicious and vicious.

And fraudulent ?—And fraudulent.

ARTHUR ROBERTSON CUSHNY, *examined by* Mr. ELDON BANKES.—I think you are a Fellow of the Royal Society, an M.D. of Aberdeen, Professor of the University College, London, and late Professor of Materia Medica and Therapeutics of the University of Michigan ?—Yes.

I think you have made a special study of poisons, have you not ?—Yes.

I do not want to go through the whole thing, but I want to ask you generally, do you agree with the opinion that has been expressed by Sir Douglas Powell about cocaine ? Did you hear him give his evidence ?—I heard Sir Douglas give his evidence. I agree in the general features.

In your opinion is it a dangerous drug to sell without careful precaution ?—Certainly.

One point I want to ask you about, and that is this: With regard to absorption into the blood of a poison if it is administered in the form of a spray, is that a form in which the poison is rapidly absorbed ?—Yes, most rapidly of all forms.

If you administered cocaine in that form it would absorb more rapidly than if it was swallowed ?—Very much more so.

Would it absorb more rapidly than if it was injected ?—Yes.

So that really it is the most rapid form known of absorbing a poison ?—Yes, except the intravenous method which is hardly used in man.

Have you considered the question as to whether or not the continuous and frequent use of this specific is likely to cause injury to patients ?—I think it is likely to promote the cocaine habit.

Is that extremely injurious to the patient ?—Yes, extremely injurious.

Cross-examined by Mr. DUKE.—How do you explain it that numbers of your medical brethren use these very same drugs for the very same purpose ?—I think these drugs might be used, if watched, without particular objection.

A man who has got asthma does not want to go to a doctor every time he gets a recurrence of an attack or the symptoms of an attack, does he ?—No.

Then his doctor will give him some remedy which he can use, will not he ?—Yes.

He will give him either something he can inhale the fumes of upon burning or something he can inhale in a vapour or something of that kind ?—I should not advise any doctor to prescribe cocaine.

I am speaking of what your medical brethren do, not what you would advise them to do.

Mr. Justice RIDLEY: You would not advise anyone to prescribe it ?—I would not prescribe cocaine in this way.

Mr. DUKE: Do not you know that they do prescribe cocaine ?—They do, because the dangers of cocaine are not properly appreciated.

Really, it is a mistake on the part of the doctors who prescribe cocaine; is that it ?—I think it is a mistake in any doctor to prescribe cocaine to be used internally in this way.

You would not go so far as to say he was guilty of fraudulent representation by prescribing cocaine ?—I should not say he was guilty of any representation at all.

Mr. Justice RIDLEY: Do you practise yourself ?—No.

Mr. DUKE: I gathered he did not, because he was introduced as a professor.

You say it is injudicious to administer cocaine at all, in your judgment; but, on the other hand, not really fraudulent, you think ?—The administration is not fraudulent.

But it is said on Mr. Tucker's part to be fraudulent; it is said that for him to say this will cure or relieve asthma is fraudulent, but for a doctor to give it to his patient as a thing which will relieve asthma is not fraudulent. Where is the difference ?—I do not think the doctor makes any representation that it is going to cure.

He provides it as a thing which is good for an asthmatic patient, does not he ?—I think he might, but no doctor promises to cure.

There are some things which a doctor will promise to cure, are not there ?

Mr. Justice RIDLEY: I have been promised many a time.

Mr. ELDON BANKES: But your lordship's ailments are very trifling.

Mr. Justice RIDLEY: Surely the doctor sometimes says to you that you will soon be all right.

Mr. DUKE: If the doctor says to you "You will be all right in a day or two," that is promising a cure, is not it ?—Yes.

That is one of the things a doctor is privileged in doing without being charged with fraud.

Mr. Justice RIDLEY: It would depend on what the jury think of these instructions. I do not think they have said it. You must read it all together.

Mr. DUKE: It has been suggested that they do, and they will have to be read later. Have you any doubt at all that large numbers of medical men and large numbers of specialists in asthma at the present time are using and prescribing a specific of just the same character as that which Dr. Tucker of the United States discovered ?—I really could not say whether anyone is prescribing for asthma a substance containing all the constituents of the Tucker cure.

Not all the constituents, but as near as they can get it. Do not you know medical men are prescribing what they believe to be an effective substitute for Tucker ?—I am not aware of the fact.

Why do you suppose it is that Oppenheimers are offering to the prescribing doctor and to the dispensing chemist a composition which is said to be an effective substitute ?—I was not aware that Oppenheimer had done so until I came to the court.

But when you find it is so, is not it perfectly obvious that the thing is in large use in the medical profession ?—In use, I admit.

Do you think Oppenheimers would take the trouble to advertise a thing of this kind in their list of drugs and give their preparation of it and recommend it specially unless it is a thing which is called for to a great extent ?—Called for, I may admit, but not to any great extent, possibly.

But they say so upon the face of that document. Just let me read it to you: "Many inquiries from important medical men have reached us regarding a certain preparation for asthma recommended by an American doctor. We introduce our Neboline compound which is similar in every respect and which from the reception accorded to it seems to meet all requirements, practically a specific for asthma." Is not it obvious upon that that medical men are largely using or seeking to use Dr. Tucker's remedy ?—I really cannot answer the question at all.

Would you mind applying your mind to it ? Oppenheimer's are one of the largest firms of wholesale druggists, are not they ?—Yes.

Are the people whom they usually supply the doctor who dispenses his own medicines and the dispensing chemist ?—I suppose so.

Can you give any other explanation for that statement in their catalogue except the explanation I suggest to you, that medical men in large numbers are calling for this specific and that it is being found effective ?—I can admit that the advertisement seems to me to mean that something of the kind is being called for. As to the numbers of medical men I should reverse my statement.

Mr. Justice RIDLEY: I find here a number of compounds; there are 21, I think, and 7 have got cocaine in them out of the 21 in different quantities in Oppenheimer's list. I am not going into the particular quantities because it would be too long, but it seems to be generally used.—I am very glad I am not responsible for Oppenheimer's list.

Mr. DUKE: Do you think Oppenheimer's are putting up medicines which are not being called for by the medical profession ?—I scarcely suppose so.

I gather that would be so if it is the fact that the medical

There is no sort of suggestion in the pleadings about this question of the cure of asthma.

Mr. ELDON BANKES: Very well, if you object, Mr. Duke, we will not press it.

Cross-examined by Mr. DUKE.—I gather that you regard cocaine as very much on the same footing as alcohol?—I do in regard to action, not in regard to dose.

Of course, a man might want half a pint of stout, but he would not want half a pint of cocaine. I have not asked any other witness about this. Cocaine is the product of a plant called the coca plant, is it not?—Yes.

It has been known for generations that the native of some of the States of South America chew the coca plant because of the sustaining influence its products have upon the system?—Precisely as people here take a glass of whisky.

They chew the coca plant because of its sustaining influence upon the system?—Because it makes them insensible to fatigue.

It is quite a national habit among those people in South America, is not it?—Just as much as whisky is in Scotland.

Now you are bringing things to their proper proportion. Those natives in South America do not die of it?—And the natives of Scotland have a way of living, or many of them, in spite of the whisky.

Mr. Justice RIDLEY: Are you a Scotchman?—I am.

Mr. DUKE: They are a very tough, robust race, the Scotchmen, in spite of their whisky. Those tribes in South America who have discovered the virtues of the coca plant have the credit of being exceptionally tough, robust people?—I am not aware that they have.

As a matter of reading do not you know that attention was called to the coca plant by the discovery of the great strains and fatigues that the tribes could bear who used it?—I have not understood your question rightly; I did not hear it rightly; but the reason, I quite agree, for which they use the coca plant is because they could undergo fatigue without feeling it. But exactly in the same way a man will go on doing extraordinary exertions with alcohol in various forms, but that does not say that alcohol thereby is preventing fatigue; it prevents him from feeling it.

Do not let us try alcohol in this case. Some of us take it with our lunch and we do not want to be disheartened. Does it come to this, that alcohol may be abused and cocaine may be abused?—It does.

With regard to the cocaine, take 1/20,000th part of a grain diluted in a volume of vapour, which would fill the lungs; would you, as a scientific man, speak of that as a poison?—Yes, it is a poison.

You would, really! You would say that a man who received into his lungs, diluted with a volume of vapour which filled the lungs, 1/20,000th part of a grain of cocaine was undergoing poisoning?—It depends upon——

I wish you would tell me.—Well, I should say yes; and may I elaborate that by saying this: I do not care about the question of dose, because dose is not an amount. A dose is something that acts upon the individual, and the influence upon one individual will not be the same upon another. As an instance of how far an infinitesimal dose, a mere sniff, will act upon one, take nitrite. We know that in Tucker's cure there is nitrite of sodium. I shall take another nitrite, which is volatile. Take the nitrite of amyl; if anyone cares to test it by one sniff they would soon find that an infinitesimal dose will produce the most marked effect.

Mr. Justice RIDLEY: And undoubtedly, I suppose, if you could get a sniff of prussic acid you will die?—Well, I do not know.

There are some poisons which are fatal in whatever quantity you take them?—No, my lord; it is a question of dose in every one, even with hydrocyanic acid.

But with the smell?—If you get enough smell of hydrocyanic acid you may get enough into the lungs to kill a man.

Mr. Justice RIDLEY: Then all these poisons are a question of degree?

Mr. DUKE: I should have thought so. I want to bring it down to the question of degree. Anyhow, you have told us a man inhaling in a volume of vapour that fills his lungs 1/20,000th part of a grain of cocaine is undergoing poisoning. None of the 25,000 people who have used these things seem to have been poisoned by this. How would you explain that?—You can bring from this country not only 25,000 but, I should say, 5,000,000 of men who have been taking the poison alcohol all their lives and who have not undergone poisoning.

Very well, I will accept it, and now let us pass on. You have given me an instance of 1/20,000th part of a grain. What is the smallest dose of cocaine recognised in the faculties of medicine as producing any medicinal effect?—That I cannot tell you, for this reason, that there are no definite experiments to ascertain the maximum dose.

It is stated in Squire's Pharmacopœia.—The question of doses depends not merely on the amount taken but upon the way it is taken. The dose that is stated in the Pharmacopœia I think is about one-twentieth to one-half, but that is intended as a rule to be something taken by the mouth. Anything taken by the lungs acts much more quickly, but I believe that we should ascertain the truth much more simply by getting rid of the question of dose entirely, and if any gentleman of the jury wishes to ascertain what one single whiff of a nitrite is like, and I say again there are nitrites which are one of the constituents of this cure, let him just take the stopper out of this bottle and take one whiff; that will convince him there is a definite action to be got from an infinitesimal dose.

I will bring you back from your nitrites to the matter I was asking you about. You know that the smallest dose of cocaine that is mentioned in Squire's Pharmacopœia as being capable of producing any medicinal effect is one-twentieth of a grain taken directly into the stomach?—I beg your pardon, that is your minimum dose, but that is an entirely different thing.

Is not that minimum dose the smallest quantity that can be expected to produce any medicinal effect?—No.

Then why is it the minimum dose?—Because it is the minimum usual dose for the average of mankind, but there are exceptions in whom that minimum dose may produce very unexpected and unpleasant results.

In one million, according to your judgment, how many of those exceptional persons are there?—I have no statistics to go on, and such statistics do not exist; therefore I cannot answer the question.

In your experience how many persons do you know would be affected medicinally by one-twentieth part of a grain of cocaine?—I have not known one, because I do not prescribe cocaine internally.

Mr. Justice RIDLEY: But have you known instances?—No. If I am asked, Have I known an instance, I can tell you of one where a hypodermic injection of an ordinary quantity of some preparation of cocaine into the gum produced complete paralysis of the respiration lasting for 12 hours, so that artificial respiration had to be kept up.

Mr. DUKE: Surgical operations are prone to suffer from accidents of that kind, are not they?—One does not usually consider the extraction of a tooth as a surgical operation.

It so happened that there was something abnormal, and the result of a somewhat simple operation was paralysis of the jaw?—No, nothing of the sort. The injection of cocaine took place before the extraction of the tooth; it was put into the gum in order to render the gum anæsthetic and free from pain from the extraction. The tooth was not extracted, but the patient, a healthy man, was at once thrown into such a condition of collapse that he had to be laid on the floor and artificial respiration had to be kept up for 12 hours, he knowing all the time that if they ceased to keep up that artificial respiration he would die, yet he being perfectly unable to move hand or foot.

Have doctors gone on using cocaine for the operation of tooth-drawing?—They have.

Although the tooth can be drawn without any alleviative at all, and in the case of poor people in the country districts commonly is drawn in that way?—It is so.

Is not that a fair test of the real danger there is, even from such a matter as the injection of pure cocaine into the jaw?—I should say not.

Then will you reconcile the practice of the doctors in that plain manner with the terrifying evidence which is presented here of the possibilities of the use of cocaine?—The reason is simply this, as I have said before, that some men are particularly susceptible to the action of cocaine. You cannot tell beforehand what those men are, and the number of these exceptions is small. People will go on taking the risk rather than face the certainty of pain in the extraction of the tooth.

And do the doctors take the risk, although they know it exists?—Dentists take the risk for one reason.

Mr. Justice RIDLEY: Because it is small?—Yes; and, moreover, these cases are not made known.

Mr. DUKE: But the dentists know them?—They do not know all of them.

But they know of some of them?—They know of some of

And, unfortunately, the failure of the medical profession to relieve it is very common, is not it?—I daresay.

Re-examined by Mr. ELDON BANKES.—You were asked a question which I could not ask. You were asked whether anybody could honestly speak of dealing with this system as a fraud?—Yes.

Before giving your answer had you carefully read these instructions and considered the nature of the specific and its possible effect?—Certainly.

Have you personally any feeling against Mr. Tucker at all?—Not at all.

Did you only come to the conclusion which you expressed to Mr. Duke after considering those materials?—I did.

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And fraudulent?—And fraudulent.

ARTHUR ROBERTSON CUSHNY, *examined by* Mr. ELDON BANKES.—I think you are a Fellow of the Royal Society, an M.D. of Aberdeen, Professor of the University College, London, and late Professor of Materia Medica and Therapeutics of the University of Michigan?—Yes.

I think you have made a special study of poisons, have you not?—Yes.

I do not want to go through the whole thing, but I want to ask you generally, do you agree with the opinion that has been expressed by Sir Douglas Powell about cocaine? Did you hear him give his evidence?—I heard Sir Douglas give his evidence. I agree in the general features.

In your opinion is it a dangerous drug to sell without careful precaution?—Certainly.

One point I want to ask you about, and that is this: With regard to absorption into the blood of a poison if it is administered in the form of a spray, is that a form in which the poison is rapidly absorbed?—Yes, most rapidly of all forms.

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Have you considered the question as to whether or not the continuous and frequent use of this specific is likely to cause injury to patients?—I think it is likely to promote the cocaine habit.

Is that extremely injurious to the patient?—Yes, extremely injurious.

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Mr. DUKE: Do not you know that they do prescribe cocaine?—They do, because the dangers of cocaine are not properly appreciated.

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Mr. DUKE: Do you think Oppenheimer's are putting up medicines which are not being called for by the medical profession?—I scarcely suppose so.

I gather that would be so if it is the fact that the medical to do it when they leave out the cocaine, or one of the others—they do not seem to be so effective. It is the cocaine of the three I should say.

Mr. Justice RIDLEY: Is that a new idea to apply the three drugs?—The action of each of the drugs is very similar on the circulation.

Mr. Justice RIDLEY: I wish you would answer the question.

Mr. ELDON BANKES: My lord asked if it was a new combination of those three drugs.

Mr. Justice RIDLEY: Have you ever known anybody to do it before?—Not to my knowledge, but there are certain remedies which are supposed to be exactly the same.

I did not ask any such question. I wanted to know, as you know well, if this was a new invention or prescription. You did not know it before, is the answer; then it was new.—I am sorry I do not gather your question even now.

Mr. ELDON BANKES: Given the fact that it produces immediate relief in this way, in your opinion is a patient very likely to make frequent use of this inhaler?—Yes.

Is it a very frequent use of the inhaler which leads to the result which you have spoken of to the jury?—In my opinion it is the frequent use.

Mr. Justice RIDLEY: We have had all that before. We know about the action of cocaine.

Mr. ELDON BANKES: I believe for some time you have realised the danger of using cocaine in connexion with asthma?

Mr. DUKE: Does it matter whether he has or not? It is quite immaterial to the issue in this action whether this gentleman has realised it or not.

Mr. ELDON BANKES: I was going to ask another question upon that.

Mr. Justice RIDLEY: The question here is fraud and nothing else, as I have said over and over again.

Cross-examined by Mr. DUKE.—You have said that certain symptoms were what you would expect to find from the frequent use of Tucker's specific and that it is common experience that those symptoms follow its use?—Yes.

Will you write down the name of the *person in whose* case you say to your knowledge that last happened?—Will you tell me the symptoms again?

I want the name and address of the person in whose case you say this consequence you have been speaking of last happened?

Mr. ELDON BANKES: Of course, it is not for publication?

Mr. DUKE: Of course not.

The WITNESS: I should have to refer to my notebook for the address. I can give you his name.

Mr. ELDON BANKES: Do you want the address?

Mr. DUKE: I probably shall, because I am going to see whether there was any such person.

The WITNESS: I believe the number is 29. I can tell you by referring to my case-book.

I am not suggesting that there will not be any person of the name you mention, but I am going to inquire about it. (The Witness wrote the name and handed same to counsel.) Will you also give the date? It is the last person you saw about this matter. Tell me when you saw him first as nearly as you can, and when you saw him last. It is the last patient in whom it is said these distressing symptoms had arisen.—I shall require my notebook to tell you when I saw him first and when I saw him last.

Tell me about—The one I am thinking of was on Friday in the week before last.

You have the name here?—Yes; that is speaking from memory as to the date I saw him last.

When do you suggest that the gentleman you have named here had used this specific?—He used it up to the time he came to see me first.

How long was that?—He had been using it for five years, speaking from memory. If you had given me notice I could have brought my notebook here. As far as I know he had been using it for seven years and for five years it had no ill-effects. In the last two years he was getting worse and he came to see me. I told him I understood he was using it too frequently and I advised him very strongly to reduce the number of times at which he used it, because I believe if you use it not more than twice in the 24 hours it will do you no harm. He took my advice more strictly than I meant and has stopped it altogether; I believe from that moment he has not used it.

You mean he has ceased it altogether?—I believe he has ceased to use it. I told him it was injurious to use it too much and I think he has stopped it.

He was a man who had used *this specific for five or seven* years without becoming in any way dependent on it?—In his particular case not at the last.

Do you mean there was some great effort required?—Yes, very great effort.

Did the great effort arise from the fact that he had recurrent paroxysms of asthma?—No, I do not think so; it was necessary for him to stop using Tucker.

Does he still suffer from asthma?—He still suffers from asthma.

How long has he been a sufferer from asthma?—I do no know. I can tell you if I have my notebook.

Where is your notebook?—It is at my rooms.

You have not got it here?—No.

You knew you were coming here to make this attack?

Mr. ELDON BANKES: Is that a fair thing to put to medical man?

Mr. DUKE: Certainly it is an attack. You regard it as an attack, do not you?—I regard it as a *danger* to certain patients.

Mr. ELDON BANKES: The question is, Do you consider your evidence an attack?

Mr. Justice RIDLEY: It is an attack made upon Mr. Tucker; he is charged with fraud.

Mr. ELDON BANKES: If a witness comes and gives evidence on subpœna surely *it* is not fair to say it is an attack.

Mr. DUKE: I take it you have given the defendants' solicitors a proof of your evidence?—Not with regard to this particular case.

But you have given them a proof of everything you thought material?—Yes.

You did not think it material to give them a proof of this matter you have mentioned?—I think you will find I said that in certain *cases* it had had a distinctly harmful effect.

Did you know you were coming here to help to support a charge of fraud against Mr. Tucker?—I knew what was said in the libel.

I wish you would tell me. You did know you were *coming here to help* to support a charge of fraud against Mr. Tucker?—If it is a charge of fraud. I came here to give evidence from my experience of Tucker on behalf of THE LANCET.

Did you regard it as a charge of fraud?—I did not think of it one way or the other.

Did you know that the action was brought by Mr. Tucker because he had been charged by THE LANCET with fraud?—I was not aware of that till I arrived here.

But you know it now?—Yes.

And you are here to give evidence in support of the people who made the charge?—To say that a remedy such as Tucker is harmless when, as I consider, with the exception of one or two drugs, it is the most dangerous remedy you can obtain, I should say it was a deception.

Were you here to hear the evidence of numerous people who said it was not only harmless but *most* beneficial?—I did not hear it, but I can quite believe it; I think numbers would say it is most beneficial.

Have you administered it yourself or not?—What do you mean by "administered"?

Recommended it.—In a very great many cases I have told patients that they can use it—not those who have never used it before, because I think it is one of the most dangerous remedies, to begin with, you can find, but those who are using it I do tell them they can use it, as far as I can see with absolute safety, so long as they do not use it more than twice, or at most more than three *times* in 24 hours. I have told case after case the same thing.

Then patients of yours with your approval are using this deadly preparation two or three *times* in the course of 24 hours?—Yes.

Mr. Justice RIDLEY: How many sniffs each *time*?—I always tell them, instead of following the directions to take as much as they can get into their chest each time, that they must be content with as little as they can do with, and with one or at the most two sprays will have as much effect as a great many, and patients tell me they find it is practically what I say.

Mr. DUKE: They are to use it so as to procure the immediate relief from asthma, and that is what you tell them to do? If it can be done in two or three inhalations to leave it at that, but if it required more——?—To leave it altogether.

That is not what you said?—I *tell them* if they cannot be content with two or three applications in 24 hours, using it

Mr. ELDON BANKES (*to Mr. Rogers*): What are the prices of your atomisers?

Mr. ROGERS: The black one is 4*s.* 6*d.*

Mr. ELDON BANKES: And the white one?

Mr. ROGERS: 5*s* 6*d.*

Mr. Justice RIDLEY: And Oppenheimer's 6*s.* 6*d.*

Cross-examined by Mr. DUKE.—Do you know that while this action has been preparing for trial the solicitors for the plaintiff have written to your solicitors asking them to give them particulars of any instrument which they said compared with the plaintiff's atomiser? They wrote on Oct. 9th, 1907. Did you know that?—I did not quite follow that question.

Did you know that in the course of preparing for this trial the plaintiff's solicitors had written to your employers' solicitors asking them to give them the names of any atomisers which they relied on as justifying their statement that an equally good atomiser with Tucker's could be obtained very cheaply?—I knew they asked whether they could produce an equally suitable one, I think it was.

That is what was said and that is one of the questions, so they wrote and said, "We know of this one," naming it.

Mr. ELDON BANKES: It was a 1*s.* 8*d.* one.

Mr. DUKE: I quite follow.

Mr. ELDON BANKES: I think you ought to read the letter.

Mr. DUKE: I will read it: "Tucker *v.* Wakley. It is stated in paragraph 5b of the defence that constituents sufficient to make up one ounce of the specific together with a suitable spraying instrument could be obtained from any chemist at a cost of from 8*s.* to 9*s.* We have purchased from Taylor's Drug Stores, Holborn, at the price of 1*s.* 8*d.* a spraying instrument described as the Excelsior atomiser No. 11 continuous spray. Will you please inform us whether this is a suitable spraying instrument within the meaning of paragraph 5b. If it is, will you be good enough to give us the address of a chemist from whom such an instrument can be obtained and mention the trade name of the same and the price at which it is sold." That was a perfectly reasonable inquiry, was it not?—I should think so.

Mr. ELDON BANKES: May I interpose? You took out a summons for that.

Mr. DUKE: I am quite aware that we did not get it, but I am dealing with the reasonableness and fairness of it.

Mr. ELDON BANKES: But if the Master refused it on your own summons how can you say it was reasonable?

Mr. DUKE: I am quite aware the Master refused it.

You were going to make tests of this and were going to give evidence on it?—Yes.

Do you not think that you were going to give evidence as to the instrument which you relied upon and which you were going to test ——

Mr. Justice RIDLEY: Do you think this of much consequence?

Mr. DUKE: I do not think any part of the evidence which is now given is material, but it is given.

Mr. Justice RIDLEY: It is a very small incident in the case. I do not deny its materiality, but I do not know how far you think it worth following.

Mr. DUKE: Any observation from your lordship will prevent me pressing small points.

It would be more satisfactory, would it not, when you are making experiments to have somebody from the other side to check them—more satisfactory from a scientific point of view, I mean?

Mr Justice RIDLEY: I should like to know how he measured the grains of spray.

Mr. DUKE: I was going to ask him, but there was nobody there to test it. It would be more satisfactory that there should be somebody there.

Mr. Justice RIDLEY (to the witness): How do you measure a grain of spray?—May I explain?

Yes.—I place the apparatus containing the fluid on the pan of a chemical balance which weighs infinitesimally small quantities. After taking careful measurements of the weight and entering that I take the apparatus from the pan and then perform 100 compressions and put the apparatus back and re-weigh it. The difference gives the loss in vapour.

Mr. DUKE: Of course the extent of the identity of the two operations depends entirely upon the pressure of the hand of the person who is making the experiment?—Yes; it was always in the same hand.

I quite agree; but the mind behind the hand has a great deal to do with the pressure of the hand, has it not?

Mr. ELDON BANKES: What does my friend suggest?

Mr. DUKE: This is cross-examination. You choose not to give us an opportunity of seeing that these things were done accurately.

Do you know the gentleman who wrote this article?—I do not know the writer of the article, no.

Are you able to say whether he had any knowledge at all of either Tucker's atomiser or Tucker's specific when he wrote it?—No.

At the time when that gentleman wrote this article, which was in March last year, had you any knowledge of Tucker's atomiser?—Yes.

Had you made any experiments with it?—No.

Had you any knowledge of Tucker's specific?—Yes.

Had you analysed it?—No.

Re-examined by Mr. ELDON BANKES.—You are asked what knowledge you had of this specific.

Mr. DUKE: No, he was not.

Mr. ELDON BANKES: I should have thought he was.

Mr. DUKE: I only asked him if he had any knowledge.

Mr. ELDON BANKES: Very well, I will not pursue it.

My lord, I wanted to call some evidence about the Poisons Act, but I do not know whether my friend will agree. I had better call the witness, perhaps.

Mr. DUKE: I object first of all that it is irrelevant upon this trial.

Mr. Justice RIDLEY: I cannot say until I know what it is.

Mr. DUKE: My learned friend wants to call evidence as to the Poisons Act, and I take it it is as to the matters which he opened, or suggested in the course of his cross-examination with regard to the present condition of the schedule and with regard to an Order in Council. I submit that is irrelevant.

Mr. ELDON BANKES: It is to prove that the schedule to the Act has been extended so as to include these two drugs.

Mr. DUKE: I submit that that is irrelevant.

Mr. Justice RIDLEY: I dare say it is, but I do not know why you should object to it, relevant or not.

Mr. DUKE: If your lordship decides to admit evidence of it ——

Mr. Justice RIDLEY: I think I cannot exclude it.

Mr. DUKE: Then I will not take up time by requiring evidence to be given; I will admit it.

Mr. Justice RIDLEY: That is a fact one way or the other. If it has been done it has been done. I have reason to think that they have been exercising pressure lately to extend the operations of the Poisons Act.

Mr. DUKE: There is no doubt there is an Order in Council which puts cocaine into one of the schedules of the Poisons Act; I do not know which it is.

Mr. ELDON BANKES: There are two Orders which I rely upon. This is an Order in Council of Dec. 21st, 1869, and that recites a resolution of the Pharmaceutical Society of Dec. 1st, 1869: "Resolved and declared that each of the following articles"; and then it gives a number until we come to "Preparations of atropine" ——

Mr. Justice RIDLEY: Being in the posions schedule.

Mr. ELDON BANKES: "Ought to be deemed a poison in the first part of Schedule A of the Pharmacy Act, 1868." Your lordship will see the difference in a moment between Part I. and Part II. Then the next Order is of Jan. 11th, 1905, and that recites a resolution of the Pharmaceutical Society, and that enumerates certain articles, including cocaine and its salts and preparations of cocaine which ought to be deemed a poison within the meaning of the Pharmacy Act: "And also that each of the following articles—namely, cocaine and its salts—ought to be deemed a poison in the first part"; so that cocaine and its salts are under the first part of the schedule and preparations of cocaine under the second part of the schedule.

Mr. Justice RIDLEY: It is not yet four o'clock. I think we had better finish the evidence.

Mr. ELDON BANKES: I have one or two other eminent medical men——

Mr. Justice RIDLEY: I had hoped that you might conclude the evidence to-day.

Mr. ELDON BANKES: I shall, I hope. The only point which was in my mind was this: I have some other eminent medical men, but the question is whether I ought, after the number I have called, to pile up the number, because, of course, their evidence only comes to the same effect.

Mr. Justice RIDLEY: I shall make the same observation

In your opinion, would the use of it be likely to be dangerous?—Certainly, if used indiscriminately.

Mr. Justice RIDLEY: That is what he has already said.

Mr. FRASER: I have not asked him the question with regard to the specific.

Mr. Justice RIDLEY: It could not be used without proper medical advice.

Mr. FRASER: That is in regard to cocaine. I did not ask with regard to this specific. Will you just state shortly the reasons why, if it was sold to the public indiscriminately, it would be likely to be dangerous?—In the first place they would be inhaling it in many cases where they think they have true asthma and where the asthma is only a symptom of a far more dangerous condition. Very often it is a symptom dependent on organic heart disease or of advanced kidney disease.

In those cases what would be the effect?—The effect would be much more pronounced upon the general constitutional condition of the patient than if it was purely a case of asthma.

Would the *effects* be injurious or not?—Much more injurious.

Cross-examined by Mr. DUKE.—I suppose you have not administered, or caused to be administered, this specific to any of your patients?—No.

You know that a large number of specialists do give this specific to their patients for asthma?—No, I do not.

Is not it well known to be the most effective remedial agent for asthma there is?—Not to my knowledge.

Do not you know that?—No.

What do you suppose led Oppenheimers to introduce an imitation of this specific and to describe it as a specific for asthma if the thing was not being called for by the medical profession?—I do not say it has not been called for; probably it has, but you are asking my experience and knowledge and I tell you I have not any.

Have you any doubt at all that it has been largely called for by the medical profession?—I have not sufficient experience to form an opinion upon it. I have no doubt it has been very largely used.

I am not asking about largely used. I am asking about its extensive user by the medical profession. You have no doubt it has been?—I have said just the contrary; I have not sufficient knowledge to form an opinion.

Do you know one way or the other?—No.

Do you know you come here to help to support a charge of fraud against Mr. Tucker?—I know I come here to speak the truth and to give my opinion of the action of these drugs.

I did not ask you that.—I do not think it is a question for me to answer in regard to the fraud.

Did you know that the charge against which Mr. Tucker came to defend himself was a charge of fraud?—Certainly.

Did you come here to help to maintain that charge of fraud?—Yes, in the belief that it was a charge of fraud and that it was a fraud.

That is what I asked for and that is a candid answer. Will you tell me whether you would charge a man with fraud who believed this to be the best remedial agent there is and who sold it in that belief?—In the conditions in which it is sold, certainly.

Whether he believed it or not?—Certainly.

However innocent he might be of any intention to mislead, you would think it was proper to charge him with fraud?—I could not acquit him of intention at all.

Although the regulations are written by a member of your own profession?—The description of the action of the drug I should say: I am not speaking of the regulations so much.

And the description of the action of the drug is written by a member of your own profession.

Mr. Justice RIDLEY: It seems to me it is perfectly right as to the description of the action of the drug. Why do you say it is wrong?—I say it is a distinct falsehood.

It has been proved to be the truth. Do you mean the healing of the mucous surface?—Certainly.

But it does.—It does not.

Well, I do not know about that.—As a matter of fact it is just the opposite. Cocaine applied locally diminishes the healing process, and very frequently surgically I have not used cocaine because it frequently delays the healing process.

I am not speaking of cocaine; I am speaking of this specific. It certainly removes and causes the attacks to cease. I suppose that is because the mucous surface is benefited?—The word is "healing" the mucous surfaces. There is no interpretation applicable to that other than that the mucous surface is broken; so it cannot be healed.

No; not at all.—It is so, my lord.

Mr. DUKE: Take the case of a patient suffering from a violent paroxysm of asthma. Does that affect the mucous surface?—It causes it to be congested.

Mr. Justice RIDLEY: One witness said that before. I must say it never would occur to me that it meant a cut or a break in the surface in that sense.

Mr. DUKE: Everybody knows what is suggested.

Mr. Justice RIDLEY: You can speak of healing a disease.

The WITNESS: It is not a question of healing a disease. Stated here, it is healing a surface.

Mr. Justice RIDLEY: I will not argue about it with you; it is for the jury to deal with.

Mr. DUKE: Does asthma affect the mucous surfaces?

Mr. Justice RIDLEY: Because he uses the word "healing," which you do not think applicable, it is a fraud; is that it?—The learned counsel put the question to me on the question of healing; I say it is not true.

Mr. DUKE: Fraudulent mis-statement; that is your view about it?—If it is written by a medical man, as you tell me, he must know that the mucous surface is not broken.

Mr. Justice RIDLEY: You recognise no value in what I am putting to you, that the word "heal" may be used without a wound?—Not in connexion with those words; it is healing a surface.

Suppose there is an inflammatory condition of the surface cannot you speak of healing that? Surely you can?—That is not the sense in which it is understood by a medical man; I cannot say any more.

You do not seem to understand, or you will not.—Pardon me, I do.

Be careful, Mr. Pepper.—I am perfectly careful.

Mr. DUKE: Take the case of a man suffering from a violent paroxysm of asthma, does that affect the mucous surface, the mucous membrane?—It causes congestion.

Is that an unwholesome condition?—Yes.

Does the relief of the attack of asthma remove that unwholesome condition?—Yes, by removing the spasm.

Is not that a healing of that unwholesome condition?—But it is unlikely——

I wish you would answer the question?—Yes.

It is a healing of that unwholesome condition?—For so long as it lasts. The action of the drug is to diminish the spasms and the atropine causes a contraction of the blood vessels, but there is an inevitable relaxation afterwards, and therefore it is only a temporary relief of the congestion.

Do you mean that when the asthma has been relieved by the specific as soon as the effect of the specific has passed away the asthma recurs?—No, I do not.

I did not suppose you did. Do not you know that the attack of asthma may be relieved by the *specific* and pass away completely, and that there may be no recurrence of it for months?—It is quite possible.

Then why do you say that there is only a temporary healing of that unwholesome condition?—Because it is the fact.

Mr. Justice RIDLEY: But temporary or not, it is a healing.

Mr. DUKE: It *is* a *temporary* condition, is not it?—The congestion is a temporary one due to the spasm.

I quite follow. It is not a condition in which there is an abrasion or a laceration?—No.

It is a congested condition which needs to be removed?—Yes.

And everybody who knows anything about asthma knows that that is so, does not he?—I cannot vouch for anyone.

But do not you think that any intelligent person who had suffered from asthma or who had seen a victim of asthma in a paroxysm would know quite well that there was some internal cause which was spasmodic in its action?—Certainly.

And which was not a case either of laceration or abrading the surface of the organs?—Are you speaking of the opinion of a medical man?

I am speaking of any intelligent person who knew anything about the matter?—Yes; if he knew anything about the matter.

Do not you think there are people in the world besides medical men who may have a *little* common knowledge about asthma?—Very common, I should think it would be.

And, *unfortunately*, asthma is very common?—Yes.

your duty, as I submit, is to come to a decision to-day, as I am sure you will quite fairly and quite impartially, upon the evidence as it has been laid before you in the course of this trial.

First of all, let me deal with the libel, and if you have your copies before you I should like to read it through with you to see exactly what it is that is said, how much of it is applicable to the plaintiff, and what it is that it says about the plaintiff. You see it comes under a part of the paper which is called "Notes, Short Comments, and Answers to Correspondents." I do not mind whether you call this a note or short comment, but I should think the best way would be to speak of it as a note or an article. You will see that it has a heading and it is headed "Quack Advertisements"; and of course the object of the heading always is to indicate to the reader what the article or note is about. I shall submit to you when I have read it that the primary object of this writer in writing this note or comment was to deal with quack advertisements, and in dealing with these quack advertisements he did introduce incidentally this story with reference to Cushing and Dr. Tucker's specific. Now let me read it. It begins: "Quack advertisements. In the course of an inquest held at the beginning of the year it was stated that a labourer who had died from consumption had been using Dr. Tucker's asthma specific inhaler, for which he had given, according to a newspaper report which has reached us, three guineas, while the material with which he had sprayed himself had cost him 8*s*. an ounce." Now may I pause there. That is a statement as to something which had occurred at an inquest, and now you know that this is truly stated and that is a correct statement as to what had occurred at that inquest. Then the writer goes on: "Dr. F. J. Waldo, the coroner, rightly stigmatised this kind of dealing as a fraud." There again the writer is stating something which happened at the inquest, and he is also stating that he considers that what the coroner said was right. We know now that the coroner did say it and the question which you have to consider is whether the writer of this article was justified in his opinion in saying that the view which Dr. Waldo expressed was a correct view. He goes on: "and it is a humiliating thing for journalists to remember that such frauds could not be committed with any profit to the quack save with the coöperation of the press." Now he is travelling off into the question of quack advertisements generally, which does not, as I shall submit to you, refer to the plaintiff. "A correspondent has recently sent us a collection of advertisements of so-called proprietary medicines which he had cut from papers of high reputation in the country." It is now admitted, and you know, that those advertisements are advertisements referring to other remedies and do not include an advertisement of Dr. Tucker's specific. Then he goes on "inviting our opinion of them"—that is, of those advertisements. "Our opinion is that the misery wrought by quacks must be unknown to a good many proprietors of newspapers or they would hardly share with the quacks the plunder extracted from the public, mainly from the sick poor. The remedy is in the hands of the public who have only to signify their displeasure at reading in their journals invitations to be robbed and poisoned to find those invitations immediately cease. But the public are largely uninstructed and credulous and, alas, those responsible for the conduct of many of our journals take no trouble to enlighten them. They prefer to regard all protest against quack advertisement as emanating from the narrowness of the medical profession; this is certainly a convenient faith, but how it can be truly held by educated people passes our comprehension." That is the whole of it. The words of this article, taking it as a whole, which are objectionable, or which can be said to contain a libellous meaning, I think, are four. There is the first word "quack," there is secondly the word "fraud," there is thirdly the word "rob," there is fourthly the word "poison." Now there is no doubt whatever that as used in this article the word fraud does refer to the plaintiff in this sense that it refers to his course of trading. I shall ask you to consider whether the word "quack" or the words "rob" and "poison" refer to him. I will ask you in that connexion to bear in mind a letter which the solicitor for the plaintiff wrote when he complained of this article. You will find there that he thought and said that the word "quack" as used in this article referred to Dr. Tucker, the plaintiff's brother, and of course if that is so, if it refers to the inventor of this specific and not to the person who sells it in this country, it is quite plain, and my learned friend would not contend that he would be entitled to rely upon that word, because the plaintiff is here claiming damages for himself for something which is said about him, and he cannot complain nor can he ask damages for anything that is said about his brother. This is the letter which my learned friend read of the 9th May, 1907, which the solicitor wrote, and he says in that letter that this paragraph "has very recently come to his notice." That is on the 9th May. Then he goes on to say, "Our client is the general manager in England for Dr. Tucker and has a considerable personal and direct interest in the sale and distribution of the atomiser and specific. The statement with reference to the inquest and to the sale of the inhaler (or atomiser) and the spraying material (or specific) that Dr. J. F. Waldo, the coroner, rightly stigmatised this kind of dealing as a fraud and the use of the word quack in connexion with Dr. Tucker are subject of very serious complaint by our client." So it is quite plain that the plaintiff's solicitor himself read this article as though the imputation arising from the word "quack" was an imputation upon Dr. Tucker of Mount Gilead, Ohio, or wherever he lives, and not on the plaintiff. I will ask you to consider these matters when you come to consider the libel, not that in my judgment they are very material, because the essence and sting of this libel is, according to my learned friend's case, that the word "fraud" is used with reference to plaintiff's course of dealing, and with that I am perfectly content to deal.

Now you will also notice that this paragraph standing by itself makes reference only to the plaintiff's course of dealing as evidenced by what occurred at the inquest, and if both parties had been content to try this case upon that fact alone of course this inquiry would not have taken the time that it has. I should have been quite content to take your judgment if the plaintiff had been willing that it should be so taken upon the question connected with that inquest as relating to the plaintiff's course of dealing, because what do we know those facts to be? We know that a man earning weekly wages died of long-standing consumption in the year 1906. We know that two years previously he had paid a sum of money which to him must have been a large sum for a specific which, according to the plaintiff's own statement before you, was not intended to do him good and could have done him no good, and, what is more, that it was supplied to him when the plaintiff himself had information in his own possession which if he had chosen to look at it would have indicated to him that this man was suffering from a disease for which his specific would be of no assistance, and yet he took that man's money. Why do I say that? You remember the questions that that man Cushing was told to answer when he applied for the specific. One of these questions—I shall have to deal with the questions later—said: "What remedy are you in fact using to relieve attacks? Answer: Cod-liver oil as tonic." I said to Mr. Tucker as you remember: "Did not the fact that this man was taking cod-liver oil as a tonic indicate to you that he was possibly or probably suffering from such a disease as consumption?" His answer was: "It did indicate to me that the man was in a run-down state." I asked him: "Would not that fact indicate to you that he was possibly or probably suffering from consumption?" and his answer was "Yes"; so you find a man with the knowledge in his possession that this man is suffering from a disease which he himself admits this specific does not cure, and will not assist, taking that man's money and taking what for him is a large amount, impoverishing him to enrich himself. I venture to say that anybody criticising that state of things alone would be entitled to use as strong language as his vocabulary admitted. But bear this in mind; the plaintiff is not content that his kind of dealing should be judged by that circumstance alone, and he comes before you and says in substance: "It is not fair you should judge my kind of dealing by the case of Cushing alone." Before I pass from the case of Cushing I want you to bear in mind that the facts are proved here beyond contest, and Mr. Tucker has offered no explanation of how it was or why it was he supplied this specific to him or what possible justification there was for so doing; not a word. Therefore he cannot come into any court of justice; he cannot come and ask any jury to say that the strongest language is not warranted with regard to that case. He comes here, therefore, before you and says: "Do not judge me, gentlemen, upon that one case alone. I bring before you these facts: I bring before you the fact that I supplied this treatment on a fortnight's trial," from which he desires profession are using and recommending a specific in imitation of Tucker's specific as a specific for asthma. Do not you think it is a scandalous thing that Mr. Tucker should be charged with fraud for selling that specific?—I am not prepared to express an opinion as regards the meaning of fraud from the legal point of view.

Mr. DUKE: Very well, that is the only answer you can give me.

Mr. Justice RIDLEY: What you mean to say is what you have said, which is quite intelligible to me.

Mr. ELDON BANKES: It is no good objecting to my learned friend because he persists in putting this question to the witnesses, but I think the jury by this time understand that it is a question for them, and I suppose they will not be affected by these questions.

Mr. Justice RIDLEY: It is a great pity we have ever got such a question at all. If the people had actually written what they have said in court there would not be much bother about it, but fancy people writing this. Either they do not mean it or they do not know what it means. These things which they have written are not a part of this gentleman's evidence and not a part of most of the evidence relating to your case, which is, that it is dangerous to circulate cocaine without medical supervision. That is quite a different point.

Re-examined by Mr. ELDON BANKES.—You have been asked what other doctors do about cocaine.

Mr. Justice RIDLEY: One can accept that with great respect and refrain from expressing any divergence of opinion.

Mr. ELDON BANKES: I understand you to say that no doctor should prescribe cocaine.

Mr. Justice RIDLEY: He goes a little further and says no cocaine at all.

The WITNESS: No cocaine internally.

Mr. ELDON BANKES: In your experience has there been great alteration in the view of the medical profession with regard to the use of cocaine quite recently?—Very great, particularly in the United States, where the cocaine habit has been specially developed.

And do you find also in England, to some extent but not to the same extent, an alteration of feeling?—I think so, yes.

Mr. SAMUEL ARCHIBALD VASEY, *examined by* Mr. ELDON BANKES.—You are a Fellow of the Chemical Society, a Fellow of the Institute of Chemistry, a Member of the Society of Public Analysts and an analytical chemist, and I think you have had 20 years' experience?—Yes, that is so.

You now direct the work of THE LANCET laboratory?—Yes, that is so.

And you act as general consulting chemist to the proprietors of that paper?—Yes.

Have you analysed different samples of Dr. Tucker's liquid?—I have.

You could recognise the bottles? Do you wish me to identify them, Mr. Duke?

Mr. DUKE: No, I shall take the witness's evidence; it is merely a matter of form.

Mr. ELDON BANKES: How many analyses have you made?—In all, two.

Mr. Justice RIDLEY: Two bottles?

Mr. ELDON BANKES: I only want the approximate dates of the analyses.—The first one was examined on July 4th, 1907.

I think that was a small quantity of liquid remaining in a bottle and the other was of a full bottle?—Yes, that is so.

What was the date of the second analysis?—July 5th, 1907.

Was the second analysis rather fuller than the first because you had more liquid to deal with?—That is so.

Mr. Justice RIDLEY: Can you give us the analyses?

Mr. ELDON BANKES: Yes, I can. It is only to show the variation.

Did you find the same active constituents in each case?—Yes, I did.

You found cocaine in each, did you?—Yes

In the first one how many grains per fluid ounce?—Of cocaine, 1·03.

In the first one?—In the first one.

And in the second one?—1·47.

Did you find atropine?—Yes.

In the first how much?—0·52.

And in the second one?—0·66.

Did you find sodium nitrite in each?—Yes, in the first one 16·00 grains and in the second 24·46 grains.

Mr. Justice RIDLEY: Are these all in grains which you are giving?—Grains per fluid ounce.

Mr. ELDON BANKES: I think you found considerable quantities of glycerine in each?—Yes.

And oily matter?—Yes.

I think there was nothing else which it is material to mention, was there?—No. I think not.

Mr. Justice RIDLEY: In the other analysis which we have been dealing with there was 2·28.

Mr. ELDON BANKES: Yes, your lordship will see there are great variations between the different bottles of liquid.

Mr. Justice RIDLEY: That is more than double the first sample taken here?

Mr. ELDON BANKES: Yes.

Mr. Justice RIDLEY: And the figures that you have been dealing with are twice too much?

Mr. ELDON BANKES: Not twice too much but it shows the great difference between the two samples.

Mr. Justice RIDLEY: On the other hand the atropine was more?

Mr. ELDON BANKES: Yes.

I think you also made some investigations with regard to the atomiser?—Yes, I have.

Will you please hand in the four which you have dealt with? I think for the purposes of this case it is quite sufficient for me to deal with four. There is Mr. Tucker's own atomiser, there is Oppenheimer's atomiser which Mr. Tucker produced, and there were two which I put to Mr. Tucker as coming from Mr. Rogers.

Mr. Justice RIDLEY: He has found some that will produce vapour.

Mr. ELDON BANKES: I am only dealing with the four which Mr. Tucker dealt with and he admits that all those four produce equally good vapour, but his complaint about them was that they did not produce as much. I just want to identify the four.

There are the two of Mr. Rogers' and there is Mr. Tucker's and there is Oppenheimer's (handing same to the witness). Have you made tests with those to see the quantity of the liquid which is atomised in a given number of compressions?—I have.

So as to see the volume of vapour which each one will produce with a given number of compressions?—The weight of vapour.

With you please give us the result?—With Messrs. Oppenheimer's we found that 100 compressions of the bulb gave 0·48 grain of spray. Am I to give the figures of Mr. Tucker's?

Yes, if you please.—With Mr. Tucker's 100 compressions of the bulb gave similarly in the same hands 0·60 grain of spray.

As to the atomisers of Mr. Rogers, have you them here? Those which you have are the ones which were put to Mr. Tucker, are they not?—Yes, one with a black bulb, the other with a white bulb. This one, the black bulb with 100 compressions, gave 1·08 grain weight of vapour.

And the white bulb?—The white bulb with 100 compressions gave 1·07 grains weight of vapour.

Did you use them under similar conditions?—Precisely the same conditions.

And the same liquid?—The same liquid and in the same hands.

Is the result of those examinations that Oppenheimer's is slightly less powerful than Mr. Tucker's?—That is so.

To the extent of the difference between 0·48 and 0·60 per 100 compressions?—Yes.

But both the atomisers of Mr. Rogers are more powerful?—Yes.

Do they each produce equally good vapour?—Equally good, yes.

Equally fine spray?—Equally fine and dry vapour.

We have had the prices of those, I think.

Mr. Justice RIDLEY: Not of Mr. Rogers's.

Mr. ELDON BANKES (to the witness): Can you give me the price of Mr. Rogers's?—No.

Mr. ELDON BANKES: Mr. Rogers will tell us that.

Mr. Justice RIDLEY: I have the price of Mr. Oppenheimer's.

Mr. ELDON BANKES: Perhaps my friend will take it from me.

Mr. DUKE: Certainly.

Mr. Justice Ridley: But he justified there.

Mr. Eldon Bankes: Yes, and he said it was a matter of fair comment.

Mr. Justice Ridley: Which you have not ventured to do.

Mr. Eldon Bankes: Gentlemen, justification is not needed if the words come within the region of fair comment. That is what Chief Justice Cockburn points out there, and curiously enough in this case when the case was first tried the learned judge who tried it took the view that if you call a man a "quack of the rankest species" that was accusing him of want of skill and capacity, and that you must justify it or else you must fail; and upon that the jury arrived at a certain conclusion. But the defendant appealed from that because he contended that he was entitled to rely upon the plea of fair comment, and the case went to the House of Lords. I have the judgment of the House of Lords here and I will read you a short passage from the judgment of the Lord Chancellor. It deals not only with this point, but with the point which I understand from my learned friend's opening he desires erroneously to rely upon. That being the statement of the libel the Lord Chancellor said, "In the second place the defendant was in my opinion entitled to have the jury's decision as to the plea of fair comment, whether or not in all the circumstances proved the libel went beyond fair comment on the plaintiff and on the system of medical enterprise with which he associated himself as a matter of public interest treated by defendant honestly and without malice." Why I emphasise these words is this. You see that the Lord Chancellor's statement is that the defendant is entitled to have the opinion of the jury on the facts proved. My learned friend has been more than once indicating to you that the question for you is what did the writer actually know at the time when he wrote? That is not the question. If the plaintiff chooses to bring an action for libel and to bring his case into court the jury have to decide as to whether the comment was fair comment upon the facts proved by them. It is quite immaterial that the writer knew. If he was right and if the jury upon the facts proved before them that he did not exceed the limits of fair comment it does not matter whether that writer was right by accident or by design; the point is not what exactly he knew at the time but the question is, aye or no, upon the facts proved at the trial, was the comment fair or was it not?

Now, gentlemen, that being what I submit is the question before you—whether upon the facts proved before you the writer could honestly come to the opinion which he has expressed here—let me ask you to consider again what this writer says and whether it is not obvious that this writer is speaking of a matter of his opinion and is not stating a fact as a fact. The words are quite short. You will see what the writer says: "Dr. Waldo, the coroner, rightly stigmatised"—now what?—"this kind of dealing as a fraud." What is the meaning of the word "stigmatised"? I suppose the only meaning is that he branded it, but whether you use "stigmatised" or whether you use "branded" or whether you say the coroner "called it" or whether you say the coroner stated that "in his opinion it was" it is equally immaterial. It is quite plain that the coroner was not speaking of the man but he was speaking of the man's dealing. It is quite true that the man's character may be involved in his dealing, but he is speaking of the man's course of dealing and he is expressing his opinion of his course of dealing, and the writer of this article is saying, "In my opinion the coroner was right"; both the coroner and the paper are stating that in their opinion this course of dealing was a fraud. I say that if you think that that opinion may have been honestly held it may be fearlessly expressed and it does not exceed the limits of fair criticism, and it is not a correct view of the law to say that if you say that a man's course of dealing is fraudulent you must prove it offhand. Let me ask you to remember for a moment what is meant by the word "fraud." Of course, there are technical meanings of "fraud" and there is a meaning of "fraud" in the sense in which it is not usually used by the public generally. There are differences in fraud. There is legal fraud and there is moral fraud; there is criminal fraud and there is fraud which makes a man responsible for damages. One knows what criminal fraud is; a criminal fraud is clearly defined. For instance, I suppose obtaining money by false pretences is a criminal fraud. Fraud in relation to an action for damages has been often defined It may be an actually dishonest statement or it may be a statement made recklessly without knowing whether it is true or false. Those are definitions, but how does the ordinary man use the word "fraud" and how does the ordinary reader who is reading a newspaper understand the word "fraud"? Does not everybody habitually use the word "fraud" in a general sense, as meaning that the thing of which he is speaking is calculated to mislead and is deserving of severe censure? Is not that the ordinary meaning of the word "fraud"? And can I give a better illustration of that than has occurred in this case and has fallen from my learned friend? This is introducing a matter which I must deal with rather out of its logical order, but I want to deal with it and I want to deal with it at this moment because of what my learned friend said about it. You will remember that Messrs. Oppenheimer's specific has been introduced into this case. Of course, it has been introduced into this case for the purpose of leading you to suppose that what Oppenheimer does Mr. Tucker can do, and that the two things are practically identical, and therefore that what Oppenheimer has done ought not to be called fraudulent or dishonest. I hold no brief for Mr. Oppenheimer but I can point out to you what seemed to me to be a very material distinction between the two cases. Our complaint here is that this specific is sold by Mr. Tucker indiscriminately to the general public without any warning, and indeed with directions that it is harmless and that it may be used or should be used as often as possible—the direct contrary to what ought to be the instructions accompanying this dangerous liquid. Oppenheimer's are chemists; they prepare this specific, they sell it to physicians and chemists, they sell it only to qualified men, and accompanying the sale is the statement in their catalogue of what it contains. Therefore they are telling skilled people that what they are selling is dangerous. They label the bottle; they put on the bottle "Poison." They accompany it with directions on the bottle. I have not the bottle here but I can find you exactly what it says; the bottle says, "Poison; not to be swallowed; must only be used with an aeriser or vaporiser." Then in print, "To be used as directed by the physician." Then it says, "In compliance with the Sale of Poisons Act, this preparation is labelled 'Poison' but nevertheless is perfectly safe if inhaled by means of the aeriser or vaporiser." First of all they send it out to people who are qualified people, telling them what it contains; they put on the bottle a notice indicating to everybody that it is only to be used as directed by the physician—that is to say, it is only to be given in a proper case and it is to be only used in the quantities directed by the physician. It would appear to me to be obvious that there are distinctions between that case and this case and they emphasise better than anything I can say to you the distinction between what I suggest to you is a legitimate dealing in such a liquid as this and an illegitimate dealing; but please bear this in mind, I am *not setting up* Oppenheimer's as being the right thing *to do*, as over and over again you have heard from my witnesses that they would apply the same language to Oppenheimer's as they have done to Mr. Tucker if the liquid were sold under the same circumstances. Therefore please do not be misled by this incident of Oppenheimer but see it in its real light, and when you see it in its real light you will see it has got nothing in the world to do with the case, because it is not the constituents of the specification of which we are complaining but it is the way in which it is indiscriminately disseminated with most misleading directions as to its qualities and its use.

But now I am coming to the point as to which I told you I wanted to use this in connexion with the word "fraud." You will remember my learned friend Mr. Duke in opening this case rather indicated that he was going to attack the coroner for making observations about people when they had no opportunity of answering it. I will just call your attention to what Mr. Duke said about Oppenheimer and their treatment. He says to the witness, Dr. Willcox, "Read it out, please"—that is to say, read it out from the catalogue. "Many inquiries from important medical men having reached us regarding a certain preparation for asthma recommended by an American doctor, we introduced our Neboline compound, No. 21, which is similar in every respect to the preparation in question and which from the reception accorded to it seems to meet all requirements." You will see that Mr. Duke had got in his mind that Oppenheimer had been doing a thing which was not quite according to his view, "cricket," if I may use that expression—it was not quite right of them; they had been copying Mr. Tucker, a thing which deserves severe condemnation.

Mr. Duke: I did not so suggest; certainly not.

to you that I did to the plaintiff when I checked them calling their witnesses. I know the old advice I used to get —I used to be told not to call any witnesses more than I could help.

Mr. ELDON BANKES: I feel that in the exercise of my discretion I ought not to go on calling more witnesses than I think is necessary. I feel that I have called really as many eminent men as I ought to call, and therefore the only question is that I may have one or two other witnesses, but they are not present here at the moment. Would your lordship allow us to adjourn now? I will undertake not to call any more medical witnesses, and the two witnesses I want to call, if I can get them, are quite short, but they are not here now.

Mr. Justice RIDLEY: What are they to prove, if one may ask without being inquisitive?

Mr. ELDON BANKES: One is a special witness and I will not refer to him at the moment because I am not sure whether I am going to call him; the other witness I want to get is a gentleman of the Bar to prove the American law with regard to the sale of poisons.

Mr. Justice RIDLEY: I can see that it would be totally immaterial.

Mr. ELDON BANKES: Your lordship will rule on that when the time comes

Mr. Justice RIDLEY: You charge a gentleman with fraud in this country and you want to prove what the American law is.

Mr. ELDON BANKES: This gentleman has given us a good deal of evidence about the sale of this specific in America. Our case is that it is dangerous, and as evidence of that we desire to give evidence of what the law is in those particular places where this gentleman has chosen to say there is an enormous sale.

Mr. Justice RIDLEY: That will not prove the fact that there is *an enormous sale*.

Mr. ELDON BANKES: No, but it will be very strong evidence, surely, that it is regarded as dangerous, not only by our doctors but by the doctors in America who are vouched by the other side.

Mr. Justice RIDLEY: There are a great many patent medicines which are consumed in enormous quantities in this country which are *regarded as dangerous* by the medical profession, but their consumption has not decreased, and it never will, in my opinion.

Mr. ELDON BANKES: Your lordship will remember the evidence of the last witness, Professor Cushny. He said they had gone a great deal further with regard to cocaine in America than we have. What I seek to prove is that the sale of this actual specific is actually forbidden.

Mr. Justice RIDLEY: Let us see what your libel is in this case. I cannot see what bearing it has upon this.

Mr. ELDON BANKES: It is evidence that these things are dangerous. I do not want to keep up the discussion. I have not the witness here now, and therefore I cannot tender him.

Mr. Justice RIDLEY: You must do as you think proper.

Mr. ELDON BANKES: I will undertake that I will not take any appreciable amount of time with my evidence on Monday.

Mr. Justice RIDLEY: Then I suppose we must adjourn.

Mr. SMITH: Unless there should happen to be a short witness from THE LANCET whom my friend is going to call.

Mr. ELDON BANKES: No; not from THE LANCET.

FOURTH DAY.

Mr. JOHN ARTHUR BARRATT, *examined by* Mr. ELDON BANKES.—I think you are an English barrister, and that you are also a Member of the Bar of the Supreme Court of the State of New York and the Bar of the United States Supreme Court?—Yes; I am. I have practised actually in the United States for 18 years.

Have you been asked to make yourself familiar with what the law of the State of Massachusetts is with regard to the sale of proprietary medicines containing cocaine?—Yes; I have.

Mr. DUKE: I believe that my learned friend now proposes to tender evidence as to the law of the State of Massachusetts upon this matter. I object that no such evidence is relevant in this case. Whatever may be the position with regard to cross-examination upon such topics, I submit it is impossible to make the law of the State of Massachusetts relevant in this case.

Mr. Justice RIDLEY: No. I do not think it is relevant. My opinion is that it is not relevant; but perhaps it would be better to see the evidence. You know what I think the point in this case is.

Mr. ELDON BANKES: If your lordship is strongly of opinion——

Mr. Justice RIDLEY: I think there is no doubt about it. We know what the law is here under the Pharmacy Acts; that is the point really. If it is not material that is an end of it.

Mr. ELDON BANKES: Except that this particular law is stronger.

Mr. DUKE: No. I object to statements whether the law is stronger or weaker. It can only be introduced for the purposes of prejudice.

Mr. Justice RIDLEY: I must ask you to show me how it is relevant, Mr. Bankes. To my mind it is right off the point.

Mr. ELDON BANKES: My submission is this, but I will not argue it if your lordship is against me——

Mr. Justice RIDLEY: I would like to hear you.

Mr. ELDON BANKES: My submission is that our case is that this specific containing these poisons is dangerous.

Mr. Justice RIDLEY: That is not enough; that will not help you. If that is all you lose your verdict.

Mr. ELDON BANKES: It is an element in the case and I submit that this evidence as to the law of a State of New York upon that particular point is relevant.

Mr. Justice RIDLEY: I do not think it is.

Mr. ELDON BANKES: If your lordship says so of course I do not persist in it. That is my case.

Mr. Justice RIDLEY: I will assume that it is contrary to law and that they have a law relating to poisons in the same way that we have. I think it has appeared already in evidence that there is such a law in the United States or in the State of Massachusetts. I rather think that is so, but I forget whether I merely got it through an observation of one of the witnesses.

Mr. DUKE: The plaintiff said that he heard that *one had* been proposed. I omitted before closing my case to put in an answer to an interrogatory.

Mr. ELDON BANKES: *By all means.*

Mr. DUKE: It is answer 2, with regard to the knowledge of the defendant upon the main question, the plea of fair comment.

Mr. Justice RIDLEY: Will you hand it up, please? (Same handed up to his lordship.)

Mr. DUKE: It is question No. 2 and the answer to that question; this is the defendant's answer: "In answer to Interrogatory 2 I made no inquiry as to the truth of the statements set out in the said interrogatory before printing and publishing the said statements and took no steps to test the reliability of the information which I had previously received as to the said statements because such information was derived from (1) a cutting from the *Morning Advertiser* of Wednesday, January 2nd, 1907, and certain printed instructions as to the use of Tucker's asthma specific which said cutting and printed instructions were forwarded to THE LANCET by Dr. F. J. *Waldo*, the coroner, before whom the inquest referred to on the said Cushing was held; (2) the advertisements mentioned in my answer to Interrogatory 4 and my general experience and knowledge in regard to the danger likely to result from following the treatment recommended in such advertisements."

Mr. Justice RIDLEY: They are not advertisements of this specific but of others.

Mr. DUKE: Yes, not of this specific but of large numbers of patent remedies.

Mr. ELDON BANKES: May it please your lordship, gentlemen of the jury. I am sure you must be glad that we are approaching the end of this inquiry and I will not delay you longer than I can help; but in opening this case to you I desired to deal, and did deal, though I am afraid in rather a disjointed manner, with what seemed to me to be matters of general importance in this case which you should bear in mind before I called my evidence. But now my duty seems to be different. I want to get if I can to what I may call closer quarters with what are undoubtedly the material matters in this case: first of all, the libel itself; secondly, the law as applicable to that libel—and I shall deal then I hope satisfactorily with the points which have been indicated to me by my lord more than once during this trial; and *finally*, with the evidence which has been given, because we say it will do harm to persons suffering from kidney disease, from consumption, or bronchitis—all diseases which to the patient very often present the same indications and the same symptoms as asthma. We say it will do harm to these people and we say it will do harm to people who from their temperament or from their surroundings are likely to take too much. To meet our case he ought to have called people of that class to say that they had not been hurt. Then there would have been some substance in this evidence which has been given, but he has selected people who are not likely to be hurt, partly from their character, partly from their surroundings, and mainly from the fact that with one single exception he has not produced before you a single person who consumes any quantities of this liquid at all.

I am going through them quite shortly to justify the statement which I am making but before I do that I want to bring to your minds as far as I can some indication of the quantities of this liquid which people take if they follow the directions which Mr. Tucker has issued. I do not want to go into minute calculations but I think I can put it to you in a few words. You see in his instructions he says that an ounce will last from two to four months. In his evidence in chief he suggests that an ounce would last on an average three months. Of course, if you take an average of the 25,000 people, or whatever the number is, who are using it for three months, and you find that many are taking from 12 to 18 months to consume an ounce, there must be a great many people who are consuming it in a week or two in order to arrive at an average of three months. But there is an answer of the plaintiff's which I should like to look into a little more carefully, because that will be an indication to you as to the quantity which people take. He says this: I was pressing him as to whether he had made any experiments to see how much people did take. "The amount of fluid in the bottle would last at least two weeks of constant using four, five, or six times a day." Let us just follow that out. We have shown that if you use it to the full extent, with ten squeezes for each inhalation, and six inhalations a minute, you will get 300 in a minute. With those 300 compressions we know that you would inhale 1/66th of a grain. If you did that six times a day you would get 1/11th of a grain and if you did it to that extent, instead of taking, as the plaintiff says, two weeks, it would take rather more than three weeks, so that it is plain, according to the plaintiff's own view, that we have under-estimated and not over-estimated the amount which a person takes by this number of compressions. He says that the amount of fluid in the bottle would last at least two weeks using it four, five, or six times a day. Just compare that with the evidence of the people who have been called before you. It is quite true that I did not ask all of them the time that the ounce lasted. I wish I had; but one sees afterwards the importance of questions which one does not ask of all of them. But I asked a good many of them and they told you that their ounce lasted from 12 to 18 months. Just think; compare the case of a man with whom an ounce lasts 12 months or 18 months with the case of a man whose ounce lasts two weeks. You cannot compare the two things.

Mr. DUKE: There is no evidence of any use of an ounce in two weeks, or anything like it. It was a small quantity at the bottom of a bottle which you were asking Mr. Tucker about, and he said: "I look at that quantity in the bottle and I say it will last three months."

Mr. Justice RIDLEY: Yes, three months; there is no evidence that I know of except that he said three months.

Mr. ELDON BANKES: I will read his answer.

Mr. Justice RIDLEY: "The average time for one ounce would be three months by daily use."

Mr. DUKE: You had a small quantity in a bottle.

Mr. ELDON BANKES: I am reading the answer. It may be I am wrong, and if my friend corrects me I will accept the correction; but this is the answer: "Have you made any experiment which will enable you to say the quantity of liquid which is atomised if you follow the instructions here detailed?—The amount of fluid in the bottle would last at least two weeks of constant using four, five, or six times a day." My friend tells me he was not speaking of a full bottle, but he was speaking of a part of a bottle. I will accept the correction. I do not remember it myself, but if that is so I will accept the correction.

Mr. Justice RIDLEY: I have not any evidence about two weeks at all.

Mr. ELDON BANKES: I could have worked it out in a different way, but I have not got the figures for the moment. I have got as far as this, that in one day you take 1/11th of a grain. Therefore you would take 11 days to take a grain. There are 2¼ grains in a bottle, and therefore you would want about 25 days; using it according to the directions of the pamphlet it would take you about 25 days supposing you were able to compress to that extent. But please keep this in mind. It would take 25 days if you were to use it to the full extent indicated on the pamphlet. How can you compare that with a man who is using an ounce in 12 to 18 months? You will remember that I could not go into this because I could not give particular instances, but my learned friend asked Mr. Francis with regard to a patient of his. I could not have done that, but he did it, and the name has been passed down. It has not been made public, and of course it ought not to be made public, but the facts with regard to that case are that Mr. Francis has told you that that man was using it 20 or 30 times a day, and that is a case of the kind of user that does harm. How can it assist you as to whether or not in certain cases this specific does harm to call a number of persons who have not used it to a sufficient extent to do harm and who are not in a position in which it is likely to do them harm. Upon that let me call your attention to this. What kind of person do you think would be most likely to be affected by this stuff? Who is the person who is most likely to be addicted to a too frequent use of it? Is it the busy professional man whose one object is to get relief and go back to his work, and when he gets back to his work he will be engrossed in his work, and he will not think about his horrid complaint until he gets another actual attack; or is it the person sitting at home with nothing to do who dreads these attacks, who takes the stuff to relieve the attack, and sits there wondering when an attack will come again, and takes a dose because he thinks an attack is coming on, and so forth? The great bulk of the people who have been called before you are the busy professional people, the people who are not likely ever to take this to excess. They are not only that, but they are healthy people—I mean healthy in the sense that they are not suffering from any of these diseases. You will remember what Mr. Bateson, the first witness, the barrister, said. I asked him if there was anything the matter with his heart, and he said: "Heart? No, I am passed every year as a first-class life by the insurance office." Those are not the people likely to be injured, and if you run through the list you will see that I am speaking correctly about that. There was Mr. Bateson, a professional man, a barrister; he says he hardly requires it at all now. He used it constantly—I mean constantly in his sense—at one time and he says that the ounce lasted him 12 to 16 months. There were two peers, Lord Ashburnham and the Earl of Harewood. It is true they are not professional men, but they are men with many interests in life who have a great deal to think about and, therefore, I think I may fairly class them for my purpose in that class. I mean they are men who are not sitting morbidly contemplating their ailments, but they have to be out and about because they have so much to do. There is Mr. Coombs, the borough treasurer of Kensington—I refer to his evidence because I notice in his evidence he says he worked the thing at the rate of 10 up to 15 compressions a minute. When I spoke to you before I thought 10 was the highest, but he has got up to 15. There is Mr. Mansfield, the barrister, who for 18 months has used it very little. There is Mrs Stewart, the wife of Major-General Stewart; it is quite true that her husband ought to be put in a different category, because he is a man who has retired and an old man; but my comment upon him is this: it may be that he is a man perhaps of strong disposition and strong temperament, and he is not likely to allow anything to become with him a source of danger. There is Mr. Belfield, the solicitor; Mr. Fort, the master at Winchester; and Mr. Symons, a barrister, who also mentioned that the ounce lasted him from 12 to 18 months. There is Mr. Denton, the commercial traveller, and General Lane. Mr. Pickmeyer, the wine merchant and the active cricketer; Mr. Lowry, the wine merchant, and Mr. Venn, the solicitor; and then came three doctors. I want to say a word about the three doctors.

Mr. Justice RIDLEY: There are some more besides.

Mr. ELDON BANKES: I think I have mentioned them all.

Mr. Justice RIDLEY: There is Mrs. Pimm.

Mr. ELDON BANKES: Yes, she came after the doctors.

Mr. Justice RIDLEY: A very fine specimen.

Mr. ELDON BANKES: A very fine specimen as I was just going to say—a very active woman because she said she had you to come to the conclusion that everybody has a fair chance of taking it or rejecting it. He comes before you and says: "This treatment of mine may have been no good in this instance but I can prove to the jury that it has had extremely beneficial effects in other cases. I desire to tell the jury that I have had 25,000 patients and I have had no complaints; I desire to tell the jury that this was invented by my brother, who is a qualified doctor, and therefore I was justified in assuming that it was all right." So that he is not content to leave the case to be judged upon the case of Cushing but he comes before you and he lays evidence before you which I hope I have fairly summarised in this short summary which I have just given; but of course if the plaintiff wishes to make further statements to you about what his kind of dealing really is, equally the defendant comes before you and says: "Before you can form a true judgment as to whether these words were warranted or not, if we are not to deal with the case on the facts of the Cushing inquest alone you must know the whole facts with regard to this treatment"; and what does the defendant come before you and in substance say? He says: "I want to tell the jury that the view which the plaintiff has presented is only a partial view of this statement; I want to tell the jury that this liquid contains two extremely potent and dangerous poisons; I want to tell the jury that this man is selling those poisons in flagrant defiance of the laws of this country and ignoring all the precautions which the law says must be taken in the interests of the public generally; I want to tell the jury that this specific used as directed by the plaintiff is a great source of danger to the public health; I desire to point out to the jury that this sale is accompanied by statements in the nature of advertisements which are in themselves gravely misleading; I desire to tell the jury that the price charged for this specific under the circumstances under which it is sold is not justifiable; I desire to tell the jury that the way in which this man carries on his business leads people to think that this specific is only sent out under competent medical advice." Those are the additional sets of facts which the plaintiff on the one side and the defendant on the other side have desired to bring before you, and in a moment I shall deal with the question how far those statements on the one side and the other have been proved, and upon those facts of course you will have to say: Does the evidence establish what the defendant says is this plaintiff's real course of dealing? If you find, as I shall ask you to find, that the defendant has established these facts, then the question arises whether in point of fact the language which was used was beyond what the occasion warranted. Now upon that I desire to deal with the points which my lord has more than once put to me in this case, and I will endeavour to explain to you what I understand the law to be. This is a case in which the defendants have not justified; that is to say, have not gone so far as to take upon themselves the burden of proving that the words which they have used are absolutely true. But the position which they take up is this, that this sale by the plaintiff of this specific in these enormous quantities is a matter of public and general interest and so were the events which were proved at that inquest. I am entitled as the editor of a newspaper, or as, indeed, any man is entitled, to comment fairly and freely upon those facts What is fair comment and what does the law allow under the privilege of fair comment? It allows anything that any honest man may think or say, whether you think the thing is exaggerated, whether you think that the view which the man took was prejudiced or not, so long as you think that any honest man might, having regard to the circumstances which are proved before you, think he is entitled to say this, whether you agree with him or whether you do not agree with him.

There are just three cases to which I should like to refer as showing what I mean. The first one, from which I will only read a few passages to you, is the very well-known case of Merivale v. Carson, which is always quoted in this connexion and which is reported, I may say for my lord's convenience, in 20 Queen's Bench Division at page 275. The only distinction between that case and this case which I wish you to bear in mind while I read this passage is this, that this was a criticism of a book or a play and therefore the learned judges used the words "criticism upon the work," but the law is the same and my learned friend would not dispute that it is the same whether it is a book or whether it is a play or whether it is any other incident which may be said to be of public interest and importance. What the learned judges there said is this, and it is Lord Esher's judgment from which I am going to read: "What is the meaning of a 'fair comment'? I think the meaning is this: is the article in the opinion of the jury beyond that which any fair man, however prejudiced or however strong his opinion may be, would say of the work in question? Every latitude must be given to opinion and to prejudice, and then an ordinary set of men with ordinary judgment must say whether any fair man would have made such a comment on the work. It is very easy to say what would be clearly beyond that limit; if, for instance, the writer attacked the private character of the author. But it is much more difficult to say what is within the limit. That must depend upon the circumstances of the particular case. I think the right question was really left by Field, J., to the jury in the present case. No doubt you can find in the course of his summing up some phrases which, if taken alone, may seem to limit too much the question put to the jury. But, when you look at the summing up as a whole, I think it comes in substance to the final question which was put by the judge to the jury: 'If it is not more than fair, honest, independent, bold, even exaggerated criticism, then your verdict will be for the defendants.' He gives a very wide limit, and, I think, rightly. Mere exaggeration, or even gross exaggeration, would not make the comment unfair. However wrong the opinion expressed may be in point of truth, or however prejudiced the writer, it may still be within the prescribed limit. The question which the jury must consider is this: Would any fair man, however prejudiced he may be, however exaggerated or obstinate his views, have said that which this criticism has said of the work which is criticised?" That is the general expression of the law with regard to what fair comment is. I desire to refer to two other cases, one a very recent one, and one an older one, because the older one is very remarkably like this in its facts and because it deals so appropriately with the point which my lord has more than once put to me. That is the case of *Hunter* v. *Sharp* which is reported in Foster and Finlason, the fourth volume, at page 990. The case refers to some newspaper articles about a man named Hunter who was advertising a specific for the cure of lung disease, and curiously enough it was claimed that the specific would cure lung disease by inhalations by means of an atomiser. The newspaper wrote very strong articles about it. They are very long but I need not read them, because Chief Justice Cockburn, who tried that case, puts forward his view of them on page 997 and takes in from the innuendoes. He says that the defendant says that not only is the whole system delusive but that he (that is Mr. Hunter) has put it forward fraudulently and by fraudulent means and articles; so that the same word is used, and in that case defendant did two things; he justified; he said, first of all, "it is true," but secondly he said "whether it is true or not, what I said is only fair comment upon this system as I can prove it to the jury." Chief Justice Cockburn, in summing up, dealt with the question first of all of justification. He said to the jury: "Now you must consider whether these statements are true or not"; and then he says: "But suppose you cannot go that length that will not conclude the case. It will bring the defendant to his second ground of defence which in that event you must consider. Under that head of defence he says that it was a matter of public interest and public concern; that the plaintiff by his advertisements invited people to submit to his system of treatment and that if he, the defendant, really believed it to be a delusion then he had a right to maintain that it was so; and that even if in drawing inferences of imposture and of intention to fall into error, yet if he wrote honestly and with the intention of exercising his vocation as a public writer fairly and with reasonable moderation and judgment he is entitled to the verdict."

I rely upon that as showing that there may be cases in which the word "fraud" is used with reference to a man's course of dealing in which a jury may, if they take that view, hold that it is an expression of opinion as to a man's course of dealing, and if that opinion is honestly held it may be fearlessly expressed. The last case to which I desire to refer is one which I think is very appropriate also, and it is a very recent case; it may be within your memory. It is a case which was tried in these Courts recently of Dakhyl v. Labouchere, in which Mr. Labouchere's paper, *Truth*, had said of Mr. Dakhyl that he was a quack of the rankest species. In that case the defendant justified; he said it was true, and he said also that it was a matter of fair comment.

to whether the person to whom it is sent is going to be benefited or whether he is going to be harmed.

I will pass from that point, and I want to deal now with our third point. We say that this is sent out, in itself harmful in its effects, accompanied by statements which are calculated to mislead. You will remember that those statements are contained in three documents, so far as they are before you; there is the pamphlet, there are the instructions, and there is the circular. What is the first thing that is said? All three emphasise that this liquid is absolutely harmless. Can you conceive anything which justifies stronger language than that? If you believe the evidence of our doctors, is any word too strong for a system under which a man sends out this dangerous stuff, telling people that it is harmless? I should like, if I may, to give you an illustration drawn from what Sir Lauder Brunton said. Of course, he is a scientific man and he referred to alcohol in a scientific sense as a poison. You know, and I know, and everybody knows, that people do take quantities of alcohol without the smallest harmful effects. Many people think it does them a great deal of good. But let me put this to you: Mr. Tucker has said that so safe is this that it may be taken by children of three years old. What would you think of a man who gave a bottle of rum to a child of three and told him at the same time it was harmless? Have you words sufficient to express your indignation at such conduct or to characterise the action of such a man? But the analogy is quite sound. You are telling a child that what, if used in too large quantities, would probably kill it, is absolutely harmless. What distinction can you draw in principle between that man and the man who trades as Mr. Tucker trades? There are other expressions in the pamphlet which have been referred to. There is one particularly which I want to mention. I suggest to you that the pamphlet not only says that the stuff is harmless, but it says that it will cure asthma. A good deal of criticism has been directed to that. Mr. Tucker says: "I ask you to read that as saying, not that it will cure asthma, but that it will relieve an attack of asthma." The question is, how would any honest person read that—how might an honest person read that when he receives the document? You are familiar with the distinctions; he draws the distinction in places between the relief of the attack and the cure. You will remember one passage in which he says: "It reaches the lungs in order to arrest the attack, heal the mucous surfaces, and cure the disease." All I say, and all I desire to say, is that any honest, reasonable man reading that might very naturally, and I could put it a great deal higher, that he would necessarily, come to the conclusion that he claimed to cure it. But whether that is his meaning or not, that is a meaning which it may bear, and any critic criticising that system is entitled to form an opinion upon his reading of that language as ordinarily understood. I submit that I have established that point also.

There are only two other points to which I have to refer and then I have finished about the evidence. One is as to the price. I do not want to go into this in any detail, but you will remember the strong expression is used that it was an exorbitant price, or that it was robbing the public, or words to that effect. You have to take two things into consideration. It is not merely the actual price, but it is the circumstances in which the stuff is sold. It is nothing to those witnesses who have been called for the plaintiff to pay 3 guineas; they do not mind whether it is 3 guineas or 20 guineas, probably, as long as they get relief. But the writer of this article has in his mind the poor people and he calls attention to it. He says this kind of thing attracts the poor people. He was dealing with the case of a poor labourer; and I ask you to carry your minds into the house of any working man at weekly wages and to realise for yourselves the privations that that family would have to undergo in order to raise this sum of £3 to give to Mr. Tucker. They very likely would raise it—we know they do raise it; but is it justifiable to ask a man to raise that sum, with all the surroundings which it means to him, to him and all the consequences which it means to him, unless you have taken some reasonable means to satisfy yourself that he comes within the category of people who would be really benefited? This man does not care. He says he believes, and I will accept his statement, that it is absolutely harmless. But that is not sufficient. Are you justified in taking £3 out of a working man's home simply because you believe that the stuff will not do him any harm? You have to bear that in mind in connexion with the price, and when we come to the price you will remember quite shortly what the figures are. The price of the constituents of the liquid is infinitesimal—about 3*d.* It is sold to the plaintiff at about 2*s.* and he sells it at 8*s.* The price of the vaporiser, or an equally good vaporiser, is about 6*s.* 6*d.*, because I ask you upon our evidence to believe that those vaporisers which were put before you were equally good; they all produce an equally good spray and he admits that they all produce an equally good spray, but his only complaint of the one which he produced was that it was not strong enough. We produced two which upon examination proved to be stronger. My learned friend had some little complaint that he had not had the opportunity of testing them. That evidence was given on Friday and it is now Monday. If he had wanted to challenge that evidence there was plenty of time for him to have done so. He has not done it and therefore I ask you to believe that we have produced vaporisers which produce equally good vapour and are stronger than the plaintiff's, the price of which in this country is from 6*s.* 6*d.* to 7*s.* 6*d.* He sells his at 28*s.* He gets it from America at about 9*s.* without the bottle and the bulb. The result of all this is that his gross earnings in the year are £19,800, I think, of which he sends £5600 to Dr. Tucker in America and the rest is all profit, except the expenses. What do those expenses come to? He has told you it is about £1000 a year for his staff and something for his agents, but we do not know how much. He has no means of enabling us to judge and he has no means of judging for himself what the actual profit is, but he says that for the purposes of the income tax he puts it at 33 per cent. Bearing in mind that he pays £5600 to Dr. Tucker, the brother, that he pays £1000 for assistance—that is £6600—and that on the top of that he has to pay the agents, whatever it is, and that he has only got the expense of the bottles and bulbs on top, it is a very generous estimate to himself to say that he is making only 33 per cent. I do not care what he makes. We know what they can be sold at and if he does not choose to carry on his business so as to be able to sell them at that price to the ordinary Englishman it is equally true to say that he is selling these things at an exorbitant price, and at an exorbitant price which, having regard to the fact that he takes no pains to ascertain whether *this* stuff is going to do harm or good, does justify as strong language as anybody can find in the English vocabulary.

I have finished our evidence and I ask you to say that we have established, when you know the whole story of this sale, a case upon which severe comment is justified and that we have not exceeded the limit of what any honest man might say under the circumstances of this case. I will not occupy you more than a minute, but I want just to conclude with a word about damages. Of course, you may take a contrary view. I do not know in the least what view you *do* take. I respectfully submit to you that we have made out that this comment is not in excess of what may be called for, but as counsel for the defendants I am bound to deal with the case as a whole, and I am bound just to touch upon the question of damages. Upon that all I have to say is this: This is not the case of a man who has suffered any pecuniary loss at all. You will remember this libel was in March, 1907. His sales during 1907 are higher than they were in 1906, although since May he has kept out of the returns the amount he has paid to the agents. Therefore, if that is any considerable amount his sales are considerably higher in 1907 than they were in 1906. He has suffered no actual damage, but he comes here to ask for your verdict. You will, I am sure, if you give a verdict to him, give him a verdict which, under all the circumstances, you think he deserves. But, gentlemen, I ask you not to give him a verdict which will be the very finest advertisement which he can possibly have for this system of trading unless you think that the system of trading is absolutely without reproach. I ask you to say that if you think that the defendants have in substance established what they desire to say about this treatment, though possibly in your view they have not expressed their condemnation in right language—if that is your view of this case the verdict you ought to give to the plaintiff ought to be measured by the smallest possible amount of damages, and you will only give to him substantial damages if you wish it to go forth to the public that this sale by him, conducted by him, is legitimate, that it is safe, that it is not one which justifies any comment in such a sense as we have passed upon it. In conclusion, all I want to you to come to the conclusion that everybody has a fair chance of taking it or rejecting it. He comes before you and says: "This treatment of mine may have been no good in this instance but I can prove to the jury that it has had extremely beneficial effects in other cases. I desire to tell the jury that I have had 25,000 patients and I have had no complaints; I desire to tell the jury that this was invented by my brother, who is a qualified doctor, and therefore I was justified in assuming that it was all right." So that he is not content to leave the case to be judged upon the case of Cushing but he comes before you and he lays evidence before you which I hope I have fairly summarised in this short summary which I have just given; but of course if the plaintiff wishes to make further statements to you about what his kind of dealing really is, equally the defendant comes before you and says: "Before you can form a true judgment as to whether these words were warranted or not, if we are not to deal with the case on the facts of the Cushing inquest alone you must know the whole facts with regard to this treatment"; and what does the defendant come before you and in substance say? He says: "I want to tell the jury that the view which the plaintiff has presented is only a partial view of this statement; I want to tell the jury that this liquid contains two extremely potent and dangerous poisons; I want to tell the jury that this man is selling those poisons in flagrant defiance of the laws of this country and ignoring all the precautions which the law says must be taken in the interests of the public generally; I want to tell the jury that this specific used as directed by the plaintiff is a great source of danger to the public health; I desire to point out to the jury that this sale is accompanied by statements in the nature of advertisements which are in themselves gravely misleading; I desire to tell the jury that the price charged for this specific under the circumstances under which it is sold is not justifiable; I desire to tell the jury that the way in which this man carries on his business leads people to think that this specific is only sent out under competent medical advice." 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I rely upon that as showing that there may be cases in which the word "fraud" is used with reference to a man's course of dealing in which a jury may, if they take that view, hold that it is an expression of opinion as to a man's course of dealing, and if that opinion is honestly held it may be fearlessly expressed. The last case to which I desire to refer is one which I think is very appropriate also, and it is a very recent case; it may be within your memory. It is a case which was tried in these Courts recently of Dakhyl v. Labouchere, in which Mr. Labouchere's paper, *Truth*, had said of Mr. Dakhyl that he was a quack of the rankest species. In that case the defendant justified; he said it was true, and he said also that it was a matter of fair comment.

know the facts of the particular case. The business of the judge in these courts, as I said a long time ago, is to tell us what the law is, and I hear from my lord——

Mr. Justice RIDLEY: I cannot myself distinguish the speech made by Mr. Bankes from the speech which he would have delivered if there had been a justification upon the record, except on this point where he argued very pointedly to the jury as to the meaning of the word fraud and as to its application to the system and not to the man who carried on the system.

Mr. DUKE: I follow.

Mr. Justice RIDLEY: It will be for the jury to say which is the right view of this matter.

Mr. DUKE: We get to that now, that if the defendant has thought fit to attack the personal character of the plaintiff and to charge him with fraud, if it is not true that the plaintiff is a fraudulent person then the defendant must make amends to the plaintiff; and I said that this case was aggravated by what had taken place in the trial, because every doctor who was put into the box went into the box with the intention not of discussing a matter of public interest but of striking down Mr. Tucker and of destroying Mr. Tucker. My learned friend's speech when he opened this case, and every question he has asked in the course of the case, and the long speech with which he summed it up, have been aimed at destroying Mr. Tucker, at making you believe that Mr. Tucker is a dishonest and unworthy man who ought to be held up to opprobrium, and that it is a misfortune of the defendants that they have not put it here plainly on the record that he is a dishonest man. They did not venture to say it. They had months to decide whether they would say that he was a dishonest man and they did not dare to put it on the pleadings, but they bring a multitude of eminent expert witnesses and my learned friend, and they seek to do by a side wind what they did not dare to do on the pleadings. Is it true to say that Mr. Tucker has behaved like a dishonest man with regard to this remedy? You have heard all there is about it. You know how it came into existence; you know what he has done with it; you know the benefits which have been derived from it. It is not true and it is not fair; and I am going to deal with the two questions together, as in fact the defendant has had to deal with them. Knowing it is not true he has said, if it is not true it is a thing a man might honestly say about him. I am going very shortly to deal with the case upon that footing. Let us see what was being dealt with. You had got here a disease which is a grievous burden upon people who are afflicted, which disables them. It does not kill them, but it disables them; it takes a man in his employment, takes him in his bed, takes him as may happen on any occasion and prevents him from living the ordinary life, from drawing his breath, and puts a weight upon him, and a burden upon him, and he cannot get his breath. You have seem them, I daresay, struggling painfully to get the breath. A man knows if he could gets his breath and relieve that disability of the lungs he would be right again. You have it arising in people who are otherwise in strong health at times, but asthma takes them in that spasmodic way. You have the medical profession failing; during all the generations which the medical profession has had to deal with the matter it has failed to deal with it by any prompt and efficacious means, and that is confessed by the medical men whom you have seen in the witness-box. Down to this time they have been content to go on with old methods which fail in the multitude of cases as they failed in the cases which you have had before you to relieve the ailment. I called before you ten or a dozen, perhaps, of patients out of 25,000 who have testified to the benefits of this remedy, who have been Mr. Tucker's real advertisement. I have called them before you and they have come here and told you: "Our life has been changed by this specific. We were subject to this disabling malady; we are not subject to it now, we are masters of it because here there is this specific which if you get into your lungs checks the attack. and that sets you free to go about your business." An objection is made that I do not call all of them. Do you remember how eager my learned friend was that I should not call any more? Do you remember how he suggested to me what he was willing to admit, and how I thought that, at any rate, those who were here in court had better come before the jury, and the jury had better see them. My learned friend did not want to see them. You had that disease of asthma, you had that condition of things in the medical profession that they had failed to grapple with it, then you had this remedy and this remedy did grapple with it. I do not know whether it could have a higher recommendation than it got out of the mouth of Dr. Francis who was called by the defendants when he said that he knew of no remedy which supplied such immediate relief in the case of asthma as this specific of Mr. Tucker. That was Dr. Francis's own statement. So you have it that the disease is almost universal, the failure of the medical profession virtually confessed by large numbers of medical men who have come here to join in the attack by which Mr. Tucker is to be hounded down and prevented from curing asthma which doctors failed to cure, and you have the Tucker's specific. What THE LANCET people knew about it was as every medical man, and every man of common sense knows, that there was the disease, that there was the failure to find in the pharmacopœia the remedy. Did THE LANCET know that Mr. Tucker had found a remedy? Had they become aware, as Oppenheimer's had become aware, and as the doctors had become aware, that where the old-fashioned medical skill had failed Dr. Tucker had succeeded—that his sufferings for ten years and his medical knowledge operating together had solved this difficulty? Did THE LANCET know it—and that public attention was being directed to it, that asthmatic people were getting to hear from their friends: "Well, the doctors cannot cure you, but Tucker's specific can, and Tucker's specific can drive off these attacks"? Had they become aware of that? It is exceedingly likely they had. Oppenheimer's had been putting in that book which was produced here a catalogue of drugs sold by wholesale without any restrictions of the Pharmacy Act, without any interference of the law, an advertisement of a specific which the doctors say is obviously an imitation of Tucker's but is not so good. That is what their doctors say. They say in their advertisement of it: "We have compounded this because of great numbers of applications we have been getting about it from esteemed members of the medical profession; we have published to meet that demand, and we are able to tell you that we believe it will produce the same results"; and they send it out. Do you suppose that when a medical man has supplied his patient with the fluid once, and that patient has got an atomiser once, if in fact the atomiser does produce a vapour which relieves the attack of asthma, that patient is ever going to refrain from the use of that as long as he is subject to attacks of asthma? It is not common-sense to suggest it, and it does not seem to me that it can be honestly suggested. That is the position—great knowledge in the country of which we have become aware to some extent in the last few days, 300 declared doctors, doctors who have sent as doctors to Mr. Tucker to get this specific, with Sir Stephen Mackenzie, an eminent specialist, at their head (who happens to be on the continent just now, or he would have adorned the witness-box), with the two or three doctors I have had to call on this charge of fraud—all these doctors using and presumably recommending this specific, Oppenheimer's introducing a specific and selling it as the same in effect, although the medical witnesses here say: "No, it is not as good as Tucker's, it is not as effective." And Oppenheimer saying with regard to that specific that it is perfectly safe: "In compliance with the Sale of Poisons Act this preparation is labelled 'Poison,' but nevertheless is perfectly safe if inhaled by means of the aeriser or vaporiser." That is Oppenheimer's attempted copy and that is the state of the case when THE LANCET comes to publish this attack on Mr. Tucker and, of course, it is very material with regard to the question of the damages which you ought to give to Mr. Tucker in this case to see what skilled people knew about this before they let themselves loose to destroy Mr. Tucker by stigmatising him as a fraudulent person. It is material to see that the medical profession was aware of the benefits of his remedy, was aware that large numbers of persons were using it beneficially, was aware that wholesale druggists were putting up a compound in imitation, not by way of invention, but by way of imitation, and that was adding to the use of this specific. That is what they knew if they knew anything about the public part of this matter before they set out to attack and to destroy Mr. Tucker. It makes their attack more serious. There are certain things they are entitled to do. They are entitled next week to publish an article and say: "We believe that this composition of Dr. Tucker's contains cocaine and atropine in small quantities but those are drugs which if they are taken in quantities which we could mention are poisons and have deleterious

Mr. ELDON BANKES: Let me read his question. I have read you what he read from the catalogue, and this was his question: "A very fraudulent transaction, is it not?"

Mr. DUKE: I think my learned friend must know quite well that I was putting to the doctor, who had come here to say that Mr. Tucker's was a fraudulent transaction, that he was in the position, if he was consistent, of having to say that that sale of a thing by Oppenheimer must be in the same category. There is no attack upon their commercial integrity.

Mr. Justice RIDLEY: Yes; it must have meant that.

Mr. DUKE: It meant that if Tucker's was a fraud Oppenheimer's was a fraud.

Mr. Justice RIDLEY: That is how I understood it. I remember it.

Mr. ELDON BANKES: I am sorry if I misunderstood my learned friend, and we must accept this explanation.

Mr. Justice RIDLEY: Of course he meant that.

Mr. ELDON BANKES: It seemed to me so at the time, and when I read it I was more convinced that my learned friend was using that expression with reference to Oppenheimer's because he considered that it was a matter which deserved condemnation.

Mr. Justice RIDLEY: Dr. Waldo said: "Oppenheimer is fraudulent also if he says that"; he accepted it.

Mr. ELDON BANKES: No, that came much later your lordship will find.

Mr. Justice RIDLEY: I know it is a little bit later, but that shows what the coroner meant.

Mr. ELDON BANKES: I will not discuss it. Gentlemen, I was only using it as an illustration, it really was not necessary for my purpose to use it as an illustration but it was convenient to use it as an illustration. My friend says I am mistaken.

Mr. DUKE: Absolutely.

Mr. ELDON BANKES: Therefore I say nothing more about it. It is sufficient for my case to appeal to your common sense as to whether the word is not rightly used in the sense which I have indicated to you, that it is a misleading transaction, a transaction which deserves severe condemnation. Within your own knowledge there must be heaps of instances in which you have heard the word "fraud" used without imputing moral dishonesty and without imputing a criminal offence; and I do not know whether you have not habitually used it so yourself. I can give you heaps of instances. Is it not common knowledge that with reference, for instance, to the sale of articles by the coupon system, that system has been denounced in trade journals and everywhere to everybody's knowledge as a fraudulent system—fraudulent because it deceives the public—fraudulent because it induces servants to buy things which otherwise are not needed in the household, and so on? It is not necessary that I should give you instances, but I can appeal to your common knowledge and common experience to multiply instances in which the word "fraud" is used in that sense and is so accepted and so understood.

If I am right so far, that this article fairly read is an expression of the writer's opinion as following Dr. Waldo upon the system of dealing of the plaintiff, if I am right in suggesting to you that the word "fraud" can be read, and ought to be read, in the general sense which I am indicating to you, the only question is whether any honest man could entertain such an opinion upon the facts which have been proved before you in this court. If that is the question, I submit to you that there can be but one answer to it, because you had here multiplied instance after instance of men occupying the highest positions in their respective walks of life who have come into this court and told you upon their oath that they think it a fraud, that they call it a fraud; and if one honest man may hold that opinion, why may not another honest man hold it? Let me call attention to what I mean in that connexion. There is Dr. Waldo, a man who occupies a very responsible position in this great City, a man who has come before you and whom you have seen and heard. He tells you that at the time he spoke of this thing as a fraud and applied the word to the course of dealing. He has come here and tells you that he still thinks so, and he comes here and tells you: "In my judgment, all THE LANCET did was to reproduce what I had said and to say that in their judgment they considered I was right." There is Mr. Tilley—and upon this I must ask you to bear in mind that these various witnesses whom I put into the box I could not ask straight out whether, in their judgment, they considered this system a fraud, because that would not have been admissible; we could only get their opinion if my learned friend chose to cross-examine them about it, and he refrained from cross-examining all of them in this particular point, but all those whom he did cross-examine upon this particular point gave the same answer, with the exception possible of Dr. Willcox. Mr. Tilley said: "I consider it a fraud"; and he gave the reasons why he considered it a fraud. One man may consider it a fraud for one reason, and another incident in this history may appeal to another man who will call it a fraud for another reason. It does not matter what the reason is, the question is whether you think that any honest man could come to this conclusion upon the evidence. There is Mr. Francie, a man who has had great experience in the treatment of asthma, and who has seen many cases who have suffered according to his view from Mr. Tucker's treatment. He says so, and Mr. Pepper, a very eminent man, ordinarily known as Professor Pepper, has come and told you the same thing; so you have here gentlemen who have come before you and upon their oath have said, "I have held that opinion, and I hold it now; I am an honest man, and I am entitled to express, if I am asked, what my opinion is." So much for that.

Now let me deal with the evidence which has been given on the one side and the other. I have indicated to you what the plaintiff's case is, and I will deal quite shortly with the points. It is necessary that I should get to close quarters with his evidence in order to ask you to look at it in the light in which I submit it ought to be looked at. First of all he says, "I want you to consider this fortnight's trial of mine before you come to any opinion as to the view which a man may express about my treatment." I have said a word about that, but I desire to refer to it again, because I suggest to you that the inference, if inference there be, to be drawn from that fortnight's trial is against the plaintiff rather than in his favour, and I will tell you why. He deals in this liquid which contains these powerful poisons. We know how potent they are and how powerful they are, and we know that if anybody suffers from asthma or kindred complaints a dose from this atomiser will give them relief. We know that; whether it will do them ultimate harm or not is another matter; whether their disease is one which is appropriate to that stuff at all is a matter with which I will deal in a moment, but we know that they will get relief. What is the plaintiff giving away when he sends the stuff which he knows will give relief to a person suffering from such a distressing complaint as asthma? The fact that they get relief will be the greatest possible inducement to them to take it, and therefore he sends this thing out, knowing practically that every person who can use the atomiser at all will buy it. Some of them may send it back, because they cannot get the thing to work, but everybody who can get it to work he knows quite well will keep it. If that is so, ought he to take credit to himself for the fact that he allows them a fortnight's trial? It is a most material point in his way of dealing, because you will see that if you give a man a fortnight's trial, and he takes it, he is for ever debarred from making any complaint about it. When the plaintiff says, "I have had 25,000 people and none have complained," what use is there in complaining to a man who has given you a fortnight's trial of a thing? You do not complain, and you do not complain because he has given you this opportunity which he knows you will take; and, further, about these complaints let me say this: one of the strongest objections which we have to this liquid is the fact that people will use it too much with disastrous results to themselves. Do you think that those people who are suffering in that way will complain? It is not that they do not like it enough, the mischief is that they like it too much; and do you get complaints as to this system of his, and is not this liquid in which he deals one in which he shuts the door to complaints by the system which he adopts, and cleverly adopts? Gentlemen I suggest to you that so far from this being a point in his favour the fact is that by this trial he gives people nothing and leads them to believe that they are getting a great deal.

I have dealt with the complaints, I have dealt with the fortnight's trial, and it only remains to deal with the patients that he has called. You will remember what our case is about those. Our case is not that it will not do people good; our case is that there are certain classes of people to whom it will not do good; our case is that there are a great many people to whom it will do harm. We say that it will do harm to persons suffering from heart disease;

see the vapour issue from your mouth you will know that the vapour has entered your lungs. *Therefore your risk* of cocaine is the risk of a quantity of vapour large enough to fill the lungs which is medicated to the extent of *3/20000th* parts of a grain in, I suppose, two quarts of it—a volume sufficient to fill the lungs. Doctors come here one after the other and tell you, "We call that poisoning people; we say that the use of that remedy is the use of a poison, because we say there is that trace of cocaine in it." I venture to say to you that whatever the *doctors* say about it, the common-sense of the matter is that there is nothing poisonous at all in it, and that the reason why nobody is produced here who has been either poisoned or hurt is, because nobody ever has been poisoned or hurt, and that it would be as reasonable to speak of the man who had got his dose of this vapour into his lungs as having undergone poisoning as it would have been for Sir Lauder Brunton to tell me when I got back *from my* lunch that because I had taken a little whisky-and-soda with my lunch I had been poisoned. It is the abuse of a thing which you refer to when you speak of poisoning in such a connexion. Sir Lauder Brunton compared it to the case of a man who used a stimulant, as we call it, habitually. He says that is a poison. Of course, if that is the kind of thing which you are dealing in, very well; if it is a temperance platform you are speaking from so that when you hear the orator you know that what he has got in his mind is a notion which leads people to speak of good creatures of the earth as though they were foul things, without discrimination, as though they were necessarily evil, whereas they are only capable of evil. If you have got that explanation then we know that when a man talks of poisoning he is talking in what we used to call a Pickwickian sense about poisoning; but when you say that a man who sells a specific medicine is poisoning and robbing people and that he is carrying on a system of fraud you are not talking in a *Pickwickian* sense, but you are talking language in the sense in which it is understood, and whether it is true or not you mean people to understand, and THE LANCET meant people to understand, that Mr. Tucker was dishonestly selling poisons, and that he was robbing and injuring people by a sale of poisons, and fraudulently doing it. I venture to say that after you had heard what Sir Lauder Brunton had to tell you about his justification when he compared this inhalation of the vapour of cocaine with the habit people have in this country of taking alcoholic liquors, and said it was the same thing—*I venture to say* he had given away the case for the defendants, and that it was idle to pretend that there was any real danger against which these doctors had come here to warn you. There is nicotine in tobacco; very well. If you take pure nicotine you will be poisoned, so if I give you a cigarette, gentlemen, I am poisoning you. There is caffeine—a very powerful drug—in coffee. If you take it neat it will kill you, perhaps; *if you give me coffee you* have poisoned me. There is cocaine, it is said, in some infinitesimal quantity in this vapour. You are a free man and you can go about your work, but the man who has provided *that relief* is fraudulent and dishonest and a rascal, and he has poisoned you. I ask you to attach no more importance than it deserves to that body of medical evidence. It was an attempt, I venture *to say, to* raise a bogey in the public mind against any specific medicine which is not prescribed by medical men. It is not the first time it has happened and it probably will not be the last. Medical men naturally enough take an *extravagant* and unreasonable view about these things. I ask you to assume that they took that extravagant and unreasonable view because they were medical men and not because they were *expert witnesses*, and I ask *you to take* a reasonable and sensible view and to say whether it is an abuse of language if a man knows all the facts to say that Mr. Tucker was a man who was poisoning his fellow-men, which is what they say with regard to him.

I have come pretty well to the end of what I have to say to you, because you have listened *to* this case and I am not going to make you a long oration. They say cocaine can only be sold under the restrictions of the Pharmacy Act. If their evidence is true these medical men have known for years that there was cocaine in this specific. How is it, if it was true, that Mr. Tucker has not been stopped by means of the Pharmacy Act? The Pharmacy Act is quite simple in its operation: it says that you shall not sell poisons. There are decisions on the Pharmacy Act, and one of them is to the effect that if the trace of poison is infinitesimal, if you cannot fairly say that the mixture is a poison, then the man is not guilty of an offence. That may have something to do with it, but when they brandish the Pharmacy Act before you my answer to that is, "You know all about the Pharmacy Act and you evidently know all about Mr. Tucker. If it applied to his case and you are so anxious to stop him why did not you stop him?" Nothing of the sort. The *Pharmacy Act* had nothing to do with it; they did not even consider it; but it came in as an after-thought. Then what else is it that is said? Cushing is spoken of; I must not omit that. *It is said*: "You sold this to Cushing for £3." Cushing was an intelligent fitter, a mechanic, who in 1904 found himself troubled with asthma, and said so, and who from 1904 to the end of 1906, apparently carried this inhaler with him, and relieved his asthma; and Cushing *by that means was able to go on* and earn his and his wife's livelihood down to the time when he died of a different disease with which he was also troubled—namely, consumption. *As was shown* by the evidence, this intelligent man, knowing of his occasional trouble, and knowing, no doubt, of the deep-seated trouble which must kill him eventually, and having no faith in anything the doctors could do for him, but knowing the effect of this remedy, having tried it, he bought it, and, having bought it, he went on using it; and the last supply to him had been within a very short period of the time when he was *no longer able* to use any remedy. *Then it is suggested*, forsooth, that that was a fraud upon Cushing. They have not even ventured to call his wife. His wife was at the inquest, as they knew, and you would have thought if there was any fraud on Cushing that Mrs. Cushing would have known something about it. The report of the inquest said, of course, that she was in court. The fact is that Cushing was a man who had derived benefit, who had *saved himself from the possibility of asthma*, and from doctors' bills for asthma, for two or three years before the time of his death, by the use of this remedy. That is the true position about Cushing. Never a word of complaint has ever been made from first to last, but a resort to the one means of relief which was found to be open to him. No wonder that they did not, in their defence in this action, venture to suggest that Cushing was defrauded; and they did not; not a word has ever been said to that effect. It is reserved for my friend's innuendo in a question and his suggestion to you in his speech. That was the case of Cushing. In addition to that it was said, "You say this thing is harmless"—the very same thing which the medical profession through Messrs. Oppenheimer say with regard to the imitation—"*If you inhale* this it is quite harmless," which is the same thing as Dr. Tucker said in the latest circular which he sent out. He has been attacked as to the constituents and he says, "*Well, however* that may be, the use of this vapour cannot be otherwise than harmless, and it is found highly beneficial." It is said, "You said it will cure asthma." The specific attack undoubtedly is cured. The testimonials here are the best means of showing what they said. I have read to you three or four of them, and every one of them said: "We do not say it has cured asthma; we say it effectually relieves it and *it is very much better.*" *Then it is said*: "It is an extravagant price." There are some of the witnesses here who have had experience of the prices.

When this *defendant* wrote his charge of fraud against Mr. Tucker he was not thinking of the extravagance of the price, he was not thinking of the question of whether there was more or less of a trace of cocaine, he was not thinking of whether it was immediately beneficial or permanently beneficial, he was *not* thinking of poor Cushing; he was thinking of what he regarded as the interests of the great medical profession. He desired, and he permitted himself, to bracket Mr. Tucker with a class of people who he said were robbers and murderers, and now he comes and he has to justify himself. You have heard all his evidence; you have heard the devices which have been resorted to in the vain attempt to convert these matters of disputed opinion, of disputed fact even, into a justification of a charge *of fraud*. I venture to say to you that that charge is proved to be untrue, and it is proved equally to be grossly unfair; and I venture to say, further, that having come into a position in which it was open for them to have shown courage and honesty in dealing with this man whom they had libelled, the defendants, after they have become aware for many days got back to her work. I do not think she mentioned what it was. It is quite plain that she is not suffering from any disease which would make it dangerous to use the stuff. There is no indication that she used it too much. She is one of the people who benefited I do not doubt, and I have always tried to make it plain that you may have a thing, and you may deal in a thing, which may do good to some people and which yet may be characterised as fraudulent if you are sending it out indiscriminately, and you are certain, or reasonably certain, that it will do harm to others. The doctors I want to speak about in a different category. I should have thought the very last person to whom my friend would have referred to as being an instance in his favour was a doctor, and for this reason, that a doctor is aware of the dangers. A doctor is a person who is in the position of somebody who is warned, because he does not require warning, and he knows the danger; therefore, if you sell a thing to a doctor who knows of the danger of using or abusing this vaporiser, you are selling it to a person on exactly the same conditions as if you told him all about it. These doctors, of course, stand in a different category. Dr. Clark was a strong witness in the plaintiff's favour, but he is a man who, I suggest to you, holds very curious views because he went so far as to say that he would recommend this to his patients, and apparently without any warning, although he knew of 20 cases in which he knew it had given people the cocaine habit. There is no accounting for differences of opinion, but to hear a medical man go in the box and say that——

Mr. Justice RIDLEY: Although he was told of such things he did not know of them.

Mr. ELDON BANKES: If he were told of such things, yes. Supposing he were convinced that 20 people had acquired the cocaine habit from the use of this thing he would still recommend it.

Mr. Justice RIDLEY: He said it would never do anybody any harm at all and he would not believe it.

Mr. ELDON BANKES: That is quite true, but what I am saying is quite right, I submit, and it is this: You must judge what kind of a man this is by his answers. He says: "I do not believe it will do any harm. I have never known it to do any harm, but even if I was satisfied that 20 people had acquired the cocaine habit from using it I should still advise my patients to take it." The next witness, Dr. Rawlings, takes a very different view. I want to remind you of his evidence, although, perhaps, I am taking too long as it is; but you will remember he said he considered cocaine a very dangerous thing. He said it ought only to be used under the most careful restrictions and under medical supervision, and so on. There is a man who took an entirely different view; he had recommended it to a patient, it is true, but he could not tell you what the effect had been upon the patient. Of course, he had not sent for it, but that is a case in which it was recommended under medical supervision, and that is an entirely different case from the case with which I am dealing, and the dangers which I am trying to point out to you. The last witness I deal with separately because he is the one man of all those who have been before us who apparently used it, at any rate to the extent of an ounce in three months. There may be people, of course, to whom the use even to that extent is not harmful, but he did make use of a plaintive expression, it seemed to me. He said "unfortunately," and you will remember the tone in which he said it. Then he was asked which he meant by that and he said that had reference to the price. Whether he used it once in three months or once in a year would only make a difference of about 32s. a year, and whether he really used that expression of "unfortunately" almost with a sigh, a gasp, because it was really a question of price, is a matter for you to consider. However, that is the plaintiff's evidence. Now I have dealt with it, and I submit to you that, looking at it fairly and looking at it reasonably, as I am sure you will, and bearing in mind the words which you have to try, it does not really assist you to call a number of witnesses who have been benefited, unless they come into the class of people whom I have been indicating who would be injured, it does no good. Now let me pass to our evidence, and I will deal with that as shortly as I can, and I am sure you will not grudge me the time.

Mr. Justice RIDLEY: It is half-past twelve, Mr. Bankes.

Mr. ELDON BANKES: I hope I have not been unduly long, but I must deal with this evidence, gentlemen, shortly, after the view that has been indicated to me more than once as to my position in this matter. I must deal with our case. We say this first of all; we say that this liquid does contain these poisons. You know it, and I need not go into it again; it does. We say that those are being sold in flagrant violation of the law of the land; and the importance of that is this: it is for the plaintiff, of course, to say whether he will take upon himself the risk of doing what the law forbids; that is one thing; but from my point of view the importance is that that law would not have been passed unless it had been recognised that the restrictions which the law imposes are necessary for the public safety. What are those restrictions? The restrictions in the case of atropine—and this contains atropine—it so happens are stronger than the restrictions in the case of cocaine. In the case of preparations of atropine (which this is) the law says that you may not sell it except to a person you know, or who is introduced by a person whom you know, and the law says that nobody may sell it except a registered chemist. If that is the law for the Englishman why should it not be the law for the gentleman who has been an usher in a school in America and comes over here and sells these things over here in enormous quantities? Why may you not form a strong opinion about a man who comes over here and disregards—I do not care anything about the law—but disregards the precautions which the legislature of this country, which means our representatives—your representatives and my representatives—have passed into law in Parliament because they recognise that in this country, at any rate, those are necessary precautions for the safety and well-being of the community? Nobody may sell a preparation of atropine unless he is a chemist, unless he has gone through the course of training which the law prescribes before a man shall be put into that responsible position; he may not sell it except to a man he knows or to a man introduced by a man he knows; he may not sell it unless he keeps a poisons book and enters every name, and so on. I need not go through the precautions but the fact that this man disregards those precautions which are reasonable and proper precautions is one ground, I submit, why a writer may use language of the strongest possible character.

The next point is, we say that it is sold under conditions in which the sale is likely to do serious harm. Why do we say that? May I put it shortly? We say it because he advertises it as a cure for asthma. Asthma to the patient presents the same symptoms as all those other disorders which I have enumerated, and therefore if a patient writes to him because he thinks he has got asthma he may be suffering from heart disease or consumption, as that man Cushing was, and he will get a thing for which he has to pay a large sum of money which will be positively harmful. It would not be fair to you that I should go through the evidence of medical gentlemen whom I have called, but I do ask you to remember who they are. They are the heads of their professions. I have called, amongst others, the man who, I suppose, at this moment is the actual head of the British medical profession, Sir Richard Douglas Powell, who occupies at this moment the position of the President of the College of Physicians. They one and all have told you that in their opinion this sale in this way is calculated to do harm. They ridicule the opinion that because it is given in such infinitesimal doses it will not do harm and some of them rest their opinion, not upon the knowledge of the effects of these poisons, but upon their actual experience of cases which have been brought before them. There is Sir Richard Douglas Powell; there is Mr. Francis; there is Mr. Tilley, all of them speaking from an actual experience of what they have actually seen. I need not go in detail into the reasons they gave, but I should like just to refer to one reason to remind you of it. You will remember the emphatic language used by Sir Richard Douglas Powell when he said that one of the great dangers of this thing is that asthma is a most distressing complaint, and if a patient finds anything that relieves it, to use his expression, they fly to the remedy and take too much. I submit to you that no evidence could be more cogent, and it ought to be convincing. Why are you not to accept it? Can you possibly disregard it? What answer is it to say that there may be many hundreds of people who have not suffered harm if you find this evidence that there must be people who do suffer harm and that there are people who have suffered harm? Gentlemen, remember, please, that you are considering that evidence in reference to a course of dealing in which this stuff is sent out without any sort of inquiry as cease." There is no doubt that the quack advertisements which appear in other newspapers are alluded to, and it states that the object desired to be arrived at of passing the medicines on to the public could not be arrived at without the assistance of such newspapers. There can be no doubt about that; but is it correct to say that there has been no attack upon the character of the plaintiff? Mr. Bankes says I think this: The man's character is only involved in his system of dealing; that is to say, if I have to attack the system of dealing I must attack his character. If you do attack his character he is entitled to his remedy, and you must meet him in that way which Mr. Bankes characterised as a brave one—come forward and say it is true. In this case is it not almost enough to find that Dr. Tucker's particular asthma specific, and the inquest which was held upon Cushing in which it was mentioned by the coroner as a fraudulent scheme—that that was the foundation of the article, to show that it was an attack upon Dr. Tucker? Would anyone in reading this article exclude him from the denunciation or not? "Dr. Tucker's asthma specific inhaler" is mentioned as the beginning; it is made, as it would appear to me (but it is for you to say whether that is correct or not), the foundation for the observations which are made with regard to the general scheme of publishing these advertisements and passing poisonous medicines off upon the public. If it is made the foundation for those observations is it not the necessary consequence to the mind of anyone reading this article that Dr. Tucker's asthma specific inhaler is precisely one of those things which is so foisted upon the public? If it is, then does not the word "fraud" which is passed as the right word for this kind of dealing apply to Dr. Tucker? That is the sort of argument which has presented itself, I will admit, to my mind. I will read it again: "He had been using Dr. Tucker's asthma specific inhaler. Dr. F. J. Waldo rightly stigmatised this sort of dealing as a fraud." What sort of dealing? Why Dr. Tucker's asthma specific inhaler. Would not the mind of a person reading this refer it to Dr. Tucker? You go on and you find this about those newspaper advertisements and then you come to this: "The remedy is in the hands of the public, who have only to signify their displeasure at reading in their journals invitations to be robbed and poisoned." It is argued that robbing and poisoning have nothing to do with Dr. Tucker. Not so directly perhaps, yet those observations read by an attentive mind appear to me clearly to indicate (though it is for you to say whether they do or not) that Dr. Tucker was one of those people who by such a system passes his wares off upon the public. I pause for a moment because I ought to remember that Dr. Tucker is not Mr. Tucker the plaintiff; but, gentlemen, do you think that will do? Mr. Tucker is so associated right through with this matter as the agent for his brother who is the inventor of this specific that it appears to me hardly possible at this stage of the case that we should distinguish between the two. If you charge Dr. Tucker's inhaler as being a fraud is it not Mr. Tucker who in this country circulates it. I do not think it is possible to pause very long upon such an argument as that. It would appear to me that if you think it is an attack upon the character of the man who made this medicine, who invented this specific, you will think that this is also an attack upon the character of the man who disseminated it. What is said to the contrary? I think I have put the point that Mr. Bankes urged upon you as plainly as I can. It may be that you do not think that those observations which certainly do occur to my mind are properly made, and that the writer of those advertisements was merely alluding to a system and casually mentioned Dr. Tucker's name; I do not know, however, what force you will attach to that. I think it is true that he had another object in this matter, and I think it is fair to remember that he does mention the advertisements which occur in other papers; but I wish to say this, that if in the course of his observations upon that subject, be it his chief object or be it not, he found it necessary to make a charge against the plaintiff's character he cannot shelter himself here under a plea of public interest, but he must justify it and say that it is true. That is what I have to say upon the first point; do you find that this is an attack upon the character of the plaintiff so far as the observations may arise upon the libel itself.

Now I want to call your attention, which I must do upon this point, to what was said by the witnesses who were called for the defendant—most valuable witnesses among the leaders of the medical profession. I should not like to be found saying a word against them, and I have no wish to do any such thing. They gave some evidence of great value which I think is completely incontrovertible. I do not wish to suggest to you that you should controvert it any more than I do, but it was not a necessary part of their evidence to use the word "fraud" at all; it is quite out of the way, and some of them did not use it. Let me see how each of them did use it, in order to ascertain in what way they treat this word which I take as the key of the situation merely for shortness, meaning to express thereby an attack on the plaintiff's character. Dr. Willcox, an eminent gentleman, gave valuable evidence about cocaine and atropine, and the undesirability of selling it in a bottle without "poison" upon it, and without the supervision of doctors, with all of which I for one find myself in agreement. He says upon the question of fraud: "I could not say that you were guilty of fraud for doing it because it would be unjust." What does that mean?

Mr. ELDON BANKES: May I interrupt your lordship? That was his answer to my friend's question: "Should you say that I was guilty of fraud if I recommended it to a friend believing it to be all right?"

Mr. Justice RIDLEY: Yes; that is the very thing which was done as it appears to me: "I could not say that you were guilty of fraud for recommending it, for it would be unjust." Therefore fraud in his sense as he used it means to say that it was a dishonest thing to do. If so, where is the argument for the defendant that the word "fraud" used in this article does not apply in a dishonest sense to the plaintiff, but is merely a general reference to a system, and is used to indicate not any dishonesty but a statement calculated to deceive: "I do not think it is fraudulent to sell the article, but the man ought to be qualified before he deals with it." There again, does that show that the defendant's reading of the article is right? I should certainly have hesitated to say so. I think Dr. Tilley, the next witness, used this expression, "I think it is fraud, because he did not cure his patients when he said that it would," and then he quoted the different sentences in the instructions from which in his opinion it followed that there was a statement that it would cure; so Dr. Tilley thought it was fraud in him, because he did not cure his patients when he said it would. That also seems to me to show that in his opinion this word "fraud" in this article was pointed at the man who did it and not at the thing itself. Dr. Waldo we know. He says, "I thought it was a fraud, not because of the Government stamp, a matter which I think I may leave out of the question, but because he said that it was a cure," taking the same view as Dr. Tilley. "If a medical man said it was a specific for asthma I should still say it was a fraud in his case, because it is incurable." So that there you see it is a personal matter which the fraud indicates and not a system. Sir Douglas Powell did not say a single word about this point. Though his evidence was extremely valuable upon the general point he said nothing so far as I know about this. Sir Lauder Brunton in a similar way I think was silent about the point which I am now dealing with.

Mr. ELDON BANKES: They were not asked, if your lordship remembers.

Mr. Justice RIDLEY: They were not asked; that was the reason. That is quite sufficient. I did not suggest there was any other reason, or that any question was put about it which they did not answer. Mr. Francis said, "I never thought of fraud in this matter one way or the other," so he does not assist us very much. Mr. Pepper says, "I came here in the belief that it was a fraud. However innocent in his intention I should say it was a fraud from his statement of the operations. It is a mis-statement to use the word 'heal'"; and he took the line that because the word "heal"—I only take it as one instance—was used when as he said there was no laceration of the membrane, that was a mis-statement which would make it a fraud. That is a view which I do not think is concurred in by anyone of the several witnesses who have been called, and I give it to you for what it is worth. Dr. Cushny, the last witness to whom I need allude in this matter, said that its administration was not fraudulent. You do not get very much light by these statements, and I do not suggest that you do, but still they are there, and it is necessary to mention them to you. I think that upon this point it is the article itself which ought to guide you, and having read that, also what your opinion is as to the difference which is suggested and say is this upon this word "fraud." You will remember that the plaintiff said that he is selling this stuff indiscriminately, and indeed without apparently caring what the constituents are. It is quite legitimate to say of his system of dealing that it is a fraud upon the public without imputing any moral blame to him, if the fact be that he honestly believes that the stuff is genuine; but if a man puts himself in this position that he undertakes the sale of a thing without knowing what its contents are, he cannot shelter himself, if it is properly said of his system of trading that it is a fraud upon the public, behind the fact that he has thought that ignorance is bliss, and that it is folly to be wise, and he has not taken the trouble, for some reason best known to himself, tp endeavour to ascertain what the contents are. He takes upon himself the responsibility of disseminating this stuff wholesale, and if he takes the responsibility, so he must take the blame if the fact be that the system is one which deserves the severest censure.

I am much obliged to you. I hope I have not taken too long, but you will realise that there is an important question involved in this case, as I said before, beyond the mere interests of the plaintiff and defendants; and I respectfully ask you to say that now that this thing has been thrashed out it is proved, and proved beyond any question, that this system of trading is one which admits of severe condemnation, and that the condemnation which has been passed upon it is not beyond what the occasion permitted.

Mr. DUKE: May it please your lordship, gentlemen of the jury. The attack which THE LANCET newspaper, that is the defendant in this action, made now nine months ago upon Mr. Tucker has been very grossly aggravated by what has taken place in the course of this trial. The attack which was made in THE LANCET was an attack made confessedly without any knowledge of either Dr. Tucker or of his specific. Up to this morning one hardly conceived it possible that where a defendant in an action of this sort was going to ask the jury to say that whether the words he used were strong or not at any rate they were fairly and honestly used—one hardly thought it possible where that was going to be one of the defences relied upon, that the defendant should close his case and not put into the box before the jury which was to try the case the man who had written the libel in order that the jury might see whether that man had taken any sort of pains whatever or gained any information whatever before he launched against a man who was carrying on a large business in this country a charge of fraud which if it were true and if it were found to be true must not only destroy his business but destroy his character.

This defendant, the proprietor of THE LANCET, coming here with that responsibility upon him, that he has chosen to make such an attack as he has here upon another man's business and another man's character, treats your intelligence with such contempt that he does not go there to say that he believed a word of this and if he did not write it himself he does not call his servant who did write it before you to say that he believed it or thought there was the least justification about it. That is a very remarkable state of things. Instead of that he relies upon an array of expert witnesses who have been occupying your time now for nearly three days, gentlemen, a part of whose business it is to go into the witness-box and to give evidence to tell you that cocaine under certain circumstances is a dangerous poison. That is what he has done, and for the rest of it, for any other inducement which could be utilised to cause a jury to give their sanction to a charge of fraud against a man who is said by his customers, and by every customer of his who can be found, to have carried on a business which conferred upon them the highest benefits and earned their gratitude so that they were glad to come here and testify on his behalf, but has in order, as my learned friend says, to brand that man as a fraud, to brand his business as a fraudulent business, to brand his remedy as a fraudulent remedy, there are an array of expert witnesses and my learned friend Mr. Bankes. That is why, feeling that the labouring oar was left with him this morning and that the expert witnesses did not seem to have come to much, my learned friend has had to spend the whole of this morning in the elaborate effort which he has made here before you to induce you to say that an honest transaction was dishonest, an honest business was a dishonest business, and that an honest man was a dishonest man, because that is what you are asked to do.

There has been a good deal of trifling with the charge that is made here, but we have had it out this morning, because point by point has been sought to be made and directed against Mr. Tucker to induce you to say that he was personally dishonest, and to think so—to come to that conclusion; so that we know now what they meant and what the language of this libel meant. The words of it, I am sure, must be fresh in your recollection. Having got an opportunity furnished by some wild observations—wild and unwarranted observations—of Dr. Waldo, observations as injudicial as any observations made by an officer holding a judicial position possibly could be—having got the opportunity of those, and having had them sent to him by Dr. Waldo for the purpose, the defendant without inquiry and without knowing anything about Dr. Tucker, without analysis of the remedy or anything of that sort, writes this article and he stigmatises Mr. Tucker's system of dealing as a fraud, and he goes on to say in effect that there are in this country a number of persons who sell fraudulent specifics, that Mr. Tucker is one of them, and that these frauds amount to robbery and to murder—frauds which he says Mr. Tucker commits; and then he says, "Why do the newspapers of this country help Mr. Tucker and these other people, these fraudulent people, to commit their frauds?" That is the effect of what he says. When you come to see what warrant he had for saying it, by an answer on oath which is made here this morning on the part of the defendant, the warrant is: "I made no inquiry as to the truth of the statement set out in the said interrogatory before printing and publishing the said statements and took no steps to test the reliability of the information which I had previously received as to the said statements because such information was derived from a cutting from the *Morning Advertiser* of Wednesday, Jan. 2nd, 1907, which said cutting was forwarded to THE LANCET by Dr. F. J. Waldo the coroner" and certain advertisements of quack medicines. Having said that originally he corrects it months afterwards and says, "I also had your directions for treatment." Having made that attack upon a man's business integrity and personal integrity he now has to justify it or to excuse it and you have seen the sort of means by which it is proposed to be done. There are two answers, so it is said—I believe there is only one, but my lord will tell you—to an action which is brought against you if you have charged a man with fraud. I anticipate my lord will tell you, if my lord takes my view of the law, that if you charge a man with fraud, if you say a man is a fraudulent man and you do not prove it, you must pay for it.

Mr. Justice RIDLEY: Yes; that is right.

Mr. DUKE: I so understand.

Mr. Justice RIDLEY: I have not any doubt about it at all.

Mr. DUKE: It has been established a very long time. It has been said that public writers have the privilege of doing this sort of thing. A man who is invested with judicial functions may do injustice to his fellowmen and not pay for it——

Mr. Justice RIDLEY: It would never do at all. You cannot justify an attack vilifying a man's character by saying that it was fair criticism upon a matter of public interest. Where would the character of individuals be? I shall lay that down very strongly to the jury without any hesitation at all. There are authorities without end upon the subject. The question for the jury is, Is this an attack upon the plaintiff's character? If it is, he is entitled to a verdict, but if it is not, and is a mere criticism upon a matter of public interest, therefore not attacking his character, then the defendant would be entitled to a verdict.

Mr. DUKE: If your lordship pleases.

Mr. HUGH FRASER: I do not know whether I ought to ask your lordship to hear me on the point of law.

Mr. Justice RIDLEY: I have heard Mr. Bankes and I shall not hear any more.

Mr. HUGH FRASER: I know he cited the authorities in the course of his speech.

Mr. Justice RIDLEY: He cited the authorities but he has not cited the leading one. I have no doubt he knew about it. I have no doubt about the law, but if there is anything wrong about it you must take it elsewhere. You cannot justify an attack upon a man's character which charges him with robbery and fraud—an attack of an offensive character—by saying that it is a fair criticism upon a matter of public interest.

Mr. DUKE: That is what I understand to be the law. I did not bring a lot of books here, gentlemen, and read you passages out of them because, of course, before you would be able to gain enlightenment from them you would have to have some knowledge as lawyers, and you would have to further from these testimonials, but I think *you will find*, if you take trouble to read them, that some of these people were not working men indeed, but those who bought this specific have been very glad *to get it* for the money and some witnesses called before you said so. What is it? It is not that you have sold it and that you have to pay for it; you have to *pay for it if you like it*, but if you do not like it you can send it back again. It is not possible to say that £3 is the price of the inhaler. It is not. It is the price of the inhaler and the two ounces with the knowledge that it will do you good.

The Jury: Four ounces.

Mr. Justice Ridley: That makes a great deal of difference. That is not the price of the thing itself, for I do not see how it can be shut out of the case after the argument that has been put before you about this, that you do not pay at all and you could not be asked to pay unless you signed this: "At the expiration of the two weeks' trial I agree to pay for the treatment or I return the atomiser and what fluid there may be left, by mail, charges prepaid"; that is to say, if it does not suit me I send it back; no cure, no pay. You do not get that out of many doctors. I do not mean to say that it would be right for the medical profession. I do not say it would, and I do not for a moment think they ought to come and say: "You need not pay me unless my medicines cure you"; but it is not a fraudulent thing to say to a person. It is not robbery and it is not poisoning. It may be objectionable, but why *not*? What is there that is wrong in itself? When a man is not a member of the medical profession, he is subject to certain laws which he *must observe—I mean the Pharmacy Acts*; and if he does not, he may be prosecuted for not observing them. He could not be prosecuted for that, and why is that to be wrong, and why is that to be called robbery or fraud? Surely it is nothing of the sort. You may think it is wrong, and you may think, as I do, that it would not be the right thing for a medical man to do; but are you to charge him in words of this serious import with having done that which is improper because he has done it? Surely not. Then I say what is the next?—that you said it was a *cure when it is not*. Gentlemen, I think it is scarcely possible to lay down this that he did say it was a cure, without making a long explanation about it. He said that it cured the spasms, and he said it prevented them from recurring. He said it modified them when they did recur; but he also said that he could not cure it as an absolute cure so as to prevent the possibility of its recurrence. That is the long and the short of it. He says in the witness-box that he does not cure the liability to asthma. He said in the pamphlet, and in the instructions, after considerable explanation as to how it worked, and the way in which it modified the spasms, and rendered it less likely that they would recur, that it was a cure; he did say so. Here are the words, and they are in several places, I think. At the head of the pamphlet which I have been reading to you there are words of that kind if I am not mistaken: "A physician cured of asthma and hay fever after 20 years of suffering"—that is Dr. Tucker himself, the brother—"and experimenting on his own chronic case." That is called a cure; but then it is subject to the observations which appear in the subsequent introduction in the pamphlet which show the way in which it will work. It is for you to say whether he did say in so many words that this is a *cure or* whether he did not. In the instructions in a similar way there is this; after several sentences about how you are to use this atomiser comes this: "You will notice by *the above instructions that* it is necessary for the vapour to reach the lungs in order to arrest the attacks, heal the mucous surfaces, and cure the disease." That is the statement which is relied upon by one of the witnesses, I think Mr. Pepper, but I am not quite sure—the word "heal." He says: "That will not do. That is a statement which is a fraud. There is no healing because there is no wound." But think; there is no wound, but suppose it is inflamed, suppose it is in that condition that it gives rise to the asthmatic attacks at once, and you induce a quieter condition in the membrane so that it does not do so any longer, is not that healing? I should have thought you could have used the word heal not merely with the meaning of healing a wound which has been made in your flesh, but as meaning the surface which has not been broken, or as healing you from a disease which never had any wound in it at all. I should have thought it was a general expression. Perhaps not; that again will be for you. Those are the two chief attacks which have been delivered in this matter. Of course, there is the third one—namely, that it was not a thing which was to be used without the supervision and the management of the medical profession. With that I think I have sufficiently dealt. Having regard to that on the one side and to the certain good which it has produced to the witnesses called before you on the other, do you think that this criticism on a matter of public interest, which undoubtedly it was, was a fair criticism or not? Did it make the right allowance for the good that has been done whilst it attacks the other? That is what I *think a fair criticism* ought to be. I do not say you are to measure criticism with accurate care and detail, regarding each word, but in doing this did they *make allowance for* what the man has done of a good sort, whilst they attacked that which he was doing which was of a bad sort and which might result in the *extension of* what is known, as we now understand, as the cocaine habit? Gentlemen, it seems to me, although I have been longer than I meant, that I have at all events covered the ground now. You will, first of all, be good enough to say, having regard to all those matters, do you think that this was an attack on the character of the plaintiff, and if you think that it was an attack on the character of the plaintiff he will be entitled to a verdict in my judgment, although you should think that the other part of the case showed a fair criticism on a matter of public interest because the defendant has attacked the plaintiff's character, and has not justified that attack. But it may be that there may be other opinions upon this matter, and I think it is desirable that you should answer the second question which I have been discussing before you. Was it fair criticism at all on a matter of public interest? I do not say, nor do I think you can, that it was a matter of public interest, but were the comments fair?

If you find for the plaintiff what are the damages to be? That is all that remains. It is true, I think, that he has not suffered in a pecuniary sense; but, gentlemen, this is an important matter to him. I do not think that it is of the importance which Mr. Bankes thinks for the defendant, for I do not take the same view. I do not think the principle is at stake for which he contends. The principle which is at stake is this: Can a man's character be attacked with impunity? That is a much more important matter. If it can, then the defendant is in a better position here than I have taken it any defendant could be in this country. The question here is what damages you award if this man's character has been attacked as being guilty of fraud, robbery, and poisoning, which, as I understand it, is meant in being a quack. With regard to the word "quack," it is used in various senses. It generally means in its harmless sense a man who is not a qualified medical practitioner, but it may also be meant in the harmful sense, a man who pretends to a skill which he *does not* possess—a charlatan. I do not know which it is meant for here, but I should think in the more harmless sense. A quack may be simply a man who *is* not a *medical man*; but then what would other people understand it as meaning? Most people, I take it, would take it as meaning that this man pretends to cure, and he pretends *to* have a *specific* when he has not got one at all. What do you say to that? Then there is this, that he is one of those who carry out a system of robbing and poisoning upon an *uninstructed and* credulous public. I think, although juries must be moderate in all the verdicts which they give in cases of this kind, this is a case in which, whilst you are moderate you ought, if you find in favour of the plaintiff, to give him some substantial sum to show that in your opinion, although it may be correct to say, and is correct to say, that these drugs which have a poisonous character ought to be under the Pharmacy Acts, and that they are not to be administered without the direction of doctors, yet those who have found out a *specific* which is of value, containing though it does some portion which is poisonous, and which has largely benefited the public, whom they can call before a jury, are entitled to have a *sum* which shows that in the opinion of the jury they have not been guilty of fraud, robbing, or poisoning. I do not say anything more about the case but leave it simply in your hands to answer those questions: "Was it an attack on the character of the plaintiff? Was it fair criticism on a matter of public interest? What are the damages?" If you wish to take with you either the pamphlet or the instructions or any of the papers they shall be put into your hands to deliberate upon in your room.

ects ; and we warn people against using Tucker's remedy." ey could have said that. They could *have said*: "We lieve this cannot be sold, except by a member of the armaceutical Society, and Dr. Tucker ought not to sell ." They could have *said that*. They *could have said*: Things of this kind ought not to be sold or dis- nsed by anybody except doctors and any member of the blic who uses a thing of this kind, *except when* it prescribed by a doctor ought to be sent to prison." They uld have said that. It would have seemed a little startling at it would have protected the medical profession in that ay by saying: "This is a public danger; you may get so nd of cocaine if you inhale a specific two or three times *which there is some slight medicinal trace of cocaine*—you an get so fond of it that you may take to drinking it and ou will be poisoned." That they could have said; they ould have used *all* the army of bogeys which they have aised here before you. It is quite open to them to do it. hose would have *been legitimate means of* attack upon Mr. ucker. *That is what they could have done* when they were iscussing it; but that would not do for them. *They* had got o destroy him apparently, according to their view of it, so t *would not do to discuss him* in that way. Having taken upon themselves to say that he was a fraudulent *man*, what could they have done in order to find out whether he was a fraudulent *man or not*? They did not know whether he was or not. You may think it was either their fault or their misfortune. It is an astonishing thing that you should say about branding people with charges of fraud without knowing anything about them, but apparently that is not regarded as anything out of the way in THE LANCET Office. They had made the charge. What could they have done? First of all they got discovery in this action of all the names of his patients. They have had his books and they have ransacked his books. I am entitled to tell you in answer *to what* Mr. Bankes said just now that we should have done something or other, *I forget what it was*, about a patient of Dr. Francis who was mentioned last week, that they have been down since Friday and investigated Mr. Tucker's books about that matter to see whether there was anything there upon which they could further attack Mr. Tucker. Having that command of Mr. Tucker's books which, confident of his integrity in the matter, Mr. Tucker *readily* gave them, they had access to these 25 000 who had used the drugs and used the specific. They had his little pamphlet here with sheaves of testimonials which had been received at the end of it. They could have gone to every one of them, and you can consider for yourselves whether they probably did. They had all that means of knowing whether Tucker was doing good or doing evil, and having that means of knowledge what is the position? They do *not call* one single person who has had any direct dealing with Mr. Tucker and they do not call one single person who has used this specific—*not one*. *Having that means of* condemning him if he was guilty of this charge of theirs, they give it the go-by. My lord asked in the course of my learned friend's opening of this case whether part of the defence was to call people here said to have been injured by this specific. You heard the sort of answer which was got. *Ultimately* it was said: "We are going to call doctors who *know of* people who have been injured," and then Dr. Francis comes into the box, *and he says there* was a gentleman who said that he got a great *benefit for five years* from using this specific, whom he found using it, but *when he came under Dr. Francis's treatment* he *told him he* had better not use it so often: thereupon he *said*, "If you think that I will give it up," and Dr. Francis burned his nose. That is Dr. Francis, and that is the evidence against the Tucker specific—that there was a man who *is* not called, but who is here in London—whose name and address they do not mention to Mr. Tucker, and about whom they do not challenge him in the least—a man here in *London*, and known to them as well as to Dr. Francis, who can be put into the box if *there is any* ground at all in any dealing of Mr. Tucker with him for this charge *of fraud*; and they called an expert witness to attack Mr. *Tucker* and he is chiefly valuable to them, because he is able to slip out a statement that he knew a man who had taken it for five years and who nevertheless came to him with regard *to* a condition of asthma.

That is the evidence, really, against Mr. *Tucker*, with regard to this specific. On the one side there are the 25,000 persons who have had *beneficial* user, the 300 doctors, with Sir Stephen Mackenzie at *their head*, the testimony of the *defendants' witnesses* in the box, the testimony of the fact that Oppenheimers put up an ineffective imitation of this specific and sold it at 3*s*. 6*d*. an ounce, the testimony of witnesses *who have gratefully come here to repel this charge of fraud* and *to support* Mr. Tucker in the attack which is made upon him; and on the other side there is Dr. Francis, whose view of the *proper treatment of asthma* is that it includes the burning of the patient's nose, and who has found a person, who cannot be produced here, who *does not come here*, whom he advised not to use the specific *so often and who* thereupon said, "Very well, you are now my medical *man* and if you do not like my using it so often I will *give* it up altogether." That is the foundation in fact for all this machinery *for suggestion and alarm which has been* elaborately raised by the doctors. You have had *them* here—I will not say in a never-ending procession, but one did get a little tired even of cross-examining them. Ask yourselves with regard to those doctors, Does either of them know anything about the Tucker specific? Neither of them has ever used it; neither of them has ever—if he had asthma—tried *this remedy*; *neither* of them has apparently prescribed it; but certain of them have sanctioned the *use of it* by their patients. That is a remarkable thing, because you cannot tell, whether you are a doctor or not, whether a man *may run a risk of* acquiring the cocaine habit, as it is called, the habit of relying upon a drug; you cannot tell *that* because you are a doctor; the only thing which can show it is if it happens. But these doctors tell you "Yes, *I have allowed* my patients to go *on using it, and I have told* them they had better not use it," I think it was, "more than two or three times a day." Oddly enough that is the number of times which Dr. Tucker *prescribes for the* use *of it in his directions* which are attacked. Three times a day, he says, is about the number of times—I forget whether it is three or four, but something of *that kind*. That is the position with regard to the army of doctors. They have said, "Yes, cocaine is a poison—that is, it might do harm. It is used medicinally," they say. It is *used to a large extent* medicinally. *I venture to say if you* buy a box of lozenges for your throat you are exceedingly likely to find that one of the ingredients in it is a *trace of cocaine*, *because* cocaine, as one of the doctors told you, repeating a matter *of common* knowledge, is the product of a plant which the natives of some part of South America *use in great quantities* to strengthen themselves *or to* relieve themselves against *the consequences* of fatigue. That is what cocaine is, and they all know it. That *is the* way in which the doctors became aware of it originally, because they found the beneficial use of it by these South American natives. "But it can hurt people" they say; "you may get the cocaine habit." We did not go into the detail *of* finding out what happens to a man if he has got the cocaine habit, but we were told about atropine—that if you took enough of it it would cause madness. I *do not* know whether anybody has been taking atropine in large quantities in this case, but there has been a vehement inflammation about the sort of attack which has been made upon Mr. Tucker which might *be accounted for*, perhaps, by the resort to an excessive quantity of atropine. However, cocaine and atropine are said to be the ingredients, and then these gentlemen forthwith treat Mr. Tucker *as though* he had *taken some fluid* which was cocaine and atropine and had given it to people to introduce into their *systems*—to drink or to introduce into their vein or *something of the kind*—*regardless of* the true facts of the case. What are the facts of the case about the use *of these* things, assuming there is a trace *of cocaine* and a trace of atropine? The fact is this—that if *those doctors* are right and there is the cocaine which *they say* in *an ounce* of this fluid, in the course of three inhalations, which is what *Dr. Tucker* tells the man who uses the atomiser to take, *you will get*, *according to Dr.* Willcox's evidence, vapour, diffused throughout which there will be 3/20000th parts *of* one grain of cocaine. So that filling your lungs according to the *treatment*—*that is* what Dr. Tucker says quite clearly—*you* will inhale three times; he *says you will be able* to get into your lungs "three shots," to use an expression which I used, with a *little practice*; *so there* will be 3/20000th parts of one grain of cocaine and that will *be diffused* through a volume of vapour which will fill the lungs *and which* you are directed by Dr. Tucker to blow out, because he says if you exhale and

THE LANCET.

LONDON: SATURDAY, FEBRUARY 1, 1908.

Tucker v. Wakley and Another.

WE publish in our present issue a full account of the libel action in which we have been involved recently. It has seemed to us important that an opportunity should be afforded to the medical profession of reading the case as a whole, for in this way only can a proper conception be obtained of the value of the decision which has been registered against us. As the result of the case was a verdict for the plaintiff for £1000, and as our legal position in appealing against this verdict appears to be one of considerable complexity, we are manifestly unable to complain of the issue. Merely to complain and at the same time to take no steps for remedy would be a childish course to pursue, but we do not understand by this submission to a verdict, which verdict seems to have surprised our readers very much, that we are precluded from drawing attention to the manifest necessity that a journal, having our aims and objects and receiving the support which we do from the medical profession, should have taken throughout the attitude that we have done, whatever errors in detail we may have committed. No other attitude was possible to us, and if anybody wants to feel as certain of this as we are on reviewing the whole situation he has only to read the plaintiff's evidence in chief and in cross-examination. It is transparently clear that medical practice of the kind which is there fully described, by whatever word it is designated, must be condemned by the medical profession, and as it is our duty as well as our privilege to make ourselves the mouthpiece of that profession, such condemnation must always appear in our columns. The expressions used must be those which cannot be so easily challenged, but our policy must remain unaltered. The verdict leaves us strictly unrepentant, and Mr. Justice RIDLEY's disapprobation of our whole point of view, though invested with all the dignity lent to it by his position as a judge of the High Court, fails to inspire us with any desire of regeneration.

The case is of importance to the public, to the medical profession, and to ourselves, and we place the interested parties in their order of importance. The public and the medical profession must always seem to us, so far as regards questions of unlicensed medical practice, to be rowing in the same boat. The public have to choose the fittest people for their medical advisers. The competitors for their suffrages are two—the medical profession consisting of a body of trained and educated men tested in all the necessary scientific requirements; and the irregular practitioners, whose names are not on the Medical Register. In every profession except medicine the public would at once give their vote in favour of the properly trained body, and it is certain that as the public become more generally educated this is the view that will prevail. The nonsensical idea that the medical profession desires to become a tyrannous priesthood will disappear, and the public, growing day by day in comprehension of our hopes as well as of our performances, will perceive how valuable—how invaluable—to the community a properly ordered medical service must be. Medical men have also their lesson to learn. We have spoken of the public as growing in wisdom; already they are vastly improved in general knowledge compared to what they were even a decade ago, and they require from their medical advisers a recognition of this act. The professional man, as we have often pointed out without confining the remark to members of the medical profession, can no longer out of a superior learning counsel his clients dogmatically. He must be ready and willing to explain to them the reasons for his advice, and in this way the fact that the interests of the public and of the medical profession are identical will soon appear. The recent trial has demonstrated in the clearest way to the public the dangers that may be associated with unqualified medical practice, and they cannot fail to see that the attitude of the medical profession towards such practice is not dictated, as they are sometimes told that it is, by jealousy of the large sums of money that may be earned by their unregistered rivals, but by the sure and certain knowledge that only the trained physician can supervise the treatment of the sick.

We come now to ourselves. We have had many urgent recommendations to appeal against the verdict. Our legal advisers have not been wholly adverse to such a course, and many kind friends have suggested the institution of a subscription as a guarantee against further expenses. But despite all this we decided not to appeal. The paragraph as written contained an indefensible inaccuracy, but it was impossible for this to be explained in our columns without the extension to the methods of the plaintiff of a consideration which we were quite unable to give. Hence the action for libel became inevitable, and our admitted error would in the case of a new trial have remained as an embarrassment to us in discussing the really important features of the case. Hampered in this manner the verdict might be upheld against us even if, as seems probable, we should have had no difficulty in obtaining certain different readings of the law. It was our duty, as we conceived it then and conceive it now, to say some of the things which we said. It will be our duty to go on saying them, whatever the cost.

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The Importation of Unwholesome Meat Foods.

AMONGST the meat foods which are imported into this country without any restrictions being at present placed upon their admission are: (1) boneless scrap meat; (2) pork (in regard to tuberculosis); and (3) tripe, tongues, and kidneys which are heavily preserved with boron or other antiseptics. We have already referred in these columns to the reports issued from time to time by the medical officer of health of the City of London (Dr. W. COLLINGRIDGE), in which he has dealt that they have libelled him, have gone on wilfully, obstinately, upon grounds which in no way warranted their conduct, persisting in a charge of fraud, and that instead of public spirit and courage in dealing with a situation in which they have done wrong they have resorted to mean and cowardly attacks which have greatly aggravated the wrong they have done. Bearing in mind that they knew nothing about this man when they attacked him, and bearing in mind that when they had found that they had wrongfully attacked him and that there was no just charge upon his personal honesty or his personal integrity, they went on to fabricate imputations against him, to support them out of little passages here and there in the pamphlet and in the instructions, and to base them upon the bitterness with which medical men regard the unlicensed competitor, I ask you when you come to do justice to Mr. Tucker in this case not to stint the damages with which you will show resentment of conduct which is unworthy of journalism as it is of the best interests of the public or of the medical profession.

Mr. Justice RIDLEY, in summing up, said: Gentlemen of the jury, I daresay you will be glad at having arrived at the final stage of this matter, when it will be for you to decide who is entitled to succeed in this case. You must not suppose that I wish to interfere in the slightest degree with your province in that matter, because it will be for you to say in this case who is to succeed, whether the plaintiff, so that he should recover damages for the attack which has been made upon him, or the defendants upon the ground that it was a fair comment.

The first question which I shall have to ask you is this: Was this an attack upon his character at all? and in order that you may understand how that question arises I think it will be necessary that I should say just a few words upon how it is that it is a question for you. When people are attacked by way of defamatory statements there is one defence which is always attempted to be made, one which makes defamatory statements cease to be a libel, which is this—a fair criticism on a matter of public interest. It is very much analogous to the criticism upon authors' works, upon books, or upon plays, but in this case there is no question of the latter sort, the question is whether this is not a public matter upon which fair criticism is allowable so as to prevent a defamatory statement from being a libel at all; and that is what the defendant has said that it is. If that were true, and if it satisfied you that although it does attack, and is a defamatory statement, yet that it is a fair criticism upon a matter of public interest, he is entitled to succeed. But there is an exception; there is a qualification to that rule. It is this: that if the statement is not merely a defamatory one but it does attack the personal character of any individual that individual has a right to say, You shall not do that as a matter of public interest, but you must justify it if it is true. My character is sacred to me, says the plaintiff in this case, every bit as much as that of any other person who is living in this country, and it is no answer to me to say that it was a matter of public interest that I should be charged with fraud, with robbery, and with poison; that will *not do*. I am quite clear upon this matter as far as I am concerned and as far as my opinion goes, and therefore it will be necessary for you to say in the first place, Was this an attack or not upon the personal character of the plaintiff?

Before I leave that part of the case, although it is not necessary for me to argue points of law, or to explain how that point is arrived at as a matter of law, I should like to quote just two cases upon this matter. The first of them was decided a long time ago, in 1828; it was decided against Wakley, the editor of THE LANCET—the same defendants that are present in this court to-day. I do not use that as a matter of prejudice; but the editor of THE LANCET was sued in 1828 for libel. In those days there was a *London Medical and Physical Journal* current which was a rival of THE LANCET, and in THE LANCET was published a libel which is not set out in the report as far as I know, but it was sued upon as having been written in order to cast ridicule upon the journal of the plaintiff who was the proprietor or editor of the other journal: it was one against the other. The defence set up was that it was a matter of public interest and that it was fair criticism. The Lord Chief Justice in summing up the case said this: "It has been stated on the part of the defendants that the matter contained in this publication relates to the plaintiff only as an author; but still there is no doubt that a man who is an author has a right to have his character protected just the same as if he acted in any other capacity." Now you might say the same here—that it relates to the plaintiff only as the advertiser and vendor of a certain specific; still, there is no doubt that he is as much entitled to have his character protected as if he had acted in any other capacity. "However, notwithstanding that, whatever is fair and can be reasonably said of the works of authors or of themselves as connected with their works is not actionable unless it appears that under the pretext of criticising the works the defendant takes the opportunity of attacking the character and then it will be a libel." That is the case here. There is a case which I should like to add to that and then I will pass on. It was decided in 1904, where precisely the same rule appears to have been laid down by the Court of Appeal. That is the case of Joynt *v.* The Cycle Trade Publishing Company. Therefore that is how the question arises. You will be good enough to answer that according to the best opinion you can form of the libel itself.

After that there is another question—namely, whether it is a fair criticism at all, which, of course, must be submitted to you; but as to that I say nothing for the present. Now was it an attack on the character of the plaintiff is the first question, because you will see that if it is, there being no justification, it should entitle the plaintiff to a verdict according to the authorities which I have quoted to you and according to a most beneficent and proper principle of the law as I understand it. Therefore, I shall ask you first of all to consider the words of the libel and the way in which they have been construed by the witnesses put before you with a view of saying whether this was an attack upon the character of the plaintiff or whether it is merely, as was put by Mr. Bankes in his very able speech before you, merely an attack on the advertisements of quack medicines and as a statement not of fraud meaning dishonesty but a statement that there was a fraud in the sense of statements calculated to deceive put forward in those advertisements. I think I do not unfairly state the argument which he puts before you. He says: It was not fraud in the plaintiff that we alleged, but fraud in the system—namely, advertisements which contained statements calculated to deceive; that is what we said: we did not say he was fraudulent, and we did not say anything against his character, but we said it was the advertisements which were bad; we said it was the system which was bad, and we did not say that he was; the word "fraud" was indeed used of him, but only in the sense which I have indicated, and the other words, such as "quack," rob, and "poison," were not used of him at all. Before I refer to the evidence let us test that for a moment. Supposing this had not been medicines at all, but supposing it had been provisions—a provision dealer. He is subject to the Adulteration Acts as the vendor of medicines is subject to the Pharmacy Acts. If he offends against the Adulteration Acts he may be prosecuted accordingly. Supposing you put in the newspaper of a provision dealer, "He is a fraud; he sells goods which poison the public; he has robbed the public." It is *no answer to say* that is a criticism on a matter of public interest and a fair criticism, because you attack his character. Is it not the same here? Which is it therefore; is this an attack upon him or upon a system? Now let us look and see for a moment, forgetting that it is medicine at all, "Quack advertisements"; no doubt I think it is fair to say that the gentleman who wrote this article had quack advertisements in his mind, I agree, for he heads it "Quack advertisements." "In the course of an inquest held at the beginning of the year it was stated that a labourer who had died from consumption had been using Dr. Tucker's asthma specific inhaler, for which he had given according to a newspaper report which has reached us, three guineas, while the material with which he had sprayed himself cost him 8*s.* an ounce. Dr. F. J. Waldo, the coroner, rightly stigmatised this kind of dealing as a fraud and it is a humiliating thing for journalists to remember that such frauds could not be committed with any profit to the quack save with the coöperation of the press." I do not think that I need read the next sentence at this moment but I shall have to read it afterwards. It goes on to say: "The remedy is in the hands of the public, who have only to signify their displeasure at reading in their journals invitations to be robbed and poisoned to find those invitations immediately

THE LANCET.

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The next question is this: Was it a fair criticism upon a matter of public interest? I shall ask you to answer that question as well because it is for you, and not for me, to answer it. Supposing it was not an attack upon the character of the plaintiff; still the defendant must show that it was a fair criticism. That is his defence. Will he be able to make it out? Will he be able to get under the general rule, having escaped the exception which I have been putting before you now as the one which prevents him raising the other defence? Was it a fair criticism upon a matter of public interest? It is in that way that the general question which we have been discussing in this case arises and it is in that way that it becomes material to find out what was the state of facts about the use of this specific and what can be said about it by the doctors. The doctors have established, I should think to your satisfaction, that in their opinion—mind you, it is in their opinion, and in their honest opinion—there is a risk in the use of this specific. It is not altogether established as a fact, because, on the other side, it is sworn that there is not. There are, however, as it is said, circumstances in which it has been found to be so among the patients of Dr. Francis, and possibly among the patients of one other medical gentleman who has been called; but that point does remain in doubt, because it is challenged on the other side by other medical men who say that in the quantities in which this cocaine could possibly be taken—in the utmost quantities—under the treatment suggested for the use of this specific it could not possibly injure anyone; but that is the position of affairs. Now I think it is necessary in order to see whether this is a fair criticism to make out some sort of summary of what the state of facts is on one side and the other before you come to a final conclusion as to whether or no the thing is justifiable as a fair criticism or not. Let us see what it is that is said about him from this point of view. It is necessary now to read the sentences which I previously omitted: "A correspondent has recently sent us a collection of advertisements of so-called proprietary medicines which he had cut from papers of high reputation in the country, inviting our opinion of them. Our opinion is that the misery wrought by quacks must be unknown to a good many proprietors of newspapers or they would hardly share with the quacks the plunder extracted from the public, mainly from the sick poor. The remedy is in the hands of the public, who have only to signify their displeasure at reading in their journals invitations to be robbed and poisoned to find those invitations immediately cease. But the public are largely uninstructed and credulous and, alas, those responsible for the conduct of many of our journals take no trouble to enlighten them. They prefer to regard all protests against quack advertisement as emanating from the narrowness of the medical profession; this is certainly a convenient faith, but how it can be truly held by educated people passes our comprehension." Now, gentlemen, I think I may safely say that in those words there is not one hint, not one suggestion, of the faintest possible character, that any good had ever been done by this medicine, and it is as though the curtain had been pulled down permanently before the eyes of the man who wrote this advertisement hiding from him the fact that there are 30 000 people who have been benefited by the use of it. There is not one word to suggest that any human being was ever the better for the use of it. He says: "You are robbed and poisoned; you are uninstructed; you are credulous; plunder has been extracted from you." It is all on the wrong side. That may be true to a certain extent. It has its foundation in the evidence given before you that there is a trace—a certain quantity—of three poisons in this specific; but, gentlemen, is it the fair thing to do to leave out the good side, and to put in only the bad? We have it before us—in fact, we have it in this pamphlet and we have it upon the general evidence in the case—that whilst some people are said to have been, and one person rather more than said to have been, the worse for the use of this drug in that he has contracted an undue liking for it which will cause him to have the cocaine habit, and whilst we have been told by the medical men that it is the result of using such a thing we have been told that there is an immense quantity of good which has been done by it. Where is that in this article? I should have thought that in criticising this matter from the public point of view you ought to say this: A man may invent a specific by his own learning, by his own experience it is true, yet by an accidental piece of good fortune which has not befallen other men as eminent as himself; it may be that it has got poison in it, we must be protected against that, and we must see that he is prosecuted under the Pharmacy Act; we must see that that is done to protect the public; but we must not shut our eyes to the fact that there are thousands of people in this country, who by the use of that specific have become able men, able to do their own work, to rise in the morning, and do their day's work, and to take their rest at night owing to the invention of this specific. Where is that in this article? There is not one word about it; and it is no answer to say that the writer did not know it because he ought to have done when he wrote that article. That is the way in which this question arises, which by no means is to be answered in favour of the defendant, merely because you do not think there is a personal attack upon the character of the plaintiff. Let us see. I have before me here a long list of witnesses who were called before you who spoke to the benefit which they had derived from this specific. I think it is true to say, as Mr. Bankes did, that they did not use it in great quantities so far as the evidence has proved before you. It may be true, but without one exception, they all of them spoke to the benefit which they had derived from this specific which they could get from no other. There are 15 of them—barristers, peers, solicitors, a commercial traveller, people from all ranks of life. Some of them have used it for five years, six years, seven years; some only for 15 months, and some for even a shorter period. But there it is, and not one has felt the slightest evil effect from it. The doctor who was called, whose name has been mentioned by Mr. Bankes in particular, Dr. Clark—I think, perhaps, it might be advisable to read what he said, but I do not care to do so, for I think if I did, I ought to read the evidence of many others. I do not think it is necessary that I should, but I believe I have fairly put before you what is the effect of their evidence. No I am not going quite to leave it there, but I am going to say that there are 143 testimonials in this book which is at your liberty to read, if you think proper, from people in England, Wales, Scotland, and Ireland. I am not going to read them. They are of all sorts and all kinds; but I thought that I would pick out one from each country and read them to you. I do not know whether any objection will be made on the part of the defendant to my doing so? if so, I will not do it.

Mr. ELDON BANKES: I do not think my learned friend would have used them in that way as evidence.

Mr. Justice RIDLEY: Then I will not use them.

Gentlemen, I think you are entitled to read them if you like, and I shall leave it there. Some of them are of the most touching character. I do not mind saying this much: I would rather have one of those testimonials put in the scale than I would have the adverse opinion of a doctor. If the question was, Have I been guilty of something wrong in disseminating this specific? one of those testimonials weighs that opinion down. There I leave it. This man is entitled to say that the good side of the business which he has been transacting has been left out; he is entitled to say that. It is for you to say whether you agree with him. That is the position.

Having regard to that being the case, what is said on the other side as a fact against it? It is true it is made out that this is a poison administered in it. It is true that it is made out that it ought to be under the Pharmacy Act. What else is said?—that it is administered as a fraud in this sense that people have to pay for it more than it is worth, and Mr. Bankes says: You are asking the poorer classes to pay no less than £3 for the atomiser and the first two ounces and 8s. for the subsequent ounce when they cannot afford it. I am not going to read

BULSTRODE has visited practically every sanatorium and hospital for tuberculosis or diseases of the chest in England and Wales; he has discussed and investigated various aspects of the prevention of tuberculosis with medical officers of health wherever special lines for attacking this problem have been developed; and he has obtained much detailed information as to the conditions associated with the prevalence of pulmonary tuberculosis in foreign countries. The bulky volume now issued presents a mass of important data derived from these sources, together with the results of Dr. BULSTRODE's own studies, and it furnishes an invaluable critical summary of the present state of our knowledge regarding the etiology of pulmonary tuberculosis and the different factors which appear to be concerned in the maintenance, diminution, and prevention of this disease.

We propose to devote some special articles to certain portions of the report, particularly those which deal in detail with sanatoriums, their construction, management, finance, records, and classification of results. Here we may note that Dr. BULSTRODE is satisfied from the evidence which he has collected as to the curative results which are so frequently secured by sanatorium treatment if only the case is seen at a sufficiently early stage, and also with regard to the decided amelioration which is often produced by the sanatorium *régime* in more advanced cases. Sanatorium statistics as to cases which are discharged as "improved," "cured," "fit for work," and the like are, however, notoriously uncertain and difficult of comparison, and it is to be hoped that the section of the report which relates to tabulation of results will do something to enable statistical information regarding these institutions as a whole to be compiled in future with some degree of confidence. In considering the effect which the treatment of cases of pulmonary tuberculosis in sanatoriums, municipal institutions, and Poor-law infirmaries may have in checking the prevalence of the disease the report speaks with considerable caution. It is true that by these means potentially infectious persons may for longer or shorter periods be isolated from the community and that many will there be educated in precautions against spreading infection when they return to their homes or to their work. But it must be admitted that administrative measures for the prevention of pulmonary tuberculosis during the past decade have sometimes been based rather too exclusively on the assumption that the one thing essential to the control or extinction of this disease is the safe disposal of visible sputa. It is useful to have placed before us, as in this report, other and not less important considerations. The death-rate from pulmonary tuberculosis has been declining at a fairly uniform rate throughout England and Wales for over 50 years. A similar decline, steeper or more gradual, has occurred in individual counties and towns and in particular foreign countries. Contrary perhaps to expectation, the rate of decline has not been materially accelerated either as a consequence of the new era of sanitary administration which began in the late "seventies," or as a result of the discovery of the tubercle bacillus in 1882, or after the general recognition in England of tuberculosis as an infective process. So far as is disclosed by the data available, it has not been conspicuously quickened in particular localities in consequence of special local methods for the repression of pulmonary tuberculosis which have only come into operation in recent years. The evidence that the tuberculous person with expectoration is a direct source of serious danger to his associates is far from complete; our experience as to the communication of pulmonary tuberculosis by husbands to wives or *vice versâ*, like our experience as to the spread of pulmonary tuberculosis among nurses and attendants in hospitals for consumption, tends to the contrary conclusion, though we rely on the figures before it was customary to enjoin any special precautions in regard to sputa.

Infection from person to person, whatever its effect may be, seems as likely to result from aerial transmission of virulent tubercle bacilli by invisible droplets produced by coughing or speaking as from dust containing comparatively inert bacilli derived from dried sputa. Direct infection of the lungs by way of the respiratory passages cannot be demonstrated to be the customary method of infection in pulmonary tuberculosis; it is probable that the infective bacilli often reach the lungs as a result of infectious matter having been swallowed and having reached the blood stream by way of the thoracic duct. In modern conditions of life many healthy people carry about cured tuberculous lesions, the result of a past lung infection which gave no clinical sign of its identity with pulmonary tuberculosis. The part played by bovine tubercle bacilli in the production of pulmonary tuberculosis has yet to be determined, but the evidence suggesting that this disease in adults may result from an infection of bovine origin in childhood cannot be overlooked. It is, of course, impossible to present the conclusions of a closely reasoned report in a few lines, but it seems clear that Dr. BULSTRODE, in discussing considerations such as the above, desires very properly to insist that from the point of view of modern preventive medicine the condition of the host in regard to the parasite must be considered at least as important as the repression of the parasite itself. If, setting aside speculative questions of change of type of the disease or development of racial immunity, some general phrase is sought to explain the steady diminution of the mortality from pulmonary tuberculosis in the last half century much may be said for the broad term, "improved social conditions." As acute poverty has decreased, food becomes cheaper, temperance more common, and the air of dwellings fresher; people have to an increasing extent approximated towards those conditions of living which recent sanatorium experience has shown to be most desirable in order that tuberculous infection may be conquered by the host at an early stage. Dr. BULSTRODE'S study of the behaviour of pulmonary tuberculosis in the German Empire and its relation to the improved social conditions of the German working class is in this and other respects one of the most instructive portions of the volume. In a different way, unhappily, the experience of Ireland appears to point to the same conclusion.

The chapters in the report which relate to the discussion of the results obtained from the local notification of pulmonary tuberculosis have special interest. The beneficial effect of notification in securing the earlier treatment or cure of individual cases and the diminution of

The FOREMAN of the JURY: May we take your paper with the questions on, my lord?

Mr. Justice RIDLEY: Yes; I will hand it to you. Here is the letter of Cushing asking for the stuff. I do not think I need hand you the letters.

The JURY: No.

(The jury retired to consider their verdict at 3.7 and returned into court at 3.39.)

The ASSOCIATE: Gentlemen, are you all agreed?

The FOREMAN of the JURY: Yes.

The ASSOCIATE: Do you find for the plaintiff or for the defendants?

The FOREMAN: For the plaintiff.

The ASSOCIATE: For what amount?

The FOREMAN: £1000.

Mr. Justice RIDLEY: Did you answer the particular questions put to you?

The FOREMAN: Yes, my lord.

Mr. Justice RIDLEY: Will you give me the answers to them?

The FOREMAN: "Yes" to the first; "No" to the second.

Mr. Justice RIDLEY: The second question you answer with a negative?

The FOREMAN: Yes, my lord.

Mr. Justice RIDLEY: It is not a fair criticism, you say. (The answers were handed to his lordship.)

Mr. SMITH: On that I ask your lordship for judgment. I think it was my special jury. Your lordship will certify for a special jury?

Mr. Justice RIDLEY: Yes. (To the jury:) I can discharge you, gentlemen. The parties came to an agreement which will be satisfactory to you, I hope.

Mr. HUGH FRASER: I ask your lordship for a stay of execution having regard to the fact that there are important questions of law to be dealt with in the case.

Mr. Justice RIDLEY: The jury have thought that it is not a fair criticism.

Mr. HUGH FRASER: As I understand, the jury have found Yes to the first question and No to the second.

Mr. Justice RIDLEY: Yes, that is so; they have found that it was an attack on the character of the plaintiff and that it was not a fair criticism on a matter of public interest. That means to say in any case you had not criticised fairly.

Mr. HUGH FRASER: Of course, your lordship appreciates the point taken by my learned leader?

Mr. Justice RIDLEY: Yes, perfectly. I think if that had been the only point I should have been more inclined to agree, but they found that even assuming you are right you have not criticised it fairly.

Mr. HUGH FRASER: Put shortly, our point was this, that in an attack on a system you may necessarily attack the individual conducting the system, and if that view of the law is correct, with respect to your lordship the direction given to the jury would be wrong.

Mr. Justice RIDLEY: I know it would, but then the second question puts the matter out of all difficulty, does it not? What do you say, Mr. Smith?

Mr. SMITH: I do not desire to make any particular objection to my friend having a stay of execution.

Mr. Justice RIDLEY: I will stay execution if you can make anything of it.

Mr. SMITH: On the usual terms.

Mr. HUGH FRASER: Yes, on the usual terms.

Mr. Justice RIDLEY: I indicate no opinion beyond what I have said, but I think I summed it up fully. I will grant the stay.

Mr. SMITH: That, of course, will be on the usual terms?

Mr. Justice RIDLEY: What are they?

Mr. SMITH: The money, I imagine, will be paid into court and the costs will be paid on the usual undertaking.

Mr. HUGH FRASER: Does my friend want the money in court having regard to the position of the defendants?

Mr. SMITH: No, the money need not be in court, but I think the costs should be paid on the solicitors' undertaking.

Mr. Justice RIDLEY: Yes, certainly.

Mr. SMITH: There is one thing I should mention to your lordship. Your lordship knows that some evidence was taken on commission. I do not want to trouble your lordship with the matter. I think my learned friend agrees that possibly that might be left to the Master. It is a question of the additional costs occasioned by the commission.

Mr. Justice RIDLEY: Was there any order made about it?

Mr. SMITH: The order made by your lordship was, I think, on an application by my learned leader that the case should not be taken before the conclusion of last sittings, and by my learned friend Mr. Duke, who led me, as a condition asked that Lord Ashburnham, who was not in a very robust state of health, should be allowed to have his evidence taken on commission if necessary. What happened next was that we got a letter from Lord Ashburnham saying that although he hoped to be here and would be here if he could, his health was not very strong, and he thought it would be safer, as he was developing a chill, that we should take his evidence on commission, and under those circumstances we thought we should not be well-advised in running the risk; so we applied for his evidence. Your lordship sees that his evidence was valuable and he was ultimately able to come. I think that is the only question which arises.

Mr. HUGH FRASER: Lord Ashburnham's evidence was taken on a Saturday on commission, the case was in the list on Monday, and actually started last Wednesday.

Mr. Justice RIDLEY: I will leave it to the Master, I think. The stay will be on the usual terms. How many days do you wish to have—eight days?

Mr. SMITH: Ten days, my lord.

Mr. Justice RIDLEY: It must be eight days.

Mr. SMITH: Very well, my lord.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Jan. 30th, 1830.

THE FIRE KING.

To the Editor of THE LANCET.

SIR,—I am ready to drink oil heated to 350 degrees, and to administer my antidotes to various poisons given to animals. You say that my feats respecting the oven, and oil, are unworthy the fire king.[1] Now, Sir, if *you* or any of your friends will enter, and *remain* in the oven with me at 600, I will then go in at 800 *degrees*, and if anyone will drink oil at 350 degrees I will then drink it at 600 degrees.

You may bring two dogs, and yourself administer the prussic acid. Should one dog die, and the other (taking my antidote) live, I hope you will then allow that I am *not* an impostor. Both the dogs must be left with me three days after the experiment. Your obedient Servant,

Thursday, Jan. 28th. XAVIER CHABERT.

MONSIEUR CHABERT must recollect that the Editor does not profess to be a Fire King, or a Fire King's *subject*, and feels no inclination, therefore, to *remain* in an oven at 350°. Nevertheless, he is deeply interested in the subject of poisons and their antidotes, and therefore begs of M. Chabert to name an early day on which he may attend with the two dogs, and a few gentle doses of prussic acid. M. Chabert has forgotten to state whether he will drink a tumbler or two of boiling water.

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[1] Vide "Looking Back" in THE LANCET of Jan. 18th, 1908, p. 178.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of the Medical Sickness and Accident Society was held at 6, Catherine-street, London, W.C., on Jan. 17th. There were present Dr. F. de Havilland Hall (in the chair), Mr. J. Brindley James, Dr. Walter Smith, Dr. M. G. Biggs, Dr. H. A. Sansom, Dr. J. W. Hunt, Dr. M. Greenwood, Mr. F. S. Edwards, Dr. St. Clair B. Shadwell, Dr. F. J. Allan, Mr. Edward Bartlett, Mr. J. F. Colyer, and Dr. J. B. Ball. The accounts presented showed that the sickness experience of the society during the month of December had been exceptionally good. The claims were rather less numerous than is usual at that period of the year, and as they were in nearly all cases of very short duration the amount disbursed as sick pay was well under the expectation. The business during the year 1907 has been very good, an unusually large number of new members have joined the society, and a substantial increase in the funds has been made. Prospectuses and all information may be obtained on application to Mr. F. Addiscott, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

rendered practically non-combustible by the use of some application for all trains and tracks is imperative and the public have a right to expect that every possible means of protection against the awful risks of fire are taken.

DEATH OF SIR THOMAS McCALL ANDERSON.

THE death took place with startling suddenness on Saturday night, Jan. 25th, of Sir Thomas McCall Anderson, professor of medicine in the University of Glasgow. He had been dining with the Glasgow Ayrshire Society in the St. Enoch Hotel and had even proposed the last toast of the evening. When the company broke up he was in the act of descending the stair from the dining-room when he was seen to stumble and within a few minutes he was dead. We shall in a later issue of THE LANCET give an appreciation of the work of this great Scottish physician.

THE PERCUSSION SIGNS OF EARLY APICAL TUBERCULOSIS OF THE LUNGS.

WE have received from Dr. Guido Rheiner of St. Gall, Switzerland, an interesting communication in which he points out the importance of careful study of the physical signs at the apices of the lungs in cases of doubtful pulmonary diseases, especially from the standpoint of the examiner for life insurance companies. He quotes the interesting observation of Naegely of Zürich, who found in the course of 500 necropsies on persons over the age of 18 years the enormous percentage of 97 who showed indications of previous tuberculous affection, and he emphasises the danger of these occult lesions in many persons. He refers to the statistics of a German life assurance company from 1857 to 1894 in which it appears that out of 20,124,165 policy-holders 17·28 per 1000 males and 15·76 per 1000 females died in the course of the first year, of which 3·51 and 3·58 per 1000 respectively were due to tuberculous disease of the lungs. As shown by Virchow the earliest deposit in the lungs usually occurs in the form of miliary tubercles in the mucous membrane of the smallest bronchi, and it is not until later that inflammatory processes around lead to areas of consolidation. Although these may early give rise to a few auscultatory signs Sahli of Berne stated that these isolated consolidated spots even when superficial must be at least some square centimetres in size in order to give rise to distinct dulness. Dr. Rheiner insists on the great importance of careful percussion about the apex, and especially by means of a method described by Krönig of Berlin in 1889. It is well known that if the head be held up the extreme apex of the lung reaches from three to five centimetres above the clavicle, forming practically a small cone. Percussion of this region in the ordinary way simply maps out the vertical extent of this cone but gives no information as to its breadth or as to its circumference, both of which may be lessened by cicatrisation. In order to determine these the examiner should stand beside the patient and percuss in various directions, mapping out the resonant area from the dulness due to the shoulder and surrounding parts. The line so obtained is normally found to extend from the inner part of the clavicle, mounting gradually towards the anterior margin of the trapezius muscle until it reaches the summit of the shoulder, from which it curves downwards to reach the vertebral column at a point between the second and third dorsal vertebræ. In mapping out this line it is recommended to commence percussion on a dull area and percuss towards the resonant regions, using the third phalanx of the right middle finger as a pleximeter and tapping firmly on the nail with the left middle finger. The line is found to cross the clavicle and extend backwards to the end of the inner third of the spine of the scapula, the accurate determination of its situation being more difficult in this region than in front. The extent of this resonant area and the situation of this boundary line delimiting it are in normal persons identical on the two sides and they are capable of accurate determination, since if careful observers compare their results there is not as a rule a difference of more than half a centimetre. Dr. Rheiner finds that this area is contracted and the boundary line displaced when there is old tuberculous disease. It is increased in emphysema, while in early tuberculous disease although its extent is unchanged the note obtained in this region is altered. Although these observations do not afford conclusive evidence they may often lead to an early lesion being discovered and its nature being established by other means of diagnosis. The point urged by Dr. Rheiner of the importance of using every means to render diagnosis of tuberculous apical lesions more certain in as early a stage as possible is one to bear in mind not only from the standpoint of the life insurance companies but also from that of the patient, since it is well established that the earlier the disease is recognised the more effective treatment is likely to be in leading to a permanent arrest. There is no doubt that percussion of the apices of the lungs is a matter of considerable difficulty and that it is often very incompletely carried out, so that valuable information which might be acquired by its aid is overlooked. Unfortunately, also, the personal equation in percussion is difficult to eliminate. Dr. Rheiner's championship of Krönig's method, however, should serve to draw attention to its value.

A GREEK MEDICAL AUTHOR OF THE SECOND CENTURY.

THE Berlin Academy will shortly commence the publication of a new complete edition of all known Greek medical works, produced with as much scholarly care and collation of all known manuscripts as have hitherto been devoted to the remains of historical and literary classic authors. In preparation for this great corpus of Hellenic medicine the German editors who are taking part in the task occasionally print short preliminary notes upon the subject. Thus in the philological journal *Hermes* Herr Wellmann has presented a most interesting summary of the work of the second century A.D. physician Herodotus, who is praised by Galen. The object of Herr Wellmann's essay is to assign to this Herodotus the admirable, but hitherto anonymous, medical treatise *Διάγνωσις περὶ τῶν ὀξέων*, which is contained in two manuscripts preserved in Paris, one of which was brought from the Greek Monastery on Mount Athos by Minoides Mynas. Many passages of this work are identical with parts of the collection of medical authors made by Oribasius at the request of the Emperor Julian. Herr Wellmann shows that the quotations from Herodotus are so cited as to indicate that he came between Soranus and Philumenus, and therefore that he lived in the second century, to the early part of which, as Galen quotes him, he must be assigned. Finally, by the identity of style and language between the treatise in the Paris codices and the extant quotations of Herodotus Herr Wellmann proves Herodotus to be the author of the work.

THE FIRST OPERATION FOR APPENDICITIS.

THE question is often asked "When was the first operation for appendicitis performed?" We have been asked it this week almost exactly in these words. The answer must depend greatly on what is meant by operations for appendicitis. If we may include among such operations the evacuation of an abscess resulting from an attack of appendicitis we must go back a very long way indeed. Doubtless many such abscesses were opened ages before any record of such operations was made. Aretæus, who flourished some 50 years before the commencement of the Christian era, says: "I once made an incision into an abscess in the with the question of the importation of frozen boneless meat packed in boxes which reaches this country from America. Mere inspection of this particular form of meat can afford no safeguard and the only satisfactory plan of dealing with it would appear to be to exclude it entirely from the country. This view is shared by Dr. G. S. BUCHANAN in a valuable report recently submitted to the Local Government Board. As he points out, the matter is one with which the enactment of the Public Health (Regulations as to Food) Act, 1907, will enable the Local Government Board to deal. At the present time the traffic in this commodity is small and to prohibit its importation would cause little interference with trade. Boneless scrap meat regarded as a portion of our imported meat-supply is, he says, practically a negligible quantity and as yet it is only a small portion of the imported meat which finds its way to makers of sausages, minced meat, and like articles. If it is urged that this scrap meat is after all for the most part wholesome, the obvious answer is that in that case it is free to come in other forms—for example, as joints or portions of meat readily identifiable with definite parts of the dressed carcass—which are less open to suspicion. In the case of foreign scrap meat no inspection in this country can suffice to detect disease in the animals from which the meat was derived and no information can be gained as to the unwholesome conditions under which handling, chemical treatment, packing, and the like may have been carried on in the country of origin. As it is, the frozen meat packed in boxes has been found to show signs of decomposition at an early stage after it has been thawed and it is undesirable that such meat should be accessible to the sausage or mincemeat maker.

Similar difficulties arise in regard to the inspection of imported pork, the proper place for judging the condition of pigs being the slaughter-house in which the carcass can be inspected together with its various organs. The administrative difficulty which is encountered in regard to imported pork results mainly from (*a*) importation of pork in *portions* of carcass—for example, the American pork alluded to; and (*b*) importation of "*stripped*" *carcasses*—i.e., pigs from which the head has been removed low on the shoulders so as to take with it the lymphatic glands which are commonly the seat of tuberculosis, or of carcasses which though having the head attached have been deprived of the lymphatic glands, these having been cut away no doubt in order that no question of condemnation on account of tuberculosis may arise. Again, the powers conferred upon the Board by the Public Health (Regulations as to Food) Act, 1907, would permit of useful interim measures being taken in regard to checking this undesirable importation. It is suggested that pork imported as carcasses should be required to consist of entire carcasses including the head and lymphatic glands about the throat, and that pork imported in portions less than the entire carcass should be inclosed in boxes, barrels, bags, or other receptacles bearing an official mark which has been accepted by the Board. The officers of the Board, of course, would be able to satisfy themselves as to the authenticity and genuineness of this official mark.

Finally, in this recent report the question of the importation of tripe, tongues, and kidneys heavily preserved with antiseptics has been dealt with. Having regard to the fact that tripe forms a considerable item in the food of the working classes, something over 10,000 tons from all sources being consumed in a year in the United Kingdom, the question of its wholesomeness is of considerable importance. The conditions of its manufacture and preparation for food purposes in this country appear on the whole to be generally wholesome and cleanly. It is quite a different state of things, however, in regard to tripe which is imported already boiled into this country. In order to prepare such a readily decomposable commodity as cooked tripe for the British market it is packed in kegs containing strong solutions of boron preservative and this treatment results in the tripe absorbing and retaining considerable amounts of boric acid. The quantity found was seldom less than 60 grains per pound and sometimes it was over 150 grains per pound. As is pointed out, a quarter of a pound of this tripe—which may be considered a moderate meal—must often contain more than the maximum dose of boric acid prescribed for an adult by the British Pharmacopœia. The uncooked "barrel tripe" which is imported into this country chiefly from America is also preserved in strong solutions of boric acid, while some tripe imported from Canada contained sulphurous acid in addition. The observations made in regard to foreign preserved tripe appear to apply with equal force to imported tongues and kidneys which are preserved in a similar antiseptic liquor. The Public Health (Regulations as to Food) Act, 1907, may again be turned upon this kind of importation with doubtless distinct advantages to the health of the community. This important inquiry, for the thoroughness of which Dr. BUCHANAN deserves a word of praise, illustrates what a valuable step in public health administration was taken when this much-needed extension of the Public Health Act was made at the instigation of Mr. JOHN BURNS. The questions raised are obviously of the first importance from the point of view of public health and that being the case any political or economic considerations which may be involved in the reforms indicated cannot seriously be entertained.

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Sanatoriums and Tuberculosis: Dr. Bulstrode's Report to the Local Government Board.

IN a leading article last week we referred to the comprehensive inquiries into epidemiological questions which from time to time have been made, under Mr. W. H. POWER's direction, by medical inspectors of the Local Government Board and to the great public utility of work of this kind. A notable example has been furnished by the issue from that department of a volume on "Sanatoria for Consumption and Certain other Aspects of the Tuberculosis Question." Its author, Dr. H. TIMBRELL BULSTRODE, has been engaged for five years in official inquiries into this subject and his initial qualifications for dealing with it may be judged from his well-known series of Milroy lectures which were published in our columns in 1903. Dr.

that male tsetse flies are far more commonly captured than females and believes that this fact may account for the failure of observers to trace the sporogony of the trypanosomes of mammals. It has been shown by Léger and Brumpt that the trypanosomes of fishes undergo a true sporogony within the body of leeches. Although Dr. Sambon cannot be said to have brought forward direct evidence establishing his contention, yet there would appear to be presumptive evidence that some further development of the trypanosome does occur in the insect, and this indicates the necessity for more extended observation upon the life-history of these parasites outside their vertebrate hosts. The matter is one of practical importance, for Dr. Sambon states that the transmission of both nagana and sleeping *sickness may take* place through the progeny of infected female tsetse flies—in other words, that the infection may be transmitted in these flies hereditarily. The importance of destroying the tsetse flies is emphasised by the success which attended the destruction of mosquitoes in malaria-infected districts, and Dr. Sambon believes that when all the life habits of tsetse flies are known it should be easier to destroy them than mosquitoes. His report is a suggestive contribution to the important subject of which it treats.

CHELSEA AND THE NOTIFICATION OF BIRTHS ACT, 1907.

DURING the session of 1907 an Act was passed known as the Notification of Births Act. The chief provision of the Act is devoted to making it compulsory for the father of any child, if he be residing actually in the house at the time of the birth, to give written notice of such birth within 36 hours to the medical officer of health of the district. Also, any person in attendance upon the mother at the time of the birth or within six hours after the birth has to give notice as well. Penalties are provided by the Act for omitting notification. But a person shall not be liable to a penalty if he satisfies the court that he had reasonable grounds to believe that notice had been duly given by some other person. During the passage of the Bill through the House of Commons it was pointed out that the Bill threw a new duty upon medical men and that not only would they get no fee but they would be liable to a penalty for omitting to comply with the provisions of the Bill. An understanding was come to between Lord R. Cecil, Sir J. B. Tuke, Sir Henry Craik, and Mr. G. J. Cooper, M.R.C.S., on the one hand, and the President of the Local Government Board on the other, that the medical man should be exempted from the compulsory clauses. On this understanding the opposing motions of which Sir J. B. Tuke and Mr. Cooper had given notice were withdrawn. Eventually, however, the Bill passed, apparently because Mr. Cooper expressed his willingness that it should.[1] This preamble is necessary for the understanding of a debate which was held at the meeting of the Chelsea Borough Council on Jan. 22nd as to the question of adoption of the Act. The public health committee reported that it was not satisfied that the Act would prove workable and recommended that the motion to adopt the Act should not be carried. After various speeches, notably one from Dr. L. Parkes, who pointed out that the medical profession was strongly against the provisions of the Act as it stands, the recommendation of the public health committee was carried. We have upon a previous occasion said that we consider the principle of notification to be good and of value to the body politic. But we strongly object to a duty being laid upon medical men to notify, not merely because no fee is provided, for the members of the medical profession are quite accustomed to that treatment from the State, but because a penalty is laid upon them if they do not carry out the provisions of the Act. If one important borough considers that the Act will be unworkable others may do so too, although many have already adopted it. It must be remembered that Clause 3 gives power to the Local Government Board to declare the Act in force in any area in which it might have been adopted, although the local authority has not adopted it.

THE BRITISH SHIP SURGEONS' ASSOCIATION.

ON Monday evening last, Jan. 27th, a meeting of past and present ship surgeons was held at the Medical Graduates' College and Polyclinic, Gower-street, London, for the purpose of discussing the unsatisfactory status and conditions of employment of ship-surgeons and considering the best means of effecting the necessary reform. Mr. G. Metcalfe Sharpe of Middlesmoor, Leeds, was in the chair and it was unanimously decided to form a British Ship Surgeons' Association. A provisional committee, comprising Mr. Sharpe and Mr. H. W. Bayly of 25, New Cavendish-street, London, W., with Mr. J. Arthur Batley, solicitor, of East Parade, Leeds, was appointed to take the necessary preliminary steps. Communications on the subject may be addressed to any of the gentlemen named.

PROFESSOR MARAGLIANO'S ANTI-TUBERCULOUS SERUM.

WE have received a communication from Messrs. Oppenheimer, Son, and Co., Limited, 179, Queen Victoria-street, London, E.C., stating that they have been appointed agents for the "Istituto per lo Studio e la Cura della Tubercolosi e di altre Malattie Infettive" in Genoa. This firm also informs us that the Istituto would be willing to forward a supply of Professor Maragliano's anti-tuberculous serum to any institution especially arranged for the treatment of tuberculosis free of charge so as to enable the medical staff "to confirm the results already obtained." Professor Maragliano's views have for a considerable period been before the profession. In regard to the effect of the anti-tuberculous serum on pulmonary tuberculosis he maintains that complete and permanent arrest can be obtained in cases in which the first and second barriers of organic defence are still intact—that is, in cases in which the pulmonary tissues prevent the extension of the disease from the foci in which it first develops or in those cases in which the lesion is well localised in the lungs and in which toxæmic phenomena have not developed. On the other hand, such successful results cannot be obtained when "inflammatory centres" have been produced. Even in those cases, however, a beneficial influence may be exerted if there is an absence of those local physical phenomena which characterised these lesions. A trial of Professor Maragliano's serum has been made in the Henry Phipps Institute in Philadelphia. Dr. M. P. Ravenel had studied in Professor Maragliano's laboratory for the purpose of learning the methods there adopted, so that he was in a position to make the serum strictly in accordance with the rules and practices of Professor Maragliano himself. The work which was accomplished at the institute with this serum was not encouraging. The conclusion must not be arrived at, however, that it has no value in the treatment of tuberculosis. In the third annual report of the institute it is stated that all that can be said is that it is of no practical value according to the method of using it in that institution. Certain facts, suggestive of good, appeared and indicated better ways of employing the serum. It has been determined that the workers at the institute will continue with the trial of the remedy. We publish the above announcement so that those observers who wish to the prevalence of the disease which may perhaps be looked for as a result of notification, are matters which necessarily depend on the character of the local organisations available. A scheme of voluntary notification has been provided in some towns but in practice, for various reasons, no use is made of it. In other towns, however, such as Manchester, notifications under a voluntary scheme are numerous and this has been markedly the case where very careful and tactful use has been made of the information supplied, where the patient is in no way harassed in a social sense, and where (as in Brighton) something is done as a result of the notification which the patient at once recognises to be to his own interest and advantage. Compulsory notification, under special clauses of local Acts, is operative in only two English towns—Sheffield since 1903 and Bolton since 1902. Dr. BULSTRODE considers that more time and experience are necessary before conclusions can be drawn as to any advantages which compulsory notification may have in affording means by which the prevalence of pulmonary tuberculosis may be reduced. His advice on this as on several other matters may be said to be based on the text, "He that believeth shall not make haste." There will perhaps be critics of his report who consider his pace too slow but all will join in welcoming the substantial contribution to the foundations of belief in regard to the prevention of tuberculosis which this volume affords.

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[1] THE LANCET, Sept. 7th, 1907, p. 742–743.

Annotations.

"Ne quid nimis."

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE Board of Education, in response, we understand, to requests from local educational authorities, has issued a circular to those bodies containing a schedule for the guidance of medical officers inspecting school children under the new Act; at the same time the Board acknowledges the expediency of leaving considerable latitude in its administration in different cases or circumstances. We are not printing in this issue of THE LANCET the 24 clauses of the schedule and shall withhold any detailed comment upon them until we lay them before our readers. The schedule is framed, as the Board points out, more with a view to administrative than to educational or scientific expediency, many points of anthropometrical and *statistical* interest being purposely omitted, so that it does not profess to be a guide to a full clinical examination of the child. The aim of the Board is to hasten slowly towards a desirable end and not to arouse the prejudices of ignorant parents or to throw too much strain on the coöperation of the educational and public health authorities, which for the first time are working officially together in the public service. It is hoped that by the proper use of this schedule few cases of serious physical defect will escape detection and we think this may be so. The schedule certainly covers the necessary ground but we are inclined to doubt whether the Board is not too sanguine in considering that each child can be examined in accordance with it "in the space of a few minutes." A specimen card accompanies the circular, on the back of which is printed the schedule, as in the circular, with blank spaces to record the results of the examination of a child. On the front of this card the following is printed:—

SCHEDULE OF MEDICAL INSPECTION.

I.—Name ....
Surname first.
Date of Birth ....
Address..
School ....

II.—Personal History:
(*a*) Previous Illnesses of Child (before admission).

Measles....................................	Scarlet Fever....................................
Whooping Cough....................	Diphtheria....................................
Chickenpox....................................	Other Illnesses....................................

(*b*) Family Medical History (if exceptional).

A third of this side of the card is reserved for general observations and directions to parent or teacher. These cards will not be supplied in bulk by the Board but are intended as a model for local authorities which are recommended to obtain similar cards for the systematic record of the physical condition of the children under their charge.

"TUBE FEARS."

THERE can be little doubt that the minds, at all events of some of the public, are uneasy about the safety of travelling on the underground electric trains, but more particularly the "tube" railways. There are not a few people who confess to a nervous feeling when travelling on the "tubes," while others avoid this expeditious method of travelling altogether because they have terrible pictures in their minds of possible disasters in circumstances which admit of no escape. Already some unpleasant incidents have occurred which fortunately have been free from very serious issues; but they have served to indicate to what a terrible position travellers on the underground electric railways may be exposed. According to a Board of Trade inquiry into an outbreak of fire which happened on a train on the Metropolitan District Railway the main danger in cases of fire arises from panic but it is difficult to see how panic in such trying circumstances can be averted. In the case of the Metropolitan and District Railways the chances of escaping from danger are more favourable than they are on "tube" railways, but fires have occurred in the "tubes" also. Imagine a train in the "tube" packed with "strap-hangers," in addition to seat-holders, stopping in a tunnel into which the carriages fit almost with the nicety of a plunger in a syringe, and that owing to a short circuit dense volumes of smoke from the destructive distillation of inflammable materials such as wood and bituminous substances make their appearance to render the atmosphere unbreathable. What adequate means of escape is there having regard to the fact that there are only exits at the ends of the long carriages? Assuming again that these exits are successfully negotiated by hundreds of people, how much better off are they when they have gained a tunnel containing a live rail? We cannot help thinking that the "tube" railway companies should be able absolutely to satisfy the public on these points. If, as the Board of Trade states, the chief danger is that of a panic arising from fire, surely something ought to be done to render an outbreak of fire practically impossible. More than five years ago in these columns we directed attention to the risks of fire on the tube railways and ventured to make a few practical suggestions calculated to minimise the chances, at all events, of an extensive fire occurring. It seems to us that the general use of non-combustible material or material the two preceding weeks; of these, 154 resulted from whooping-cough, 99 from measles, 57 from diphtheria, 39 from scarlet fever, 38 from diarrhœa, 22 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·3 per 1000, the rate from the same diseases in London being only 1·1. No death from any of these epidemic diseases was registered last week in Brighton, Walthamstow, Stockport, Hornsey, or in five other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 2·8 in Ipswich and in Gateshead, 3·0 in Willesden, 3·1 in Salford, and 3·7 in Aston Manor. The fatal cases of whooping-cough in the 76 towns, which had been 92, 127, and 164 in the three preceding weeks, declined last week to 154; the highest annual rates from this disease last week were 1·5 in Handsworth, 1·7 in Newcastle-on-Tyne, 2·2 in Warrington, and 3·7 in Aston Manor. The 99 deaths from measles showed a further decline from the numbers in the two previous weeks; this disease, however, caused a death-rate of 1·3 in Preston and Southampton, 1·4 in Ipswich, 1·7 in Salford, and 2·6 in Willesden. The fatal cases of diphtheria also showed a further decline from recent weekly numbers, but included 22 in London, six in Manchester and Salford, two in South Shields, and three in Gateshead, the latter being equal to an annual rate of 1·2 per 1000. The 38 deaths attributed to diarrhœa showed a marked decline, as did the 39 fatal cases of scarlet fever, which included 19 in London, four in Liverpool, three in Manchester and Salford, and two in West Ham. The 22 deaths referred to "fever" also showed a decline, including four in London and three in Manchester. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the seven preceding weeks from 5581 to 4325, had further fallen to 4044 on Jan. 25th, and during the week ending on that day 380 new cases were admitted to those hospitals, against 469 in each of the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 333, 460, and 498 in the three preceding weeks, declined again last week to 455, but exceeded by 36 the corrected average number in the corresponding week of the five years 1903–07. The causes of 59, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, and in 48 of the other smaller towns; and the causes of all but one of the 1651 deaths in London were duly certified. No fewer than 13 of the causes of death in Liverpool were, however, uncertified, and 10 uncertified deaths were registered in Birmingham, five in Sheffield, four in Sunderland, and three in Bootle and in St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 24·3 per 1000 in each of the two preceding weeks declined to 22·2 in the week ending Jan. 25th, but exceeded by 3·7 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 17·7 and 17·9 in Edinburgh and Aberdeen, to 25·4 in Glasgow and 26·7 in Perth. The 782 deaths in these eight towns showed a decline of 75 from the number in the previous week, and included 142 which were referred to the principal epidemic diseases, against numbers increasing from 109 to 158 in the four preceding weeks; of these, 81 resulted from measles, 25 from whooping-cough, 16 from diarrhœa, nine from "fever," eight from diphtheria, three from scarlet fever, but not one from small-pox. These 142 deaths were equal to an annual rate of 4·0 per 1000, which exceeded by no less than 2·7 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 53, 65, 84, and 92 in the four preceding weeks, declined again to 81 in the week under notice, of which 70 occurred in Glasgow, four in Paisley and in Greenock, and three in Aberdeen. The 25 deaths from whooping-cough also showed a decline from the number in the previous week; seven were, however, returned both in Glasgow and in Leith, four in Perth, and two in Edinburgh and in Aberdeen. Of the 16 deaths attributed to diarrhœa, 11 occurred in Glasgow and two in Edinburgh and in Leith. The nine deaths referred to "fever" included six in Glasgow, two in Edinburgh, and one in Dundee; one of the six fatal cases in Glasgow and those returned in Edinburgh and Dundee were certified as cerebro-spinal meningitis, the remaining five fatal cases in Glasgow being due to enteric fever. Four of the eight deaths from diphtheria and two of the three from scarlet fever were returned in Glasgow. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 205 and 199 in the two preceding weeks, further declined to 178 in the week under notice, but exceeded by 42 the number from the same diseases in the corresponding week of last year. The causes of 22, or 2·8 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 25·5, 26·0, and 31·2 per 1000 in the three preceding weeks, declined again to 29·5 in the week ending Jan. 25th. During the first four weeks of the current quarter the death-rate in the city has averaged 28·1 per 1000; the rate during the same period did not exceed 18·2 in London and 18·1 in Edinburgh. The 223 deaths of Dublin residents registered last week showed a decline of 13 from the high number in the previous week, and included nine which were referred to the principal epidemic diseases, against but four and three in the two preceding weeks; these nine deaths included five from whooping-cough, two from "fever," one from measles, one from diarrhœa, but not one either from scarlet fever, diphtheria, or small-pox. These nine deaths from epidemic diseases were equal to an annual rate of 1·2 per 1000, the death-rate from the same diseases last week being 1·1 in London and 0·9 in Edinburgh. The fatal cases of whooping-cough in Dublin showed an increase upon recent weekly numbers. The 223 deaths in the city last week from all causes included 29 of infants under one year of age and 73 of persons aged upwards of 60 years; the deaths of elderly persons were again exceptionally high. Two inquest cases and two deaths from violence were registered, and 88, or 39·5 per cent., of the deaths occurred in public institutions. The causes of five, or 2·2 per cent., of the deaths in the city last week were not certified; in London all but one of the 1651 deaths were duly certified, while in Edinburgh the causes of 3·4 per cent. of the deaths were uncertified.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF PULMONARY TUBERCULOSIS BY GRADUATED LABOUR.

To the Editor of THE LANCET.

SIR,—To one who has devoted much time during the past few years to elaborating methods and teaching the value of graduated work as a therapeutic agent in pulmonary tuberculosis, it is gratifying to learn from Dr. M. S. Paterson's paper in THE LANCET of Jan. 25th, p. 216, that the principle of graduated labour has been adopted, and thanks to his zeal and energy put into effective practice in the sanatorium recently opened in connexion with Brompton Hospital. He is to be congratulated on the efficiency of the simple scheme he has proposed. It is, of course, not necessary, or even desirable, to insist on the particular gradations of carrying, spade-work, and pick-axe. There is great variety possible in the practical application of the principle.

While offering my congratulations to Dr. Paterson on so excellent an illustration of the great principle, I find it less easy to follow him when he speaks of it as a novel idea and cites once more *a priori* objections which from time to time have been urged against it and as often answered. I had supposed that the significance of graduated work in the treatment of pulmonary tuberculosis was now freely admitted by those who had looked into the matter. The principle was colon on the right side near the liver and much pus gushed out." This *may* have been an appendix abscess but he goes on to say that much pus also was evacuated with the urine, so we cannot be sure that it was not a pyonephrosis. Here and there through the following centuries we find cases recorded which are fairly certainly examples of incision of an appendix abscess but it was not till 1759 that we meet with an operation for abscess which was definitely shown to be due to disease of the vermiform appendix; in that year Mestivier incised an abscess on the right side of the abdomen near the umbilicus and much pus was evacuated. The wound healed but the patient died before long and at the necropsy a pin was found in the appendix with many signs of inflammation. Seven years later Lamotte described a large fæcal concretion in the appendix but the discovery was only made post mortem. In 1848 Hancock reported the opening of an abscess immediately above Poupart's ligament on the right side and later two fæcal concretions came away. The incision was made early, even before fluctuation could be detected. In 1867 Parker published four similar cases and from that time the opening of abscesses in the right iliac fossa became less rare. The earliest suggestion to remove the appendix appears to have been made by Fenwick in 1884 and this operation was performed by Krönlein in the same year. He opened the abdomen of a boy aged 17 years who had general peritonitis and ligatured and removed the perforated appendix. Some temporary improvement followed but death occurred three days after the operation. Symonds in 1885 removed a concretion from an appendix without opening the peritoneal cavity. The first successful operation for the removal of the appendix was performed by Morton in 1887 and from that time the operation has become common. We have then answered the question, "When was the first operation for appendicitis performed?" by showing that appendix abscesses have been *opened many* centuries ago; that Hancock in 1848 incised an appendix abscess before fluctuation could be felt; that Krönlein in 1884 removed a perforated appendix but the patient died; and that Morton in 1887 had the first successful case of appendicectomy.

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the metropolitan water-supply for last October shows that the rainfall in that month was 2·70 inches above the average mean rainfall of 24 Octobers. It will be remembered that September was an exceptionally dry month and in consequence the October rains were not able to bring the daily natural flow of the Thames up to its 24 years' average, but they caused the usual turbidity of the water and from the 17th to the 24th it was more or less coloured in consequence. On the remaining days it was clear and in good condition. The filtered water from the various works contained less organic matter than in any preceding month last year except that from the West Middlesex works which contained the same quantity as in September. The Lea water is reported as of very good quality throughout the month, and the Kentish chalk wells were as satisfactory as usual. All the samples of water collected from public taps and examined were free from any appreciable quantity of suspended matter. By the colour *test* the Lambeth water, as usual, showed the deepest average tint of brown, but *per contra* it contained the lowest average of microbes—viz., 3·8 per cubic centimetre. The worst offender in this respect was the sample from the Grand Junction division of the southern district which showed the large number of 4625·1 per cubic centimetre. We need hardly say that this is most unsatisfactory and it is liable to recur whenever the condition of the Thames is unfavourable or when an unusual strain is thrown on to the filter beds at Kew Bridge, which for lack of accommodation for storage and settlement are obliged to treat a large proportion of their water in a practically raw condition. A marked improvement has taken place in the Southwark and Vauxhall water since the Hampton reservoirs were brought into use and it is urgent that a similar measure should be adopted at Kew. The bacillus coli was found in 10·7 per cent. of the filtered samples of Thames water, 100 cubic centimetres of each being examined. It was found in 8·7 per cent. of similar samples of Lea water and 13·7 per cent. of similar samples of New River water respectively. Although the London water-supply has improved materially of late years it is obvious that there is still room for much more improvement, especially in this bacteriological respect.

THE MODE OF TRANSMISSION OF TRYPANOSOMES BY TSETSE FLIES.

A RECENTLY published Parliamentary paper, headed "Miscellaneous No. 6 (1907)," contains a report prepared by Dr. Louis W. Sambon, the Italian delegate to the International Congress on the Sleeping Sickness held at London in June, 1907. The report is written in French but an English translation is appended, and there is a note explaining that the time and labour necessary for its preparation made it impossible for it to be included in the published proceedings of that conference. The subject of the report is the mode of transmission of sleeping sickness. Dr. Sambon criticises the views expressed by Colonel David Bruce, R.A.M.C., and Professor Minchin, and while he admits that it is possible that both nagana and sleeping sickness may be transmitted by tsetse flies in a purely mechanical way he is convinced that under natural conditions this is not the usual mode. He maintains that in each case the fly acts as a true alternative host and that the respective parasites go through a peculiar cycle of development and multiplication within the body of the insect before they are returned to fresh vertebrate hosts. He criticises the experiments described by Colonel Bruce and other observers in support of the "mechanical" theory, which is in brief that the infection of the disease is conveyed by the proboscis of the tsetse fly in much the same manner that the vaccinating needle carries the infection of vaccinia from child to child. The general principle of these experiments is that of allowing tsetse flies to feed upon an infected animal and subsequently upon a normal one. One of the chief objections which he raises is that in these experiments the tsetse flies used have been caught in infected localities and may therefore have harboured trypanosomes in their salivary secretion at the time when they were caught. He also objects that if the mode of transmission of trypanosoma Gambiense or trypanosoma Brucei is purely mechanical it is difficult to understand why the diseases caused by these two parasites should be so strictly confined to the localities where certain species of the tsetse fly are found and why other blood-sucking diptera should not be able to carry them and to infect animals in the same mechanical manner. He further claims as strong presumptive evidence in favour of some further development of the parasites in their invertebrate hosts, the fact that trypanosomes taken from the gut of the tsetse fly and injected into vertebrates do not produce the disease, although they are living, the suggestion being that they belong to a sporogonic cycle in the life of the trypanosome incapable of multiplication in the blood of a vertebrate host. Unlike the diptera of the families culicidæ, simulidæ, and tabanidæ, in which the females alone are blood-suckers, in the glossinæ both sexes have this property, and Dr. Sambon suggests that it is possible that the further growth of the trypanosome in the fly may only be capable of occurring in the female; he therefore suggests that in future experiments the sex of the flies used shall be carefully determined and recorded. He affirms extremely emaciated, weighing less than 4 stones; pulse-rate usually about 160; temperature pyrexial; mental condition one of delirium at night and obfuscation during the day; and all the usual symptoms of the most severe type of Graves's disease were present. Although under good conditions at her home she had been steadily getting worse and had been altogether confined to bed for several weeks. I had every reason to consider the prognosis as extremely grave indeed. I have not hitherto seen a case of Graves's disease in that stage end otherwise than fatally. I ordered her to have an ounce of rodagen daily. The improvement of her condition which soon took place was most striking. The acute symptoms all subsided, her mind became clear, her temperature dropped to normal, the heart's action considerably slowed down, the tremors ceased, and in a few weeks she gained a stone in weight. In spite of the fact that her recovery has been interrupted by one attack of influenza and another of quinsy she has done remarkably well.

If I had the choice of giving rodagen or the fresh milk of a thyroidectomised goat I should not hesitate to select the latter from which rodagen is derived. But I consider it is a great matter that it is possible to prepare from the milk a substance like rodagen which possesses similar beneficial properties to those of the milk itself. Rodagen is readily obtainable at a price, but the fresh milk of a thyroidectomised goat is not to be had by most of our patients for either love or money. The main drawback, indeed, to rodagen is the usual disproportion between its cost and the purse of our patient. It is one of those remedies which, as I have said before, few except hospital patients can afford to use. It is its high price which makes us inclined to dole it out even to our hospital patients when we should otherwise give it freely. Wholesale it at present costs between 3*s.* and 4*s.* an ounce. The only other drawbacks are its somewhat unpleasant cheesy smell and taste and an occasional tendency to purgative action. But some might raise the same objection to the use of goat's milk.

I may say I have not given more than an ounce a day in any case, but I believe smaller doses than this are not of much use in the presence of severe symptoms. I have previously stated that although I have made an extensive trial of Merck's antithyroid serum, which is prepared from thyroidless rams, I was not convinced that it exerted any beneficial influence. It is quite possible that if I had tried it in larger doses than I did I might have obtained some good results. All I can say about it is that in the doses ordinarily prescribed it seemed to me inert. I did not go beyond a dose of five cubic centimetres daily. This remedy is also expensive, ten cubic centimetres costing about 5*s.*

I should like to add to what I have said about rodagen that in cases of Graves's disease lately I have not been giving ordinary milk except in such small quantities as are usually taken with tea or coffee. If, as present observations indicate, there be a virtue in the milk of a thyroidless animal, and in the rodagen obtained from it, by means of which the toxin of Graves's disease is neutralised, this is likely to be counteracted if at the same time we gave in any considerable quantity the milk of an animal whose thyroid was in full functional activity. Recently I have been allowing not only little milk but also little meat to my patients with active Graves's disease and I believe this has been of benefit to them. In conclusion I should like to suggest that it might be possible to put up in tins condensed milk made from the milk of thyroidectomised goats, but I am afraid the remedy, however prepared, will continue to be expensive.—I am, Sir, yours faithfully,

HECTOR MACKENZIE, M.D. Cantab.,
Physician to St. Thomas's Hospital.
Jan. 27th, 1908.

LIQUID AIR AND CANCER.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 25th Professor J. E. Salvin-Moore and Mr. C. E. Walker relate some observations they have made on the effect of exposing the cells of a carcinoma to the temperature of liquid air for 20 to 30 minutes. In the same issue the importance of these observations is emphasised by a second communication, in which they are confirmed by Professor Salvin-Moore and Dr. J. O. Wakelin Barratt for another carcinoma. The authors express surprise that the substance of tumours so treated gave rise to growths when implanted into healthy animals. The conclusion that the proliferation of the parenchyma cells implanted is responsible for the parenchyma of the daughter tumours would seem, in the opinion of the authors, to be laid open to doubt as the result of their application of what, in the absence of any reference to the literature on the subject, has the semblance of an experimental method new in cancer research.

That cancer cells may retain their vitality after long exposure to low temperatures has long formed part of the common stock of knowledge of those engaged in experimental cancer research. Two years ago Ehrlich obtained continued growth after an exposure to −10° C. lasting two years, and also after an exposure to the temperature of liquid air 144 times as long as that employed by the authors of the two communications referred to. Michaelis has obtained continued growth after the cells had been exposed to the temperature of liquid air for half an hour three years before the repetition of a similar experiment has yielded a result so surprising to Professor Salvin-Moore and his two colleagues.

There are many other references to the effects of thermal agencies in the literature of experimental cancer research, to which I need not refer in detail, since the two authors cited dealt specifically with the temperature of liquid air, and support the views advanced by Jensen, Murray, and myself on the processes at the site of the implantation of cancerous tissue. It will suffice to point out that exposure to thermal agencies is a routine laboratory method used to diminish the vitality of the cells of malignant new growths, and that with the extinction of the life of the cancer cells inoculation ceases to be successful. Although exposure to thermal agencies is a valuable method for studying the *vita propria* of the cancer cell, it is, for the reason just stated, unsuited to settle whether or not there be a virus in the tumour substance. The results of the cytological study of the site of inoculation in conjunction with this method have been found to be in entire agreement with the view that the artificial propagation of cancer is an actual transplantation of living cells which are merely nourished by a succession of new hosts.

I am, Sir, yours faithfully,
Jan. 27th, 1908. E. F. BASHFORD.

SUFFOCATION BY COMPRESSION OF THE CHEST: THE BARNSLEY DISASTER.

To the Editor of THE LANCET.

SIR,—The sad accident at Barnsley whereby some 16 children lost their lives presents some features in common with the one at Sunderland in 1883 when nearly 200 lost their lives. In the present instance a large number of children were endeavouring to force their way into the gallery of the public hall to witness a cinematographic entertainment. On the gallery being completely filled the children on the stairs were turned back by the attendant and told to make their way to other parts of the house. A stampede then occurred on the staircase, several of the little ones fell at a turn in the stairs and others fell upon them, the whole being kept from regaining their footing by the pressure of the children behind. Before they could be extricated 14 children of an average age of six years lost their lives and two more died very shortly afterwards in hospital. Those who recovered seemed to have sustained surprisingly little injury. Out of the 16 killed and 17 slightly injured, attended to at the Beckett Hospital, only one sustained a fracture—viz., a fractured humerus. This, of course, may be accounted for by the greater flexibility of children's bones, especially the ribs. The children seen immediately after death presented practically the same features as described by Dr. Lambert in 1883 in his report on the disaster at Sunderland.[1] In varying degree their faces were congested and puffy, the vessels of the neck much swollen, the eyelids closed, the eyeballs protruding, the pupils widely dilated, and froth surrounding the mouth and nostrils. In nearly all the cases urine had been voided and in a few cases fæces expelled.

By order of the coroner a careful and individual examination of the whole of the bodies was made 24 hours after death and in the case of two bodies post-mortem examinations were made by Dr. Hall and Mr. V. K. Blackburn. The external examination presented the following features. Rigor mortis (probably influenced by the cold) and post-mortem staining were well marked in all cases. With one or two exceptions the countenance was placid as if in sleep, the eyeballs were not protruding nor the pupils widely dilated. In three cases the face was markedly congested, the remainder varying from slight frontal suffusion to slight general congestion. The ears in all cases were much darker test the true value of the serum may be able to obtain a supply.

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[1] Brit. Med. Jour., vol. i., 1883.

A TELEGRAM from the Acting Governor of the Gold Coast received at the Colonial Office on Jan. 22nd states that on that date there were 2 deaths from plague. The number of natives in hospital was 16, and 51 were isolated. A further telegram received on Jan. 24th states that on Jan. 23rd the number of deaths was 4, number of natives in hospital 18, and isolated 58. Another received on Jan. 27th states that on Jan. 26th the number of deaths was 1, number of natives in hospital 10, and isolated 30.

THE Lettsomian lectures for 1908 on "Tuberculosis of the Lung" and "Malignant Diseases of the Cæcum" will be delivered by Mr. Charters J. Symonds at the Medical Society of London, 11, Chandos-street, Cavendish-square, London, W., on Feb. 3rd and 17th, at 9 P.M., and March 2nd, at 9 P.M. The lectures will be illustrated by lantern slides, cases, and specimens.

AT the last meeting of the council of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, Professor William Osler, Regius professor of medicine of the University of Oxford, and Dr. Arthur Latham, physician to St. George's Hospital, were elected to the council.

BRITISH MEDICAL BENEVOLENT FUND.

AT the January meeting of the committee 12 applications for help were received and grants amounting to £102 made to nine of the cases. It was decided to hold the annual general meeting of subscribers at 5 30 P.M. on Tuesday, Feb. 18th, at 15, Wimpole-street, W. Appended is an abstract of the cases relieved.

M.B., C.M. Aberd., aged 69 years. Earnings always small and is now practically incapacitated. Has only a few shillings a week. Recommended by Professor J. G. McKendrick. Voted £12.

Daughter, aged 54 years, of late M.R.C.S. Has supported herself by taking private pupils, but lost them all during the past year owing to her mother's prolonged illness ending in death. No income. Recommended by Mr. William Rhodes. Voted £10.

Daughter, aged 60 years, of late M.R.C.S. Supported herself by teaching for many years but has now lost her sight and subsists on a few shillings a week allowed by a charitable institution. Relieved three times, £22. Recommended by Mr. T. A. Osborn, honorary local secretary, and Mr. Ashby G. Osborn. Voted £10.

Widow, aged 56 years, of L.R.C.P. Edin. No income, lets lodgings. Relieved five times, £50. Recommended by Dr. Robert Blair. Voted £12.

Widow, aged 54 years, of L.R.C.P., L.R.C.S. Dub. No income. Right hand permanently injured; children unable to help. Relieved three times, £29. Recommended by Dr. C. W. Buckley. Voted £12.

Daughter, aged 55 years, of late M.R.C.S., L.S.A. Has maintained herself as matron in a school for several years but was obliged to give up the post to nurse an invalid mother, since dead. At present has obtained no other appointment. Relieved once, £12. Recommended by Dr. C. J. Gibb. Voted £12.

Widow, aged 50 years, of M.R.C.S., L.S.A. No income; a little help from a relation. One child still dependent and the rest barely self-supporting. Relieved 12 times, £133. Recommended by Dr. Charles Steele. Voted £12.

Daughter, aged 70 years, of late M.R.C.S., L.S.A. Only income £20 a year and occasionally earns a few shillings by needlework. Relieved eight times, £33. Recommended by Mr. George Eastes. Voted £12.

Widow, aged 49 years, of L.R.C.P., L.R.C.S. Has endeavoured to support herself by letting lodgings, but is now obliged to give up on account of ill-health and has had to sell her furniture to pay some small debts. Children unable to help. Relieved three times, £48. Recommended by Dr. William Carter. Voted £10.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: J. J. Walsh to the *Bacchante* and C. Strickland to the *Cochrane*, both on recommissioning; C. M. Beadnell to the *King Alfred*; and J. D. Hughes to the *Donegal*. Staff Surgeons: H. B. Hall to the *Europa*, on recommissioning; and J. C. Rowan to the *Sapphire*, additional, for the *Tyne*. Surgeons: J. C. Bringan to the *Bacchante* and D. D. Turner to the *Cochrane* both on recommissioning; A. R. Schofield to the *Victory*; G. L. Buckeridge to Portland Hospital; T. D. Liddle to the *New Zealand*; E. F. Ellis to the *Argyll*, on recommissioning; and H. B. German to the *Terrible*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant Alan C. Vidal is placed temporarily on the half-pay list on account of ill-health (dated Jan. 12th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Newcastle-on-Tyne: Surgeon-Captain J. D. Farquharson to be Surgeon-Major (dated Dec. 25th, 1907).

Rifle: 2nd Volunteer Battalion, The Norfolk Regiment: Surgeon-Captain S. J. J. Kirby to be Surgeon-Major (dated Dec. 4th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

East Surrey Bearer Company: Lieutenant-Colonel John J. de Zouche Marshall has been promoted to Brigade-Surgeon-Lieutenant-Colonel and appointed as Senior Medical Officer of East Surrey Volunteer Infantry Brigade (dated Nov. 27th, 1907).

THE AUSTRALIAN ARMY MEDICAL CORPS RESERVE.

The *Australasian Medical Gazette* of Dec. 20th, 1907, states that "the Australian Army Medical Corps Reserve is to be a special volunteer force. The officers are to be drawn from the registered medical practitioners, in addition to those now on the list, which latter number 25 for the whole Commonwealth. They will be graded into consultative and executive staffs, and will form the medical and surgical staffs for the Government civil hospitals, where the sick and wounded might be taken, and be a staff for duty in the field or in garrison. Students of medicine will be drawn upon for other ranks, and also dentists, chemists' assistants, members of recognised ambulance societies, and special trades. Schools of instruction will be opened to members of corps, with a provision that no extra expense is to fall on the Government on account of them."

VITAL STATISTICS.

VITAL STATISTICS FOR 1907.

THE following are the provisional figures showing the vital statistics of England and Wales for the year 1907. Their early appearance reflects great credit on the Registrar-General's Department:—

—	Annual rate per 1000 living.			Deaths under 1 year per 1000 births.
	Births.	Deaths.	Principal epidemic diseases.	
England and Wales	26·3	15·0	1·26	118
76 great towns	27·0	15·4	1·54	127
142 smaller towns	25·7	14·5	1·29	122
England and Wales, less the 218 towns...	25·6	14·7	0·91	106

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8558 births and 5749 deaths were registered during the week ending Jan. 25th. The mean annual rate of mortality in these towns, which had been equal to 16·9, 19·3, and 20·0 per 1000 in the three preceding weeks, declined again to 18·5 in the week under notice. During the first four weeks of the current quarter the annual death-rate in these towns averaged 18·7 per 1000; the rate during the same period in London did not exceed 18·2. The lowest annual death-rates in the 76 towns last week were 7·3 in Hornsey, 9·8 in East Ham, 9·9 in Smethwick, and 10·7 in Walthamstow; the rates in the other towns ranged upwards to 26·0 in Plymouth, 28·3 in Swansea, 30·6 in Bootle, and 34·3 in Liverpool. The rate in London last week did not exceed 18·0. The 5749 deaths registered in the 76 towns during the week under notice showed a decline of 478 from the number in the previous week, and included 409 which were referred to the principal epidemic diseases, against 457 and 501 in were first systematically made it was found that 42 per cent. of the applicants at the hospitals were ineligible, while now only 4 per cent. are rejected. This shows what strict inquiry will do and how it will keep away those who could pay for medical attendance. But while the lay managing committees of the different Liverpool medical charities might come to a common agreement on this point and also in regard to the overlapping of the various charities, there are other matters on which disagreement is more than probable. Perhaps the most difficult of these is the admission of paying patients into some of the hospitals. Then, even if the lay committees did agree on this grave question, it is very likely that the medical staffs would not take the same view of the subject. In the meanwhile, I found a disposition to make a mystery of their proceedings, and it seemed to me as if the lay committees viewed the prospect of criticism with some apprehension. It appears to me, however, that if the medical profession were united in a strong, compact body the lay committees of the hospitals would be less prone to hold private consultations. They would proceed to the headquarters of the profession and there discuss with those who do the principal work at the hospitals how the various difficulties of management could best be overcome.

Unfortunately, instead of harmony and coöperation between the lay managing committees and the medical staffs of the hospitals some serious disputes may arise. This is the likely consequence of the radical change which new customs and new laws are bringing about. Hospitals are no longer what they used to be. What might be quite right and proper 50 years ago no longer applies to present conditions. There is a tendency to make workmen more and more responsible for their ordinary ailments now that they have compensation. On the other hand, there is such increase in the major surgical operations performed in a hospital that there is less and less room remaining for minor cases such as, for instance, simple fractures. It is true that some general practitioners may prefer to send a case of fracture to a hospital rather than to run the risk of an action for damages should anything go wrong. Still the compensation to which all classes of workers are now entitled should give the general practitioner a better chance. However this may be, the argument now brought forward is that the honorary staffs of hospitals undertook to attend the sick poor and not insured servants and workmen. The question as to what the insurance offices are going to do becomes very important. Are they entitled to send persons for whom they are responsible to hospitals? If the insurance company receives the premium then it ought to pay for the patient. At Hamburg ladies in good positions voluntarily pay 1*s.* per month to the hospitals so as to have the right to send their servants there should they fall ill. Are the insurance companies in England contemplating some similar course. But, if so, it changes entirely the character of the hospitals and the hospital patients; and in that case what corresponding change should be effected in regard to the medical and surgical staffs of the hospitals.

In Liverpool the hospitals have on their committees of management the same men who manage the great ocean liners. These men have wide business experience and great organising capacities. On the whole, also, they pull together fairly well. By their side and on these committees of management sit the elected representatives of the workmen's Saturday hospital fund. The workman who pays regularly 1*d.* a week for the hospitals thinks that he is insured. He therefore goes to the hospital not as an applicant for charity but to claim that for which he has paid. Then, again, at the Stanley Hospital, for instance, patients who live outside the Liverpool radius are taken in at a charge of 10*s.* per week. Many come from Wales or the Isle of Man and the excuse made is that some of these cases are useful for teaching purposes. This, however, may overcrowd the hospital and keep local and really poor patients out. Therefore some of the hospitals will not make any such charge and on this a serious difference of opinion exists between the lay managing committees of the different Liverpool hospitals. The Royal Infirmary in six months admitted 345 patients from outside the Liverpool radius. Then there are a number of patients who are not poor patients but pay £2 2*s.* a week for their treatment and this brought in the goodly sum of £13,270 in 1905. Such payments seem to be increasing.

In the face of all these new facts the honorary staffs of the various hospitals are striving to form an association so as to take united action and to demand a *quid pro quo.* If the hospitals remain pure charities they have nothing to say; but if hospitals, managed by eminent business men, are to be made paying business concerns, the honorary medical staffs will claim their share in the profits. As for the honorary staffs obtaining indirect advantage this is not always the case; besides, the field for private practice is being gradually restricted as well-to-do people go more and more frequently to the paying wards of the hospitals. The unfairness of the present situation is admirably illustrated in regard to the building of the Manchester Ship Canal. On that occasion a staff of medical men were employed and paid. They followed the works and attended to all cases of accidents, &c. But to-day there is the Mersey Dock and Harbour Board which employs at the Liverpool docks a large amount of labour. When an accident happens the victim is sent to the nearest hospital and no payment is made. The case is attended by the medical staff of the hospital but the medical profession receives nothing at all. If the medical profession was paid when an accident occurred at the works of the Manchester Ship Canal why should it not be paid when an accident occurs in the Liverpool Docks? The only reason is a topographical reason. There was no hospital near enough to the Ship Canal.

Another argument was brought forward by several medical men and seemed to weigh heavily in their minds. They thought that as people were made to insure their servants they would subscribe less or not at all to the hospitals. Then again, there was an impression that the very wealthy, the multi-millionaires, had ceased to give to hospitals. These institutions the millionaires argued should be supported by the community, and they preferred to give their money for special chemical or biological research in which the general public took less interest. Thus if the wealthy no longer give so much to the hospitals, if an ever-increasing number of people enter the hospitals as paying patients, and if the treatment of working people and servants is covered by a general system of insurance, the whole basis is changing. The hospitals may cease to be medical charities and become business concerns. Then the incomes of the hospitals being in a large measure derived from the patients, a portion of this income should be devoted to the payment of their medical attendants. As for medical schools, there still remain the workhouse infirmaries which have not been utilised. Indeed, it is a question whether these infirmaries should not be entirely detached from the workhouses. Under the Poor-law people who go to the workhouse infirmary are, if possible, made to pay, but if they pay why should they be treated as paupers. The true pauper is sometimes to be found in the hospital. Such considerations led up, in more than one conversation, to the suggestion that if the hospitals were not ultimately converted into municipal institutions they should at least be rate-aided. One leading member of a hospital staff declared that out of about 800,000 people living at Liverpool some 700,000 did not give anything whatsoever towards the hospitals. Why should a small minority have to bear the burden, and why should the medical men work for nothing? Through the rate everyone might be made to contribute and there would then be money enough to pay the medical staff. As compared with other countries the State in England gives very little for the benefit of science; all the more reason, therefore, for the corporations to act, and they can reach those who do not give voluntarily. Actually the municipality of Liverpool does subsidise the University of Liverpool and this to the extent of £10,000 a year.

The question of the municipalisation of hospitals has lately received more attention from members of the medical profession. In 1896, when I made extensive inquiries at Liverpool, the subject was barely mentioned[1]; to-day I found it a matter of very general discussion. Yet, on the other hand, the growth of insurance does not necessarily make for municipalisation, unless it be in the sense of abolishing hospitals as charities and converting them into paying concerns, each patient paying because he is insured. Then the workhouse infirmaries, which are already municipal hospitals, would be the only hospitals remaining where the patients did not pay. From such conversations it would seem as if the days of charity are numbered and voluntary subscriptions destined to be replaced by compulsory insurance or compulsory taxation, or more probably a mixture advocated, admittedly in less detailed fashion, almost 70 years ago by Dr. Bodington. Indeed, the very title of his essay suggests his view—namely, "An Essay on the Treatment and Cure of Pulmonary Consumption on Principles Natural, Rational, and Successful: with *Suggestions for an Improved Plan of Treatment of the Disease among the Lower Classes of Society*."[1] In the text of the essay Dr. Bodington dwells on the significance of exercise of various kinds, more especially "walking, as much as the strength will allow, *gradually*[1] increasing the length of the walk, until it can be maintained easily for several hours every day." In his extraordinarily clear prevision of the need for sanatoriums, Dr. Bodington goes on to speak of the need for "country houses in proper situations, well ventilated, and provided 'with all appliances and means to boot,' where patients should be strictly watched and regulated in all respects as regards exercise, air, diet, &c." More particularly "with respect to the consumptive poor patients, those who cannot afford to pay for a proper treatment of this sort," he goes on to say, "hospitals should be established in the vicinity of large towns, in fit situations, and properly appointed in all respects for their reception and treatment. In those there should be provision made for ...... gardening, and farming occupations for the convalescent. The common hospital in a large town is the most unfit place imaginable for consumptive patients and the treatment generally employed there very inefficient, arising from the inadequacy of the means at command. ...... Connected with such an hospital provision should be made for the employment of the convalescent and cured patients." In later times Brehmer advocated consistently the significance of graduated walking exercise. This has been continued by many of his disciples.

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[1] See articles on Hospital Abuse in The Lancet of Nov. 14th (p. 1421) and 21st (p. 1494), and Dec. 12th (p. 1720), 1896.

Personally, I have long held and taught the view that carefully graduated activity in some form is a therapeutic agent of first importance in relation to pulmonary tuberculosis. In seeking to elaborate means of treatment for the poorer classes I have always dwelt much on the significance of *directed activity*. The great plea for such directed effort or labour is to be found in its economic value both to the individual as a preparation for future work after discharge and to the institution in which he is presently resident and to the maintenance of which he is thus enabled to contribute what he can. The significance of graduated labour, both therapeutically and economically, in relation to tuberculosis among the poorer classes, as based on prolonged experience, has formed part of one's regular teaching to students for a good many years. The senior students in the medical school are frequently invited to come and judge for themselves of the beneficial effects of the system. The method has been carried out in more or less elaborate fashion in different institutions elsewhere. I sincerely hope that the object-lesson which Dr. Paterson's paper affords may be the means of still further extending its application. At the Royal Victoria Hospital for Consumpton in the neighbourhood of this city it is routine practice to consider the case of every patient within a month or so after admission, or at least so soon as the temperature record has been approximately normal for a week or two. The patient is first of all tested with simple graduated exercise. Shortly thereafter this takes the form of definite work. The kind of work and its amount is determined exactly in the same way as is other therapeutic procedure. My constant injunction both to assistants and students is that it must be selected and measured just like any drug. An accurate record of its effects is kept from day to day. The results of increase in work are scrutinised as carefully as those from any modification of drug treatment. The amount is increased or diminished as the temperature-chart, pulse-rate, and other indications may suggest. Thus, at the present time out of some 80 patients approximately two-thirds are engaged in such graduated labour. Some of them work a couple of hours a day, others four, others six, others for the whole day, as joiners, engineers, gardeners, painters, wood-cutters, cleaners, inspectors of shelters, &c. We have a considerable collection of photographs illustrative of the kinds of work. Indeed, the annual report of the hospital for several years has contained illustrations showing the patients at work.

I mention these facts to show that the method of treatment need in no sense be spoken of as an experimental one. It has already been amply tested. I venture to say that no one who has made sound and prolonged trial of it has failed to obtain good result. Like every other therapeutic measure it requires thought and care in the selection and adjustment of the particular work. Each case must be judged *per se* and the work strictly accommodated, both in respect of nature and amount, to the possibilities, psychical as well as physical, of the individual. It would be the greatest mistake in the world were the method to become rule-of-thumb and cease to be regulated by consideration of the individual. This is perhaps a danger which is more apt to occur when patients are grouped in squads, the work of the squad being seriously disturbed by failure on the part of any one. There is always some risk of over-effort on the part of a physically weak, though perhaps willing, patient. The danger is, of course, largely obviated if medical surveillance be carried out in the exact and efficient way which has been recommended. Speaking of psychical conditions, it is quite remarkable how quickly improvement may be noted in the spirit as well as in the muscle of the patient after the adoption of *productive* forms of graduated activity, where the patient is able to appreciate and enjoy the result of his effort.

As to the other aspect of the question—namely, the explanation of the effect produced by graduated exercise—I am tempted to write at some length. This would exceed the limits of your correspondence column. I must therefore defer this for the present. Prolonged observation renders me doubtful regarding the suggestion that the benefit of gradually increased physical effort results entirely, or even in largest part, from repeated auto-inoculation. The theory is interesting and attractive. Although a firm believer in the value on the one hand of physical activity, and on the other hand of the direct application of tuberculin in suitable cases, the facts at my disposal make me sceptical as to the validity of the explanation which has been suggested of the indubitable benefit conferred on convalescent patients by a carefully supervised system of graduated labour.

I am, Sir, yours faithfully,

Edinburgh, Jan. 25th, 1908. R. W. PHILIP.

THE TREATMENT OF GRAVES'S DISEASE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 25th Mr. Walter Edmunds has recorded three cases of Graves's disease treated with the milk of thyroidless goats. As nearly nine years have elapsed since Lanz first treated cases of this disease by this method and recorded benefit resulting therefrom, I presume it is because of the inherent difficulties in carrying out the treatment that it has not been more extensively employed. The obstacles at any rate have been sufficient to prevent my giving the method a trial myself, anxious enough as I have been to put it to the test. Mr. Edmunds is to be congratulated on having himself successfully surmounted the difficulties and in thus obtaining a sufficient supply of the milk for some of his patients. I trust that his example will be followed by others.

For the encouragement of those who cannot obtain the fresh milk I may say that I believe that the same good effects as are produced by the milk are to be obtained by the use of rodagen. Rodagen, as is now well known, is a substance prepared from the milk of thyroidectomised goats by a process elaborated by Dr. Burghardt and Dr. Blumenthal. It is described as containing 50 per cent of the active constituent of the milk with 50 per cent. of sugar of milk added to preserve it. Although Mr. Edmunds says of two of his patients who were benefited by the milk that previously they had taken rodagen for several weeks without benefit, it is perhaps hardly fair to compare the effect of two drachms per diem of rodagen with that of a pint and a half of the special milk. It is quite possible that if Mr. Edmunds had given larger doses of rodagen he would have been able to observe real improvement under its use such as followed the milk treatment. I have used rodagen very largely in the treatment of Graves's disease and my belief is that if good results are to be obtained from it, it must be given in considerably larger doses than are generally thought to be necessary and than I myself gave at one time. The dose indeed, I think, has to be greater the more severe the symptoms.

I have at the present time under my care at St. Thomas's Hospital a patient who is a very striking illustration of the value of rodagen in the treatment of severe cases. The patient was admitted in a condition of great prostration;

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[1] The italics are mine.

The Purification of Sewage.

For some time past the sanitary authorities of the large towns have been seeking for some simple and rapid method of sewage disposal and the ordinary sewage farms have been a great disappointment to their upholders. They have not been able to treat more than from 10 to 15 litres per square metre per diem. Coke filter beds, which are more active, can only deal with, and that very imperfectly, from 500 to 1000 litres. At a meeting of the Academy of Sciences held on Jan. 12th M. Muntz gave a very interesting account of some work which he had carried out in collaboration with M. Lainé in connexion with the method of purification by peat. A layer of peat, 1·6 metres thick, will deal with 4 cubic metres of sewage per square metre. The pathogenic bacteria are destroyed by nitrifying organisms and the number of organisms in a sample of sewage which before treatment was 3,000,000 is reduced after treatment to 300. Peat purification, besides being a valuable source of nitrogen, answers all the required provisions. There is reason to believe that it will very shortly be applied for the use of the large towns.

Absorption of the Upper Jaw in a Case of Syphilitic Tabes.

At a meeting of the Hospitals Medical Society held on Jan. 10th M. Danlos showed a long-standing case of syphilitic tabes complicated with perforating ulcer of the foot, in which some months ago all the teeth of the upper jaw had fallen out. Shortly afterwards the whole of the right side of the superior maxilla became absorbed and an ulceration appeared at the border of the gum; on the left side a spreading mass appeared which looked exactly like an epithelioma.

The Strike of Medical Men.

In a recent letter[1] I mentioned that the medical men of the department of the Somme had struck against some new regulations of the Assistance Publique. Under the auspices of the Syndicate of Medical Men of the department a meeting was held at the Hôtel de Ville of Amiens and it was decided to take no official part in the working of the Assistance in so far as regards medical practice after Jan. 1st, although it was agreed to attend the poor unofficially up to May 1st. The members of the committee of the Syndicate are now to be prosecuted for putting obstacles in the way of a department for public service.

Jan. 28th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Statistics of the Medical Profession in Germany.

ACCORDING to the Medical Directory of the German Empire (Reichsmedizinal-kalender), edited by Professor Julius Schwalbe and summarised in the *Deutsche Medizinische Wochenschrift* by Dr. Prinzing, the number of medical men in Germany at the end of the year 1907 was 31,416, showing an increase of 485 as compared with the previous year. This comparatively slight increase will apparently be soon converted into a large increase, because the number of medical students, which declined sharply some years ago, once more begins to rise. In the summer session of 1905 there were 6032 matriculated medical students, but the corresponding figures for the same period in 1907 were 7574, being an increase of 1500 within two years. It is obvious, therefore, that in four or five years, when these young men become qualified and engage in practice, the profession will again be overcrowded. Of the total number of medical men 18,985 resided in Prussia, 3459 in Bavaria, 2293 in Saxony, 1050 in Würtemberg, 1253 in Baden, 900 in Alsace-Lorraine, 692 in Hamburg, and the remainder in the smaller States of the Empire. It is interesting to learn from the statistical tables that in the great towns of more than 100,000 inhabitants there are 10 medical men per 10,000 inhabitants, 9·1 per 10,000 in towns having from 50,000 to 100,000 inhabitants, 7·0 per 10,000 in towns having from 10,000 to 50,000 inhabitants, and 2·9 per 10,000 in towns and villages having fewer than 10,000 inhabitants. The distribution of the profession throughout the Empire shows considerable inequalities and some curious instances of a deficiency of medical help are mentioned. For instance, the town of Bogetschütz in Upper Silesia, with a population of 19,942, has only one medical man, and this record number is nearly reached by Biskupitz in the same district with one medical man for 12,477 inhabitants. In Westphalia also there are two places of more than 12,000 inhabitants each with one medical man only. Other places with 14,000 and 13,000 inhabitants in Saxony have two medical men, and so on. All these places are situated in the mining districts where the population is comparatively poor. Most of the inhabitants belong to sick clubs and are at work away from home all day long, but nevertheless it is scarcely comprehensible how one medical man can suffice for nearly 20,000 people. On the other hand, Wiesbaden has 25·4 medical men per 10,000 inhabitants, Munich has 15·9, Strasburg has 14·2, Frankfort has 12·1, and Berlin has 11·4. It is noteworthy that specialists are assuming a position of growing importance within the profession as in 1906 there were in the whole Empire 6259 specialists, being 20·2 per cent. of the profession, of whom 4004—i.e., two-thirds—lived in towns having more than 100,000 inhabitants. The great majority of specialists were gynæcologists, after whom there followed in numerical order ophthalmologists, otologists, rhinologists, laryngologists, and then the surgeons. In 1907 the number of specialists practising in the great towns above indicated rose to 4160, being an increase of 156. In Dresden 44·6 per cent., and in Berlin 31·5 per cent., of the profession were specialists. Among the practioners in Vienna the specialists form only 14 per cent. of the whole, a proportion greatly below that of any large town in the German Empire. This comparison with the capital of Austria shows that in Germany something is obviously wrong in this development of specialism which has far exceeded the real wants of the population. Influential men who were associated with the compiler of the directory are of opinion that legislative measures are necessary for modifying the present condition of affairs.

Death of Professor von Mering.

The death is announced of Professor Josef von Mering of Halle, one of the most celebrated pathologists of Germany. He was born in 1849 at Cologne and after becoming qualified he was made an assistant to the celebrated Professor von Frerichs in Berlin. In 1878 he removed to Strasburg, where he was recognised as *privat-docent* and became extraordinary professor in 1886. In 1890 he was appointed chief of the medical polyclinic at Halle and in 1894 ordinary professor and chief of the medical clinic of the university in that city. The late Professor von Mering worked at physiological chemistry even while a student and afterwards made many important discoveries in that branch of medical science, especially in reference to diabetes. He discovered that diabetes might be produced in animals by phloridzin and by the removal of the pancreas. Other phenomena discovered by him related to the production of glycogen within the liver; and he introduced some new medicinal compounds, such as amylene hydrate and lipanin. He was the author of some text-books and wrote the chapter on diabetes in the great handbook of special therapy edited by Professor Penzold and Professor Stinzing.

Jan. 28th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Health of the Pope.

DURING the last two decades of the life of the late Pope there scarcely passed a month without a sensational paragraph in the lay press announcing a *svenimento* (fainting fit) or a *deliquio* (swoon) as portending the speedy demise of the Holy Father. He lived to be 94, the only pontiff with the exception of his immediate predecessor Pius IX. who "saw the years of Peter"—that is, the quarter of a century during which the first of the Apostles is said to have filled the See of Rome. The reigning Pope is spared the experience (shall I say the amusement?) of inspiring so many paragraphs in non-medical journals as to his health—paragraphs which, in the case of Leo XIII., tempted an American monsignore to say: "Without the Holy Father's bodily condition to write about, what would the continental quidnuncs do for a livelihood?" Still, even Pius X. does not quite escape the solicitude of the lay journalist—the day now passing having witnessed a whole "flight" of announcements as to his having had a violent gouty seizure during the night which confined him to his apartment and caused the suspension of business, including the receptions already arranged. Inquiry, however, at the only trustworthy quarter—the consulting room of the Commendatore Petacci, His Holiness's body physician—reduced the report to its true dimensions, to wit, the and the necks more swollen than is usually seen after death. Bruising was general but not extensive in area, being more marked on the face and lower limbs, slight abrasions being seen in a few cases. There was a total absence of fractures and wounds as disclosed by external examination. In one case in which a post-mortem examination was made there was a trace of blood in the left ear but no fracture of the skull was found. In nine cases the tongue was not protruded, in six but slightly, and in one case well protruded. In 12 of the cases there was well-marked œdema over the front of the chest and in two of these it extended over the abdomen and thighs. The two post-mortem examinations presented practically the same features. Two of the more markedly congested cases were selected with a view to getting more definite results. The following are the brief particulars:—

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[1] THE LANCET, Jan. 18th, 1908, p. 199.

Head.—Coverings, meninges, surface and substance of brain congested but healthy.

Chest.—No fractured ribs. Lungs congested and air passages clear. Heart, right side contained a small quantity of dark fluid blood.

Abdomen.—Liver and kidneys, slight congestion. Intestines, pale. Spleen, not congested but pale.

It is to be noted that there were no hæmorrhages in either case on the lungs or heart as is often found in cases of death by suffocation.—We are, Sir, yours faithfully,

J. HALL, M.D.,
Jan. 25th, 1908. H. F. HORNE, M.B., B.C.

THE NEED OF FEMALE MEDICAL MISSIONARIES.

To the Editor of THE LANCET.

SIR,—You have from time to time been good enough to make special missionary needs known through your columns. Will you now give publicity to the urgent need for more women doctors in the foreign field? Pioneer work waits to be begun in at least two districts of India; an overworked doctor in China needs a colleague; and now the grievous news of the death in January of Dr. Marie Hayes at Delhi makes the reinforcement of the staff of that mission a matter of urgent necessity. In a letter dated four weeks ago she said herself, "We desperately need another doctor." In two years from now there will, as we hope, be doctors qualified who are now going through the medical schools with this end in view. But these needs are immediate. We appeal earnestly for two medical women already qualified and able to undertake responsible work who would offer at once for this work, especially for Delhi. For particulars apply to the C.W.W. Candidates secretary, S.P.G. House, 19, Delahay-street, Westminster, S.W.

I am, Sir, yours faithfully,
Jan. 29th, 1908. H. H. MONTGOMERY (Bishop).

SUNSHINE IN 1907.

To the Editor of THE LANCET.

SIR,—May I be allowed to state that the records of the Meteorological Office for 1907 show that the island of Guernsey enjoyed the maximum of sunshine of any place in the British Isles—viz., 1859·7 hours. This, however, is considerably below its average for the last 14 years, which is 1916·2 hours.—I am, Sir, yours faithfully,

HY. DRAPER BISHOP,
Medical Officer of Health, States of Guernsey.
Health Office, Guernsey, Jan. 25th, 1908.

THE DESTINY OF CASE-BOOKS.

To the Editor of THE LANCET.

SIR,—Referring to your leader on the disposal of case-books I send you the following facts for which I can vouch. You are at liberty to make what use you like of them but please suppress names as one of the ladies is still living. A medical relative of mine died some 20 years ago, leaving as his nearest relatives a group of ladies and a nephew not a medical man. He had resided long in his house which was situated in a populous neighbourhood and was likely to be a good investment for a suitable successor. The ladies managed the transfer of the practice and of the lease of the house. Soon after a gentleman called on me and asked if I was the late physician's executor, and went on to state how annoyed he had been to see that gentleman's case-books giving full reports of cases, including those of the complainant's wife, for sale on a bookseller's counter. So strongly do I feel on the subject that I have destroyed all my case-books except the one I am using.

I am, Sir, yours faithfully,
Jan. 21st, 1908. M.R.C.S.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

ATTITUDE OF THE HONORARY STAFFS OF THE LIVERPOOL HOSPITALS IN REGARD TO PAYING AND INSURED PATIENTS.

Liverpool, Dec. 8th, 1907.

IN so far as the organisation of the medical profession is concerned Liverpool cannot in any way be considered a model town. Perhaps for want of proper leadership certain it is that there has been very little cohesion among the members of the profession. The fear also of doing anything that might in the remotest degree be likened to trade unionism greatly exercises the minds of some of the older and more prominent members of the profession. Nevertheless, there is to-day a very strong feeling of unrest and this has led at least to some attempts at organisation. Of late it is the honorary staffs of the hospitals who have been bestirring themselves and are actually seeking to form a union. It is not quite easy at first sight to determine whether this movement will make for the union or disunion of the profession at large. Some of the observations made in answer to my inquiries were not altogether encouraging. For instance, one of the most active leaders in this new movement argued that there were two classes of medical men, members of the hospital staffs and the general practitioners. Now each class accuses the other of being mainly responsible for the prevalence of hospital abuse. The general practitioner says that the competition of the hospitals robs him of his chance of earning a decent livelihood. On the other hand, I was assured that at the Liverpool Children's Hospital, when an inquiry was made into the matter, it was found that the general practitioner was the principal culprit. Then at the Southern Hospital a special superintendent had been appointed to investigate whether there was abuse. It was found that medical practitioners were themselves often responsible for abuse. When they were tired of a patient they would send him to the hospital. A case was described to me of a drunken and very dirty woman who was sent to the hospital with pneumonia and died in two days. She was fully able to pay. Then another case was that of a man who had nothing really the matter but was probably a club patient and generally a nuisance. Though there is undoubtedly something to be said on both sides there can be nevertheless no doubt that the general practitioner in Liverpool, as in most other towns, has suffered considerable loss through the facility with which patients who could pay fees have obtained gratuitous treatment at hospitals. Obviously the true remedy rests in uniting the members of the hospital staffs with the general practitioners in one single society where all would meet on equal terms and discuss their grievances in a friendly manner.

The nearest approach to such an organisation is the Liverpool division of the British Medical Association and the local secretary thinks that there is more cohesion among the members of the profession at Liverpool since the adoption of the association's new constitution. Nevertheless, it does not seem to me that the position is very promising because, if I am correctly informed, though the division has 67 members only about twelve or so attend the meetings. This is but a small number for so large a town as Liverpool. But what seems more significant is the fact that when a considerable number of the honorary staffs of the hospitals felt that they had grievances and it was necessary to take action, they formed a new society instead of bringing the matter before the local division of the British Medical Association. Then, again, the lay committees managing the principal hospitals have also joined together and are attempting to constitute themselves into a joint body so as to take common action. It is said that their principal purpose is to check abuse and to employ a uniform method to prevent persons who can pay fees obtaining medical relief. In this respect they are evidently greatly impressed by the Manchester example. When at Manchester inquiries

The Purification of Sewage.

For some time past the sanitary authorities of the large towns have been seeking for some simple and rapid method of sewage disposal and the ordinary sewage farms have been a great disappointment to their upholders. They have not been able to treat more than from 10 to 15 litres per square metre per diem. Coke filter beds, which are more active, can only deal with, and that very imperfectly, from 500 to 1000 litres. At a meeting of the Academy of Sciences held on Jan. 12th M. Muntz gave a very interesting account of some work which he had carried out in collaboration with M. Lainé in connexion with the method of purification by peat. A layer of peat, 1·6 metres thick, will deal with 4 cubic metres of sewage per square metre. The pathogenic bacteria are destroyed by nitrifying organisms and the number of organisms in a sample of sewage which before treatment was 3,000,000 is reduced after treatment to 300. Peat purification, besides being a valuable source of nitrogen, answers all the required provisions. There is reason to believe that it will very shortly be applied for the use of the large towns.

Absorption of the Upper Jaw in a Case of Syphilitic Tabes.

At a meeting of the Hospitals Medical Society held on Jan. 10th M. Danlos showed a long-standing case of syphilitic tabes complicated with perforating ulcer of the foot, in which some months ago all the teeth of the upper jaw had fallen out. Shortly afterwards the whole of the right side of the superior maxilla became absorbed and an ulceration appeared at the border of the gum; on the left side a spreading mass appeared which looked exactly like an epithelioma.

The Strike of Medical Men.

In a recent letter[1] I mentioned that the medical men of the department of the Somme had struck against some new regulations of the Assistance Publique. Under the auspices of the Syndicate of Medical Men of the department a meeting was held at the Hôtel de Ville of Amiens and it was decided to take no official part in the working of the Assistance in so far as regards medical practice after Jan. 1st, although it was agreed to attend the poor unofficially up to May 1st. The members of the committee of the Syndicate are now to be prosecuted for putting obstacles in the way of a department for public service.

Jan. 28th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Statistics of the Medical Profession in Germany.

ACCORDING to the Medical Directory of the German Empire (Reichsmedizinal-kalender), edited by Professor Julius Schwalbe and summarised in the *Deutsche Medizinische Wochenschrift* by Dr. Prinzing, the number of medical men in Germany at the end of the year 1907 was 31,416, showing an increase of 485 as compared with the previous year. This comparatively slight increase will apparently be soon converted into a large increase, because the number of medical students, which declined sharply some years ago, once more begins to rise. In the summer session of 1905 there were 6032 matriculated medical students, but the corresponding figures for the same period in 1907 were 7574, being an increase of 1500 within two years. It is obvious, therefore, that in four or five years, when these young men become qualified and engage in practice, the profession will again be overcrowded. Of the total number of medical men 18,985 resided in Prussia, 3459 in Bavaria, 2293 in Saxony, 1050 in Würtemberg, 1253 in Baden, 900 in Alsace-Lorraine, 692 in Hamburg, and the remainder in the smaller States of the Empire. It is interesting to learn from the statistical tables that in the great towns of more than 100,000 inhabitants there are 10 medical men per 10,000 inhabitants, 9·1 per 10,000 in towns having from 50,000 to 100,000 inhabitants, 7·0 per 10,000 in towns having from 10,000 to 50,000 inhabitants, and 2·9 per 10,000 in towns and villages having fewer than 10,000 inhabitants. The distribution of the profession throughout the Empire shows considerable inequalities and some curious instances of a deficiency of medical help are mentioned. For instance, the town of Bogetschütz in Upper Silesia, with a population of 19,942, has only one medical man, and this record number is nearly reached by Biskupitz in the same district with one medical man for 12,477 inhabitants. In Westphalia also there are two places of more than 12,000 inhabitants each with one medical man only. Other places with 14,000 and 13,000 inhabitants in Saxony have two medical men, and so on. All these places are situated in the mining districts where the population is comparatively poor. Most of the inhabitants belong to sick clubs and are at work away from home all day long, but nevertheless it is scarcely comprehensible how one medical man can suffice for nearly 20,000 people. On the other hand, Wiesbaden has 25·4 medical men per 10,000 inhabitants, Munich has 15·9, Strasburg has 14·2, Frankfort has 12·1, and Berlin has 11·4. It is noteworthy that specialists are assuming a position of growing importance within the profession as in 1906 there were in the whole Empire 6259 specialists, being 20·2 per cent. of the profession, of whom 4004—i.e., two-thirds—lived in towns having more than 100,000 inhabitants. The great majority of specialists were gynæcologists, after whom there followed in numerical order ophthalmologists, otologists, rhinologists, laryngologists, and then the surgeons. In 1907 the number of specialists practising in the great towns above indicated rose to 4160, being an increase of 156. In Dresden 44·6 per cent., and in Berlin 31·5 per cent., of the profession were specialists. Among the practioners in Vienna the specialists form only 14 per cent. of the whole, a proportion greatly below that of any large town in the German Empire. This comparison with the capital of Austria shows that in Germany something is obviously wrong in this development of specialism which has far exceeded the real wants of the population. Influential men who were associated with the compiler of the directory are of opinion that legislative measures are necessary for modifying the present condition of affairs.

Death of Professor von Mering.

The death is announced of Professor Josef von Mering of Halle, one of the most celebrated pathologists of Germany. He was born in 1849 at Cologne and after becoming qualified he was made an assistant to the celebrated Professor von Frerichs in Berlin. In 1878 he removed to Strasburg, where he was recognised as *privat-docent* and became extraordinary professor in 1886. In 1890 he was appointed chief of the medical polyclinic at Halle and in 1894 ordinary professor and chief of the medical clinic of the university in that city. The late Professor von Mering worked at physiological chemistry even while a student and afterwards made many important discoveries in that branch of medical science, especially in reference to diabetes. He discovered that diabetes might be produced in animals by phloridzin and by the removal of the pancreas. Other phenomena discovered by him related to the production of glycogen within the liver; and he introduced some new medicinal compounds, such as amylene hydrate and lipanin. He was the author of some text-books and wrote the chapter on diabetes in the great handbook of special therapy edited by Professor Penzold and Professor Stinzing.

Jan. 28th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Health of the Pope.

DURING the last two decades of the life of the late Pope there scarcely passed a month without a sensational paragraph in the lay press announcing a *svenimento* (fainting fit) or a *deliquio* (swoon) as portending the speedy demise of the Holy Father. He lived to be 94, the only pontiff with the exception of his immediate predecessor Pius IX. who "saw the years of Peter"—that is, the quarter of a century during which the first of the Apostles is said to have filled the See of Rome. The reigning Pope is spared the experience (shall I say the amusement?) of inspiring so many paragraphs in non-medical journals as to his health—paragraphs which, in the case of Leo XIII., tempted an American monsignore to say: "Without the Holy Father's bodily condition to write about, what would the continental quidnuncs do for a livelihood?" Still, even Pius X. does not quite escape the solicitude of the lay journalist—the day now passing having witnessed a whole "flight" of announcements as to his having had a violent gouty seizure during the night which confined him to his apartment and caused the suspension of business, including the receptions already arranged. Inquiry, however, at the only trustworthy quarter—the consulting room of the Commendatore Petacci, His Holiness's body physician—reduced the report to its true dimensions, to wit, the of both taxation and insurance. Nevertheless, the actual facts do not as yet betoken any such revolution. The idea that compulsory compensation with the consequent general insurances taken out by employers for the employed would reduce the voluntary subscriptions paid to hospitals has not so far become manifest at Liverpool. Perhaps it is too soon for this recent legislation to take effect. In any case the subscriptions to the hospitals of Liverpool amounted in 1896 to £17,467 and in 1905 to £21,961, or an increase of 25 per cent. in ten years. The average legacies and donations for the last ten years were £30,585; the minimum sum being £21,714 in 1898, while in 1905 the average was greatly exceeded, the sum being £38,287. During the last eight years the average annual legacies amounted to £6860. The interest on invested funds has increased during the recent ten years from £12,882 to £16,434 in 1905. The payments made by patients and the fees paid by patients are put together under the head of earnings and these have increased in ten years from £18,353 to £22,800 in 1905. The total income from all sources of the 20 principal medical charities of Liverpool amounted in 1896 to £92,100 and in 1905 to £102,000. To this it may reasonably be objected that the income of the hospitals was bound to increase as the population had largely increased. Consequently I went to the Municipal Buildings and inquired what proportionate increase there had been in the ten years in question and was told that the borough of Liverpool had taken in two districts and the population had increased just a little over 11 per cent. In the districts outside the actual boundaries of the borough of Liverpool the proportionate increase of population would be still greater. It will be seen, therefore, that though the income of the hospitals has been well maintained it has only just kept on a level with the increase of population and that the figures are not sufficiently recent to show the effect which the new law on compensation to workmen, domestic servants, &c., may produce. It would appear that there is an economic change taking place in regard to the conditions of the hospitals generally and it is well that these new developments should be carefully studied by the members of the profession.

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[1] THE LANCET, Jan. 18th, 1903, p. 199.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Presentation of Portrait and Complimentary Dinner to Dr. William Carter.

Dr. William Carter, late honorary physician to the Royal Southern Hospital, and professor of materia medica at the University of Liverpool, was on Jan. 18th entertained to dinner at the Adelphi Hotel as a token of esteem by his professional brethren and friends on the occasion of his retiring from practice and leaving Liverpool for Deganwy. The Lord Mayor (Dr. Richard Caton) presided. Highly eulogistic speeches were delivered by the Lord Mayor, Sir Alfred Jones, and his late colleagues, and Dr. Carter was presented with his portrait painted in oils.

Presentation of the Royal Humane Society Bronze Medal to Dr. B. A. Peters.

The Lord Mayor, on Jan. 21st, presented the bronze medal and certificate voted by the Royal Humane Society to Dr. Benjamin Alfred Peters, one of the house surgeons at the Royal Southern Hospital, for the gallant rescue of a young lady from drowning off the coast of Anglesey in August last. Dr. Peters recently graduated as M.B., B.Ch., at the University of Cambridge. The Lord Mayor complimented Dr. Peters on the gallantry which he displayed on the anxious occasion.

Jan. 28th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Mr. William John Taggart, B.A., M.D. R.U.I., L.R.C.S. Edin.

ON Jan. 23rd Dr. W. J. Taggart, whose health for some time had been failing, died at his residence, Clonevein, Antrim, aged 74 years. Born at Thornhill, Randalstown, on Oct. 8th, 1833, he was educated at first for the ministry. He graduated B.A. of the old Queen's University of Ireland in 1855 and was ordained after completing his theological studies. He preached in Skipton and afterwards at Melbourne but resigned owing to ill-health, and returning to Ireland he studied medicine and graduated M.D. in 1863 and obtained the diploma of L.R.C.S. of Edinburgh in 1864. Settling down in Antrim, he began practice there and for many years was officer of health of the Antrim dispensary district and certifying factory and railway surgeon. Of a well-cultured mind and extensively read in general literature, Dr. Taggart kept up his medical studies. He had travelled a great deal and being a good observer and writer he could give a very clear account of what he saw and read. For many years he enjoyed a good practice. Dr. Taggart was buried in New Cemetery, Antrim, on Jan. 25th.

The Temperance Cause.

Under the auspices of the Belfast Women's Temperance Association Sir Victor Horsley spoke on Jan. 23rd at Belfast on "The Proper Use of Alcohol in Health and Disease," while in the evening he lectured in the Ulster Hall on "The Temperance Movement and its Bearings on the National Life." Dr. W. Calwell (president of the Belfast branch of the British Medical Temperance Association) and subsequently Professor T. Sinclair occupied the chair, and a vote of thanks was, at the conclusion of his address, passed to Sir Victor Horsley, on the motion of Dr. A. H. H. McMurtry, seconded by Sir John Byers.

Jan. 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Hebra's Prurigo by Fresh Liver Bouillon.

A NEW treatment for Hebra's prurigo has been introduced by M. Andrin who read a paper on the subject before the French Society of Dermatology and Syphilography on Jan. 9th. Every two days 100 grammes of fresh liver were taken and pulped; then a glass of boiling water was poured on to the pulp and the whole was allowed to digest for three hours. The bouillon after having been filtered through fine linen was divided into three or four doses and administered to the patient, a child. On the third day the itching had disappeared and the child slept quietly. After ten days' treatment the marks of scratching disappeared but the skin was still harsh. The quantity of bouillon was then reduced to one dose a day. Six weeks later no trace of the disease remained.

The Ophthalmic Reaction of Tuberculin.

At a meeting of the Academy of Medicine held on Jan. 14th M. Calmette read a paper upon the ophthalmic reaction of tuberculin, which he said gave a trustworthy diagnosis of tuberculosis. Its use was quite inoffensive and its value superior to the subcutaneous injection of tuberculin or to the cuti-reaction of von Pirquet. The reaction which it produces was purely local and it was of great value in the diagnosis of all forms of tuberculosis in their very early stages when the diagnosis of the condition is extremely difficult.

Anti-diphtheritic Serum in Affections of the Eye.

At the same meeting of the Academy of Medicine M. Darier read a paper in which he claimed that in infectious ulcers of the cornea, in infective penetrating wounds of the eye, in the complications which sometimes follow the operations for cataract, in certain forms of infective iritis, and in ophthalmic zona, he had obtained by means of two or three injections of Roux's serum a rapid arrest of the infection. The pain then ceased and a prompt recovery resulted, with a far more complete conservation of the vision than had been obtained hitherto by any other form of serum therapy. Simple serum acts ten times less powerfully than anti-diphtheritic serum. M. Darier, considering that anti-diphtheritic serum is useful not alone in ocular infection but in all forms of infection which have not at present a specific serum, recommends a more extended use of the remedy.

Nomination of a Professor.

The chair of experimental pathology, formerly held by Professor Charrin, which became vacant upon his death, has been transformed into a chair of general biology. By 25 votes out of 30 the professors of the College of France have recommended to the Minister as first choice for the new chair Dr. Gley, agrégé of the Paris Faculty of Medicine.

College, Chicago, and in 1891 professor of the practice of surgery and clinical surgery at the same institution. In addition to these posts he held the professorship of surgery in the Chicago Polyclinic and was professor of military surgery in the University of Chicago. From 1888 onwards he was the best known surgical lecturer in the United States and he used the enormous material made available to him by his numerous posts for the teaching of surgery to practitioners, the latter flocking to hear him from all directions.

As an operator he excelled, especially in abdominal surgery. He introduced decalcified bone plates for intestinal anastomosis, while his experiments on the pancreas showed the feasibility of operating in certain cases of well-defined lesions of that organ. As a military surgeon he took a prominent part in the Spanish-American war. He was commissioned lieutenant-colonel and chief surgeon U.S.A. army, and was commended by the Government for his surgical work during the Cuban campaign, as well as for making a valuable report upon the causes of typhoid fever among the troops. He was a sound writer, among the works from his pen which have been widely read on this side of the Atlantic being "Experimental Surgery," "Intestinal Surgery," "Principles of Surgery," and "Practical Surgery."

He was a member of many and various scientific societies and in 1897 was President of the American Medical Association, while in 1891 he founded the Association of Military Surgeons of the United States, of which he was president for two years. This brief record shows that Dr. Senn was not only an exceedingly able man but had an extraordinary capacity for work. He rose from an obscure position in a foreign land to become professor of surgery in Chicago, the second city of that land, with a world-wide reputation. And he was one of the distinguished men who deserve success on every ground, for he was universally and rightly esteemed for his rectitude and generosity. His public gifts were many. He endowed two rooms at St. Joseph's Hospital, Chicago, presented to Rush Medical College the Senn Clinical Building and to the medical department of the Crerar Library a valuable collection of medical books and monographs, including the entire library of the late Dr. William Baum, professor of surgery in the University of Göttingen, and that of Dubois-Reymond. We sympathise with our American colleagues in their loss of a real leader.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—T. Campbell (Section II.), *Liverpool*; A. R. Hardy, (Sections I. and II.), Manchester; and S. Speelman (Section I.), Amsterdam.

Medicine.—F. H. W. Brewer (Section II.), St. Bartholomew's Hospital; J. Brierley (Section II.), St. Thomas's Hospital; A. R. Hardy (Section II.), Manchester; W. P. Pinder (Sections I. and II.), Leeds; and N. C. Wallis (Section I.), London Hospital.

Forensic Medicine.—E. C. Banks, Manchester; H. A. Parker, St. Thomas's Hospital; W. P. Pinder, Leeds; and A. D. Rees, Charing Cross Hospital.

Midwifery.—M. Fisher, Royal Free Hospital; C. P. R. Harvey and G. F. C. Harvey, London Hospital; J. A. Laughton and A. D. Rees, Charing Cross Hospital; G. W. Simpson, London Hospital; and S. Speelman, Amsterdam.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and *midwifery*:—A. R. Hardy and W. P. Pinder.

FOREIGN UNIVERSITY INTELLIGENCE.—*Heidelberg:* Dr. Kümmel, Extraordinary Professor and Director of the Institute of Otology, has been promoted to the rank of Honorary Ordinary Professor.—*Lille:* Dr. Gaudier, *agrégé*, has been appointed to the chair of Clinical Surgery of Children and Orthopædics.—*Munich:* Dr. Ernst Weinland, *privat-docent* of Physiology, and Dr. Albert Jodlbauer, *privat docent* of Pharmacology, have been granted the title and rank of Extraordinary Professors.—*Tomsk:* Dr. Mysh, Extraordinary Professor of Theoretical Surgery, and Dr. Tikhoff, Extraordinary Professor of Clinical Surgery, have been promoted to Ordinary Professorships.—*Würzburg:* Dr. Jakob Riedinger, *privat docent* of Orthopædics, has been granted the title and rank of Extraordinary Professor.

AMONG the names of gentlemen called to the Bar at the Middle Temple last week is that of Mr. Edwin Smith, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE. —ALTERATION OF DATES OF PROFESSIONAL EXAMINATIONS. —The attention of candidates is directed to the fact that the examinations in medicine, surgery, and hygiene will in future be held in March and July, instead of April and September as hitherto. For particulars as to dates of forthcoming examinations our advertisement columns may be consulted.

THREE CASES OF CARBONIC OXIDE POISONING IN A WORKHOUSE.—On Thursday last week an inquest was held in the board-room of the Leighton Buzzard workhouse upon the bodies of two inmates who had been found dead on the morning of the previous Tuesday. A third occupant of the room who was found unconscious recovered under treatment. The jury found that the unfortunate women met their death from carbon monoxide poisoning which had been caused by structural defects in the ward.

THE RESPONSIBILITY OF PLUMBERS.—At the Technical College, West Hartlepool, on Jan. 17th, Dr. F. H. Morison, medical officer of health, gave a lecture to a large gathering of plumbers and representatives of health and water authorities. The Mayor of West Hartlepool took the chair. In the course of an interesting lecture he emphasised the great responsibility resting upon the plumber for the faithful execution of his work. He also referred in terms of eulogy to the work of the national registration of plumbers as helping to unite the craftsmen and citizens of large towns in enhancing the efficiency of the important industry on which all so largely relied for health and all dependent upon it. Alderman Macfarlane spoke of the interest shown by those in the trade in its general improvement. He referred to the desire of others also interested that legislation should be obtained as a protection against the unprincipled and incompetent. On the proposition of the Rev. Canon Cosgrave, seconded by Mr. R. D. Barker, a motion was unanimously carried declaring confidence in the existing organisation as offering the best means of securing registration on lines suited alike to the condition of the industry and the interest of the public and pledging the meeting to assist in promoting the object in view, particularly by appealing to the Government to initiate the necessary legislation.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BROSTER, A. E., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer to the Brassington District of the Ashbourne Union, Derbyshire.

BURY, A., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer to the Alstonefield District of the Ashbourne Union, Derbyshire.

COOPER, A. J. SISSON, L.R.C.P. & S. Irel., has been appointed Medical Officer and Public Vaccinator for the Fontmell District by the Shaftesbury Board of Guardians.

FRIEND, GERALD EDWARD, M.R.C.S., L.R.C.P. Lond., has been appointed Superintendent and Resident Medical Officer at St. George's Hospital.

GLENNY, EDWARD T., M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bristol Dispensary.

HALL, A., M.R.C.S., has been re-appointed Medical Officer to the Calton District of the Ashbourne Union, Derbyshire.

MCCANDLESS, R., M.B., B.Ch. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Rathfriland District of the county of Down.

MORRIS, LEONARD NEWSOM, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bristol Dispensary.

MUDGE, Z. B., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Hayle District of the county of Cornwall.

PHILLIPS, HUGH R., M.D. Edin., has been appointed Physician to Margaret-street Hospital for Diseases of the Chest.

PINNIGER, WILFRID JAMES HUSSEY, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Bristol Dispensary.

TELLING, W. H. MAXWELL, M.D., B.S. Lond., M.R.C.P., has been appointed Honorary Physician to the Cookridge Convalescent Hospital, near Leeds.

YOUNG, EDWARD HERBERT, M.D. Durh., L.R.C.P., M.R.C.S., L.S.A., D.P.H. Lond., has been re-appointed Medical Officer of Health for Okehampton (Devon).

recurrence of a slight attack of the gout to which he is subject in midwinter, and this, by Dr. Petacci's orders, made him defer one or two minor "ricevimenti," while giving due attention to business of more immediate urgency. Later in the day I learn on the same authority that His Holiness is quite himself again.

Four Cases of Poisoning from Solution of Cod-liver Oil with Phosphorus.

Milan has just witnessed a deplorable incident, now under judicial investigation—the poisoning of four little children after the ingestion of solution of cod-liver oil with phosphorus. So far as the facts are already known, it would seem that the oil was not prescribed by a medical practitioner but that the father of the children, thinking that they required "something of the sort," procured it from a friend who, being a pharmacist, was able to get it in considerable quantity at a discount. So obtained, without the intervention (as stated) of a medical man, it was administered in a dose of one teaspoonful to each of the four children by their father, who did not know what the duly qualified physician would have told him, that the oil, thus procured from the manufacturing firm, had again to be diluted before administration—diluted in pure cod-liver oil in such quantity as to reduce the phosphorus to the proportion of 1 in 10,000. The unfortunate children, it would seem, were thus made to take a dose of the oil containing phosphorus 19 times in excess of the proportion required. The results were as immediate as disastrous. The little victims at once gave signs of violent internal disturbance—"nefrite fulminea," it was called by the physician who was summoned to treat them, or "explosive nephritis." Three died in a few hours in the hospital to which they had been removed, and the fourth is not likely to recover. As I have said, these are the facts now under judicial investigation; meanwhile they add another to the many "loud warnings" addressed to the Italian public against playing with such "edged tools," as medicines always are, unless professionally prescribed and exhibited. "Cross-counter therapeutics" has already numbered many victims in Italy—particularly in the southern provinces where the honourable traditions of the pharmaceutical calling are liable to be infringed by the setting up as "pharmacists" of adventurers who regard their business as little more than that of a retail dealer in groceries and who give "advice" and "prescribe" preparations in exchange for a fee to any customer who may enter their shop. The Government, I am glad to see, is being memorialised by the duly qualified pharmacists to put a stop to such invasion of their rightful province and it is to be hoped that legislation in the matter will take effect without the delays seemingly inseparable from Italian procedure.

A Hospital at Mogadiscio.

Italy has suffered in Somaliland a reverse almost identical with that which befell her arms 20 years ago at Dogali—a defeat which cost her the life of a gallant officer, the wounding of others, and the demoralisation of her native troops. Lack of equipment—that of field telegraphy in particular—is one cause of the disaster; in fact, but for the "compiacenza del filo inglese"—the courteous help of the English wire—she would not, any more than at Dogali, have known what had happened till many weeks afterwards. A movement to commemorate the fallen has been set on foot and will take the form of a hospital to be erected at Mogadiscio, the sea-port of Somalia Meridionale. This is a good beginning, to be followed, it is hoped, by other accessions to her resources in a colony lamentably deficient in the machinery required by such possessions.

Jan. 17th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Uterine Gonorrhœa.

Dr. F. Paraldi of Kolozsvár states that the prospects of successful treatment of uterine gonorrhœa are not so unfavourable as has generally been believed. His conclusions are based on 244 cases treated in Kolozsvár. In the clinic of this city the chief object of treatment is the uterus itself and the cavity is treated actively from the commencement of the disease as long as gonococci are found in the cervix. The method adopted is to inject about two cubic centimetres of a medicated solution into the cavity of the uterus under strict antiseptic precautions, the cervix being dilated if thought necessary. For the past few years a 5 per cent. solution of sodium lygosinate, recommended by Dr. Fabinyi, professor of gynæcology, has been used and the injections have generally been given twice weekly. The preparation is a condensation product of salicylaldehyde and acetone and it possesses the advantage that, although strongly germicidal as regards the gonococcus, it has no irritating properties and does not in any way injure the tissues. Success or non-success was determined by bacteriological examination of the secretions. Of 128 cases treated with sodium lygosinate, 111 terminated in recovery, the usual number of applications being 10, and of the remaining 17, 10 were successfully treated by other means, so that only seven remained unrelieved.

The Treatment of Chancre.

Dr. Adolf Erdős of Naqyvárad advises the following treatment for syphilitic chancre. If the chancre is of recent date and situated on the free edge of the prepuce or of the labium as the case may be excision, followed by aseptic suture, is to be recommended. If the sore is ulcerated and of long duration, two months, for instance, and if excision is impossible, a few drops of a soluble salt of mercury, such as the benzoate, the biniodide, or the bichloride, may be injected around the chancre. Having washed the parts with a solution of sulphate of copper or nitrate of silver of strength 1 in 50 an ointment should be applied consisting of one gramme of white precipitate, half a gramme of resorcin, 30 grammes of simple ointment, and 10 grammes of lanoline. The same ointment can be used for the normal chancre. The internal treatment should consist as much as possible in mercurial injections. If these are not permitted the ordinary innunction treatment should be followed.

Wet Weather and Inflammation of the Tonsils.

The uncommonly wet weather which is prevailing during this winter in Hungary has caused an unusual number of cases of tonsillitis, most of which set in acutely and are well characterised. In several instances it was found that the inflammation extended to the nose and gave rise to suppuration of the accessory cavities. In disease of the middle ear the tonsils might require to be treated. Dr. Baumgarten has recently described his experiences regarding tonsillitis in a medical journal. He says that in cases of recurrent rheumatism when the palatal tonsils were not diseased he had repeatedly found inflammation of the pharyngeal tonsils and when these were removed the recurrence ceased. The pharyngeal tonsils seemed to be very important as regards the development of tuberculosis. From them the tubercle bacillus made its way into the lymph stream and was deposited in the glands, and when these became developed at the period of puberty the bacilli might set up tuberculosis. The treatment of acute inflammations of the pharyngeal tonsils consisted in insufflations, removal of the secretions, and gargling. Operation was only indicated when there were ear complications. For the prevention of recurrences extirpation must be performed and this ought to be radical.

Jan. 25th.

Obituary.

NICHOLAS SENN, M.D. MUNICH.,

PROFESSOR OF SURGERY IN CHICAGO.

WE regret to announce the death of Dr. Nicholas Senn, the well-known surgeon, who died at his home in Chicago on Jan. 2nd from dilatation of the heart, aged 63 years. Dr. Senn was born in Switzerland on Oct. 31st, 1844, and went with his parents to the United States in 1852 and settled in Wisconsin. After a short experience as a school teacher he received some preliminary training in medicine from a medical practitioner in Wisconsin and in 1865 entered Chicago Medical College where he graduated with first-class honours in 1868. He began practice as a general practitioner in the state of his adoption but in a few years moved to Milwaukee where he became attached to the staff of the general hospital. In 1877 he returned to Europe and after studying at the University of Munich obtained the degree of medicine of that university. On his return to the United States he continued to practise in Milwaukee up to 1893, although he was from 1884 professor of the principles and practice of surgery in the College of Physicians and Surgeons, Chicago. In 1893 he took up his permanent residence in Chicago and from 1888 he was professor of the principles of surgery and surgical pathology in Rush Medical attendance upon the crew and other passengers and I was *not* allowed any extra pay. What I *really had was 10s.* per month *less* than the carpenter who also had extra pay for overtime.

I am, Sir, yours faithfully,

Jan. 25th, 1908. GAVIOTA.

BUDIN'S SYSTEM.

To the Editor of THE LANCET.

SIR,—I should be much obliged if any medical man who has tried the "Budin" system of the hand-feeding of infants—i.e., using undiluted sterilised cow's milk with a 4 per cent. standard of cream—would give me the benefit of his experience.—I am, Si , yours faithfully,

Jan. 25th, 1908. DUBIOUS.

◆

Appendicitis will find our reply on p. 388 of this issue.

Graeme.—1. Yes. 2. Yes.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 30th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 24	30 48	S.E.	...	40	37	33	36	36	Foggy
" 25	30 37	S.W.	...	46	45	31	32	32	Overcast
" 26	30·35	S.W.	...	56	52	32	44	45	Overcast
" 27	29·89	S.W.	0·19	59	55	45	51	51	Overcast
" 28	29 68	W.	...	71	48	44	42	44	Cloudy
" 29	29·78	N.	0 06	68	43	37	35	37	Fine
" 30	30 18	N.W.	...	50	40	35	33	35	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

SATURDAY (8th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY. - (*Pathological Section*). 8.30 P.M., Miss H. Chick: The Reaction Velocity of Disinfection. Dr. F. G. Bushnell: Cases of (1) So-called "*Leukæmia*"; (2) *Lymphocytic Leukæmia with* Malignant Lymphomata; (3) Sarcoma of Cervical Glands. Dr. J. H. Smith: The Absorption of Serum from the Tissues; Mr. F. A. Bainbridge: The Relation of Bacilli of the Para typhoid Group. Dr. J. A. Arkwright: On Non-virulent Diphtheria Bacilli. Dr. J. C. G. Ledingham: *Experiments in Phagocytosis.* Dr. J. B. Leathes: (1) Note on a Case of Chylous Ascites; (2) *Metabolism in Fever.* Mr. A. J. Young: The Action of Arsenates on the Fermentation of Glucose by Yeast-juice (with demonstration). *Dr. G. F. Petrie,* Mr. A. W. Robertson, Dr. R. D. Keith, Mr. E. A. Minchin, and Dr. A. C. Stevenson and Mr. J. D. Thompson: Demonstrations and Exhibitions of Specimens.

FRIDAY.—(*Laryngological Section*). 5 P.M., Dr. W. Williams, Sir *Felix Semon, Dr. J. Donelan,* Dr. StClair Thomson and Dr. J. Horne: Cases and Specimens.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Mr. C. J. Symonds: Tuberculosis of the Kidney (illustrated by lantern slides, cases, and specimens). (First Lettsomian Lecture.)

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller Hospital, Greenwich, S.E.

FRIDAY.—8.45 P.M., Dr. F. E. Taylor: Uterine Hæmorrhage.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

FRIDAY.—8 P.M., *Pathological Meeting.* Specimens will be shown.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's General Hospital, Tottenham, N.

THURSDAY.—4.15 p.m., Clinical Cases.

SOCIETY OF ANÆSTHETISTS, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Adjourned Discussion on Status Lymphaticus.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Mr. E. M. Holmes: *The Adulteration of Drugs* and the Methods of Preventing it.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

FRIDAY.—8 P.M., Mr. W. Burton: The Hygiene of the Pottery Trade. (Shaw Lecture on Industrial Hygiene.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: *Clinique (Skin).* 5.15 P.M., Lecture:—Mr. J. W. T. Walker: The Diagnosis and Treatment of Malignant Disease of the Prostate.

TUESDAY.—4 P.M., Dr. B. Abrahams: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. H. Savage: Mental Disorders of Adolescence.

WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. R. H. J. Swan: Malignant Cutaneous Tumours.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. R. Jones (Liverpool): The Present *Position* of Arthrodesis and Tendon Transplantation.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, road, W.

MONDAY.—12 noon: Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical *Clinics.* X *Rays. Mr. Dunn: Diseases* of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Dunn: Cases of Eye Diseases.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: *Diseases of the Skin.* 5 P.M., Lecture:—Mr. Bidwell: Clinical.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: *Diseases of Children.* 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical *Medicine.* 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—*Mr. Keetley: Clinical.*

FRIDAY.—10 A.M., Dr. M. Moullin: Gynæcological Operations. 2 P.M., *Medical and Surgical Clinics.* X *Rays.* Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., *Lecture:—Dr.* Abraham: Cases of Skin Disease.

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics X Rays. Dr. Scott: *Diseases of the Eye. 2.30 P.M., Operations.*

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—*Cliniques:*—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. *H. W. Carson*); *X Ray* (*Dr. A. H.* Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., *Medical Out-patient (Dr. A. G.* Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); *Gynæcological (Dr. A. E. Giles).* 4.30 P.M., Pathological *Demonstration:—Recent Cases* from the Post-mortem Department.

recurrence of a slight attack of the gout to which he is subject in midwinter, and this, by Dr. Petacci's orders, made him defer one or two minor "ceremonies," while giving his attention to business of more immediate urgency. Later in the day I learn on the same authority that His Holiness is quite himself again.

Four Cases of Poisoning from Solution of Cod-liver Oil with Phosphorus.

Milan has just witnessed a deplorable incident, now under judicial investigation—the poisoning of four little children after the ingestion of solution of cod-liver oil with phosphorus. So far as the facts are already known, it would seem that the oil was not prescribed by a medical practitioner but that the father of the children, thinking that they required "something of the sort," procured it from a friend who, being a pharmacist, was able to get it in considerable quantity at a discount. So obtained, without the intervention (as usual) of a medical man, it was administered in a dose of one teaspoonful to each of the four children by their father, who did not know what the duly qualified physician would have told him, that the oil thus procured from the manufacturing firm had again to be diluted before administration—diluted in pure cod-liver oil in such quantity as to reduce the phosphorus to the proportion of 1 in 10,000. The unfortunate children, it would seem, were thus made to take a dose of the oil containing phosphorus 10 times in excess of the proportion required. The results were as immediate as disastrous. The little victims at once gave signs of violent internal disturbance—"acute intoxication," it was called by the physician who was summoned to treat them, or "explosive nephritis." Three died in a few hours in the hospital to which they had been removed, and the fourth is not likely to recover. As I have said, these are the facts now under judicial investigation; meanwhile they add another to the many "final warnings" addressed to the Italian public against playing with such "edged tools" as medicines always are, unless professionally prescribed and exhibited. "Cross-counter therapeutics" has already numbered many victims in Italy—particularly in the southern provinces where the honourable traditions of the pharmaceutical calling are liable to be infringed by the setting up as "pharmacists" of adventurers who regard their business as little more than that of a retail dealer in groceries and who give "advice" and "prescribe" preparations in exchange for a fee to any customer who may enter their shop. The Government, I am glad to see, is being memorialised by the duly qualified pharmacists to put a stop to such invasion of their rightful province and it is to be hoped that legislation in the matter will take effect without the delays seemingly inseparable from Italian procedure.

A Hospital at Mogadiscio.

Italy has suffered in Somaliland a reverse almost identical with that which befel her arms 20 years ago at Dogali—a defeat which cost her the life of a gallant officer, the wounding of others, and the demoralisation of her native troops. Lack of equipment—that of field telegraphy in particular—is one cause of the disaster; in fact, but for the "compiacenza del'Inglese"—the courteous help of the English wire—she would not, any more than at Dogali, have known what had happened till many weeks afterwards. A movement to commemorate the fallen has been set on foot and will take the form of a hospital to be erected at Mogadiscio, the capital of Somalia Meridionale. This is a good beginning, to be followed, it is hoped, by other accessions to her resources in a colony lamentably deficient in the machinery required by such possessions.

Jan. 27th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Uterine Gonorrhœa.

Dr. E. Fekete of Kolozsvár states that the prospects of successful treatment of uterine gonorrhœa are not so unfavourable as has generally been believed. His conclusions are based on 141 cases treated in Kolozsvár. In the clinic of this city the chief object of treatment is the uterus itself and the cavity is treated actively from the commencement of the disease as long as gonococci are found in the cervix. The method adopted is to inject about two cubic centimetres of a medicated solution into the cavity of the uterus under strict antiseptic precautions, the cervix being dilated if thought necessary. For the past few years a 5 per cent. solution of sodium hyposulphite, recommended by Dr. Fabinyi, professor of gynæcology, has been used and the injections have generally been given twice weekly. The preparation is a condensation product of sulphaldehyde and thymol and it possesses the advantage that, although strongly germicidal as regards the gonococcus, it has no irritating properties and does not in any way injure the tissues. Success or non-success was determined by bacteriological examination of the secretions. Of 135 cases treated with sodium hyposulphite, 111 terminated in recovery, the usual number of applications being 12, and of the remaining 24, 17 were successfully treated by other means, so that only seven remained uncured.

The Treatment of Chancre.

Dr. Adolf Havas of Nagyvárad advises the following treatment for syphilitic chancre. If the chancre is of recent date and situated on the free edge of the prepuce or of the labium as the case may be excision followed by aseptic suture is to be recommended. If the sore is ulcerated and of long duration, two months, for instance, and if excision is impossible, a few drops of a soluble salt of mercury, such as the benzoate, the biniodide, or the bichloride, may be injected around the chancre. Having washed the parts with a solution of sulphate of copper or nitrate of silver of strength 1 in 50 an ointment should be applied consisting of one gramme of white precipitate, half a gramme of resorcin, 20 grammes of simple ointment, and 10 grammes of lanoline. The same ointment can be used for the normal chancre. The internal treatment should consist as much as possible in mercurial injections. If these are not permitted the ordinary inunction treatment should be followed.

Wet Weather and Inflammation of the Tonsils.

The uncommonly wet weather which is prevailing during this winter in Hungary has caused an unusual number of cases of tonsillitis, most of which set in acutely and are well characterised. In several instances it was found that the inflammation extended to the nose and gave rise to suppuration of the accessory cavities. In disease of the middle ear the tonsils might require to be treated. Dr. Baumgarten has recently described his experiences regarding tonsillitis in a medical journal. He says that in cases of recurrent rheumatism when the palatal tonsils were not diseased he had repeatedly found inflammation of the pharyngeal tonsils and when these were removed the recurrence ceased. The pharyngeal tonsils seemed to be very important as regards the development of tuberculosis. From them the tubercle bacillus made its way into the lymph stream and was deposited in the glands, and when these became developed at the period of puberty the bacilli might set up tuberculosis. The treatment of acute inflammations of the pharyngeal tonsils consisted in insufflations, removal of the secretions, and gargling. Operation was only indicated when there were any complications. For the prevention of recurrences enucleation must be performed and this ought to be radical.

Jan. 24th.

Obituary.

NICHOLAS SENN, M.D., LL.D.,

PROFESSOR OF SURGERY IN CHICAGO.

We regret to announce the death of Dr. Nicholas Senn, the well-known surgeon, who died at his home in Chicago on Jan. 2nd from dilatation of the heart, aged 63 years. Dr. Senn was born in Switzerland on Oct. 31st, 1844, and went with his parents to the United States in 1852 and settled in Wisconsin. After a short experience as a school teacher he received some preliminary training in medicine from a medical practitioner in Wisconsin and in 1866 entered Chicago Medical College where he graduated with first-class honours in 1868. He began practice as a general practitioner in the state of his adoption but in a few years moved to Milwaukee where he became attached to the staff of the general hospital. In 1877 he returned to Europe and after studying at the University of Munich obtained the degree of medicine of that university. On his return to the United States he continued to practise in Milwaukee up to 1893, although he was from 1884 professor of the principles and practice of surgery in the College of Physicians and Surgeons, Chicago. In 1893 he took up his permanent residence in Chicago and from 1888 he was professor of the principles of surgery and surgical pathology in Rush Medical

Communications, Letters, &c., have been received from—

A.—Dr. I. W. Anderson, Lond.; Dr. H. Alston, West Kirby; Messrs. Aked and Aked, Lond.; Abertillery Education Committee, Secretary of; Dr. T M. Allison, Newcastle-on-Tyne; Dr. W. S. Anderson, Chapel-en-le-Frith; Dr. Thos. F. Agino, Lond.

B.—Mr. J. A. Barth, Leipzig; Dr. A. T. Brand, Driffield; Mr. P. S. Bridgeford, Lond.; Mr. J. A. Batley, Leeds; Mr. T. B. Browne, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Bristol Royal Hospital for Sick Children, Secretary of; Dr. A. H. Brindley, Bury; Bristol Royal Infirmary, Secretary of; Messrs. Brady and Martin, Newcastle-on-Tyne; Messrs. S. and E. Banks, Lond.; Dr. W. Beedle, Kimbolton, New Zealand; Lieutenant-Colonel E. H. Brown, I.M.S., Lond.; Fleet-Surgeon Reginald Bankart, R.N., Portsmouth; British Medical Benevolent Fund, Lond., Hon. Secretary of; Brighton Society and Guardian Press, Manager of; Bayer Co., Lond.; Dr. A. G. Bateman, Lond.; Dr. H. J. D. Birkett, Southsea; Sir James Barr, Liverpool; Dr. Clark Bell, New York; Birkenhead Borough Hospital, Secretary of, Bayard Chemical Co., Paris; Barnstaple and North Devon Dispensary, Hon. Secretary of; Mr. Victor Bonney, Lond.; Bradford Medico-Chirurgical Society.

C.—Dr. George Carpenter, Lond.; Charing Cross Hospital Local Maintenance Association, Lond., President of; Chelsea Hospital for Women, Secretary of; Messrs. Callard and Bowser, Lond.; Mr. Harrison Cripps, Lond.; Messrs. Cassell and Co, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; Mr. J. Calvert, Lurgan; Dr. C. Clayton-Jones, Silverton; Professor John Chiene, Edinburgh.

D.—Mr. Alexander Duke, Lond.; Mr. E. Darke, Lond.; Dental Manufacturing Co, Lond., Manager of; Dr. A. Duncan, Lond.

E.—Dr. Wm. Ewart, Lond.; Dr. J. Eyre, Lond.

F.—The Fine Art Society, Lond.

G.—Mr. H. M. W. Gray, Aberdeen; Mr. J. H. P. Graham, Wallasey; Mr. M. Greenwood, jun., Loughton.

H.—Mr. R. W. Hill, Bombay; Mr. F. H. Humphris, Ilkley-in-Wharfedale; Miss Homersham, Lond.; Mr. W. Sampson Handley, Lond.; Dr. E. C. Hort, Lond.; Mr. R. Ernest Humphry, Stone; Dr. John Hay, Liverpool; The Harveian Society, Lond., Hon. Secretary of; H. P.; Messrs. C. J. Hewlett and Son, Lond.; Mr. T. Hawksley, Lond.; Dr. H. Newton Heineman, Bad Nauheim; Dr. Harold F. Horne, Barnsley; Mr. J. Hatton, Buxton; *Het Vaderland*, 's-Gravenhage, Holland; Helouan.

I.—Income-Tax Reduction, Lond.; Incorporated Institute of Hygiene, Lond.

J.—Dr. F. F. Jay, Faversham; Dr. W. Watkiss Jones, Leicester; Mr. J. Hervey Jones, Dinas Mawddwy.

K.—Mr. Edward Knight, Lond.; Messrs. Kilner Bros., Lond.; Messrs. S. Kutnow and Co., Lond.; Kreochyle Co., Lond.; King Edward VII. Sanatorium, Lond., Hon. Secretary of; Mr. E. Kuhn, Frankfort, Germany; Dr. H. Cameron Kidd, Bromsgrove; Dr. James Kirkland, Lond.; Dr. Henry Koplik, New York; Messrs. R. A. Knight and Co., Lond.

L.—Mr. H. K. Lewis, Lond.; Mr. Thomas Laffan, Cashel; Mr. Hugh Lett, Lond.; Life Assurance Medical Officers' Association, Lond., Hon. Secretary of; London and County Motor Co., Lond., Manager of; L M., Erith; Mr. F. W. Lowndes, Liverpool; Messrs. Lauthton and Co., Lond.

M.—Mr. Robert Maccoll, Glasgow; Miss Dora Maconochie, Bexley; Messrs. W. K. Morton and Sons, Lincoln; Dr. N. E. Mackey, Halifax, Nova Scotia; M. D.; Dr. C. J. Morton, Lond.; Mr. Neil Maclay, Wallsend-on-Tyne; Miol Manufacturing Co., Lond.; Professor Robert Muir, Glasgow; Dr. J. A. C. Macewen, Glasgow; Dr. Hector Mackenzie, Lond.; Dr. S. G. Moore, Huddersfield; The Mission to Lepers in India and the East, Lond., Superintendent of; Messrs. Meister, Lucius, and Bruning, Lond.; Dr. A. McDougall, Warford; Male and Female Nurses' Co-operation, Lond.

N.—Dr. Alexander Nicoll, New York; The Nutrolactis Co., New York; Mr. J. C. Needes, Lond.; Mr H. Needes, Lond.

O.—Baron Oliveira, Lond.; Orient.

P.—Mr. W. H. Payne, Lond.; Dr. A. Pfau, Lemberg, Austria; Peckham House, Lond., Secretary of; Mr. J. M. Pearson, Vancouver, British Columbia; Mr. R. Spencer Pearson, Leighton Buzzard; Messrs. Parke, Davis, and Co., Lond.; Dr. J. J. Perkins, Lond.; Dr. R. W. Philip, Edinburgh; P. A. F.; Messrs. Peacock and Hadley, Lond.

Q.—Queensland, Department of Public Health, Brisbane, Secretary of; Queensland Government Statistician, Brisbane.

R.—Mr. J. B. Roberts, Horsell; Dr. H. K. Ramsden, Lond.; Dr. W. Ford Robertson, Edinburgh; Rebman, Ltd., Lond.; Royal College of Surgeons of England, Lond., Secretary of; Royal Society of Medicine, Lond., Secretary of; Radcliffe Infirmary, Oxford, Secretary of; Mr. A. Rau, Frankfurt; Royal Sanitary Institute, Lond., Secretary of; Mr. David D. Robertson, Lond.; Royal Maternity Charity of London, Secretary of; Royal Society of Arts, Lond., Secretary of.

S.—Mr. S. R. Soneji, Lond.; Mr. Sydney Stephenson, Lond.; Messrs. T. and W. and W. Southall, Lond.; A Sympathiser; Dr. G. Scheltema, Groningen; Seamen's Hospital Society, Lond., Dean of; Messrs. Salt and Co., Birmingham; Society of Apothecaries of London, Secretary of; Dr. T. P. Anderson Stuart, Sydney; Mr. W. S. Stevenson, Lenzerheide, Switzerland; Scholastic, Clerical, &c., Association, Lond.

T.—Mr. P. G. Temple, Lond.; Dr. J. G. Taylor, Chester; T. S.; Triumph Cycle Co., Coventry; Mr. B. D. Telford, Manchester; Trades Commissioner for the Cape of Good Hope, Lond.

U.—University of Liverpool, Registrar of.

V.—Mr. A. B. Vinden, Lond.; Dr. C. Wilfred Vining, Lond.

W.—Dr. Andrew Wylie, Lond.; Mr. Ernest L. Walford, Lond.; Mr. R. H. Worth, Lond.; Mrs. L. Wheeler, Lond.; Messrs. F. Williams and Co., Lond.; Messrs. R. Walker and Sons, Leicester; Mr. S. Wand, Leicester; West London Medico-Chirurgical Society, Secretary of.

Y.—Dr. Meredith Young, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. P. Atkinson, Lynton; Ardath Tobacco Co., Lond.; *Aberdeen Free Press*, Manager of; A. J. D.; Dr. F. H. Alderson, Bournemouth; Anglo-American Pharmaceutical Co., Lond.; Aston Manor Corporation, Treasurer to the; Messrs Appleyard and Sons, Middlesbrough.

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C.—Mr. J. Coffey, Preston; C. B.; Messrs. Carnick and Co., Lond.; Mr. E. Croft, Plymouth; Carnarvonshire Infirmary, Bangor, Secretary of; Mr. E P. Court, Horsmonden; Cheltenham General Hospital, Secretary of; Mr. Corkey, Cwmbach; Messrs. J. and A. Carter, Lond.; Messrs. Cox and Co., Brighton; Dr. H. H. Clarke, Liverpool; Cambay (India), Chief Medical Officer of.

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For further information regarding each vacancy reference should be made to the advertisement (see Index).

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BRIGHTON, COUNTY BOROUGH OF.—Medical Officer of Health.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, residence, and laundry.

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BRISTOL ROYAL INFIRMARY.—Obstetric Officer. Salary £75 per annum. Also Junior House Surgeon for six months. Salary at rate of £80 per annum. Also Casualty Officer for six months. Salary at rate of £50 per annum. All with board, lodging, and washing.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant Medical Officer for six months. Salary at rate of £50 per annum, with board, residence, &c.

CANCER HOSPITAL, Fulham-road, London, S.W.—House Surgeon for six months. Salary £70.

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Two Physicians.

CROYDON, COUNTY BOROUGH OF.—Female Assistant to the Medical Officer of Health. Salary £250 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £50 a year, with board, lodging, and laundry.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £200 per annum.

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HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

IRELAND, LURGAN UNION WORKHOUSE AND FEVER HOSPITAL.—Resident Medical Officer (female). Salary £80 per annum, with apartments, laundry, and rations.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

LAMBETH INFIRMARY, Brook-street, Kennington.—Third Resident Assistant Medical Officer. Salary £125 per annum, rising to £150, with residential allowances.

LONDON LOCK HOSPITAL.—House Surgeon in the Female Hospital. Salary £100 per annum, with board, lodging, and laundry.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, &c.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY, Leicester-square, W.C.—House Surgeon for six months. Salary at rate of £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Assistant Physician.

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ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

SEAMEN'S HOSPITAL SOCIETY.—Surgeon at Branch Hospital.

STANNINGTON, NORTHUMBERLAND, CHILDREN'S SANATORIUM.—Resident Medical Officer (female). Salary £25, with board and residence.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Rathmore, in the county of Kerry; and at North Leeds, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

HUNT.—On Jan 27th, at 3, Goldsmid-road, Brighton, the wife of Ernest Ewart Hunt, M.A., M.D. Cantab., of a daughter.

TELLING.—On Jan. 29th, at 29, Park-square, Leeds, the wife of W. H. Maxwell Telling, M.D., of a daughter.

DEATHS.

MARLEY.—On Jan 25th, at Mellinzay, St. Issey, Cornwall, Henry Frederick Marley, M.R.C.S., L.R.C.P., aged 75 years.

STEVENSON.—On Jan. 17th, at Sandhurst Lodge, Streatham, S.W., Lady Stevenson, wife of Sir Thomas Stevenson, M.D., aged 62.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CERTIFICATES OF DEATH FOR ASSURANCE SOCIETIES.

A MEDICAL man writes:—

"Will you kindly express an opinion on the case stated below? A B, who is insured, dies. The nearest relative applies for a certificate of death and at the same time for a certificate of death for the assurance society. Should the relative be referred to the registrar for a copy of the original certificate or should another certificate (not on the forms supplied by the registrar) be given and a fee charged? I have been informed by a registrar that an assurance society is liable to a penalty for accepting as evidence of death any certificate other than the copy given by the registrar. If this is so, does it apply to both friendly societies and life assurance companies? I believe it is the custom of the medical profession to give such certificates, but it is pointed out that the certificates are invalid, though often accepted, and that the registrars are thereby deprived of fees which should come to them."

*** In answer to our correspondent we may point out that assurance societies stand on a different footing from friendly societies. The policies of the former bodies generally contain stipulations to the effect that proof of death of the insured must be "satisfactory" to the insurers. This means that the evidence of death must be sufficient, for be it remembered that the onus of proof is on the person claiming the policy money. We are of opinion that "a registrar" has misled our correspondent as to assurance societies being liable to a penalty if they should venture to dispense with the services of his brother officials. Most assurance societies are satisfied with the certificate of the practitioner who last attended the deceased, though sometimes circumstances require more corroborative proof. The stipulations (if any) in the policy must determine the method to be adopted by "A B's" relative, and probably our correspondent may justly earn a fee for giving a certificate—preferably not an ordinary official one—setting out fully the facts which the society is likely to require. As regards friendly societies it may be instructive to our correspondent and other readers to know that all the Acts relating to friendly societies previously in force were repealed in 1896 and a fresh code embodied in two new Acts which came into force on Jan. 1st, 1897, viz.: The Friendly Societies Act and the Collecting Societies and Industrial Assurance Companies Act. Section 61 of the former Act runs as follows: "(1) A registered society or branch shall not pay any sum of money upon the death of a member or other person whose death is, or ought to be, entered in any register of deaths except upon the production of a certificate of that death under the hand of the registrar of deaths or other person having care of the register of deaths in which that death is or ought to be entered. (2) This section shall not apply to deaths at sea nor to a death by colliery explosion or other accident where the body cannot be found nor to any death certified by a coroner or procurator fiscal to be subject of a pending inquest or inquiry." This section should adequately answer our correspondent's query as to the wisdom of giving death certificates to members of friendly societies.—ED. L.

A WARNING.

To the Editor of THE LANCET.

SIR,—I have just heard that "von Hohenfeldt," or as I believe he is now styling himself "Baron von Hohenfeldt," is again on the war-path, and within the last few weeks has victimised a number of members of the profession. His usual plan is to claim acquaintance, and indeed intimate friendship, with members of the profession who "just happen to be out of town when he most needs them." He also alleges that he is doing, or is just about to do, important work for some of the leading medical societies.

It is a wonder to me that medical men in such circumstances do not make use of their telephones; surely it would be easy to ring up the persons indicated and question them before falling a victim.

I am, Sir, yours faithfully,

Jan. 17th, 1908.

ONCE BITTEN.

SHIP SURGEONS AND VACCINATION FEES.

To the Editor of THE LANCET.

SIR,—Your correspondent "Bitten," whose letter appeared in THE LANCET of Jan. 25th, wants information as to the present rate of remuneration received by ship surgeons sailing to South America for vaccinating emigrants. I have just returned from a voyage to the River Plate. I had to vaccinate over 400 emigrants. I received nothing more than my ordinary monthly pay; not even thanks.

I am, Sir, yours faithfully,

Liverpool, Jan. 25th, 1908.

BIT.

To the Editor of THE LANCET.

SIR,—In reply to your correspondent "Bitten" I may say I completed a voyage in December to South America and I was made responsible for the vaccination of 53 Spanish emigrants besides medical although he ascribes it to variations in the splanchnic and somatic circulation.

What then is sleep? As night succeeds day and the parched and dusty earth is steeped in the cool and refreshing moisture of the sunless interval; as rest succeeds toil, and the strain of exertion stretches itself out in the grateful relaxation of mental and bodily effort; so sleep, in normal circumstances, wraps in the oblivion of unconsciousness the whole being exhausted by a term of conscious activity. The machinery of life cools down in sleep, the temperature falling slightly. The pulse on the whole becomes slower and it may be somewhat irregular. The depth of respiration is increased and its frequency diminished, as anyone may note who has the misfortune to hear another snoring. The eyes close and exclude all light. The pupils contract in proportion to the profoundness of sleep. The activity of all secretions is lessened. The work of life is carried on with a minimum of friction.

In this series of phenomena a difference is to be observed between the behaviour of the organs of voluntary motion and the involuntary organs. The voluntary muscular system is relaxed; its reflex irritability is lessened and its centres of motor activity are placed in abeyance. On the other hand, taking the pupil as a type of involuntary organic action, for we may leave out of consideration its accommodative faculty, we find that with the loss of sight and the closure of the eyelids the pupils contract as if still further to exclude any chance of sensory stimulation by light. During consciousness the exclusion of light, as we know, is associated with dilatation of the pupil. Now we also know that this contraction of the pupil, so characteristic of normally recurring unconsciousness, that is of sleep, is not necessarily associated with *abnormal* unconsciousness or the stupor attending certain diseased states. In many such conditions the pupil is widely dilated or varies in the degree of dilatation in one eye as compared with the other.

On the other hand, from lesions in certain parts of the brain and as the effect of certain drugs, unconsciousness is associated with an equal contraction of both the pupils, indistinguishable from that which attends normal sleep. The pupillary changes in sleep therefore are unlike the flaccidity of voluntary muscle in the same state, for the withdrawal of light from the reflex arc of optic nerve, pontic centre, and oculo-motor result, are not those one would expect as a result of such withdrawal of stimulus. Nor can the contraction of the pupil in sleep be attributed to a relaxation of the motor-sympathetic innervation of the radiating fibres of the iris, as there is evidence of the potential and actual activity of the sympathetic in the vaso-constriction of the cerebral vessels which has been noted by Durham, Donders, and others. There has been no adequate explanation of this marked difference in the behaviour of the pupil as compared with voluntary muscle, but the conclusion may legitimately be drawn that sleep is the *resting period* of consciousness and of all voluntary actions and only indirectly refreshes the ever-labouring heart and other organs whose perpetual activity is necessary to life. The unconsciousness of death and of apparent death, such as that associated with profound syncope, is coupled with a widely-dilated pupil and the complete loss of irritability of all organs, voluntary and involuntary.

The essential or primary element in the *mechanism* of consciousness is the brain cell—not its afferent channels of stimulation, not its blood-supply, but the cell itself. Not that the cell itself as apart from these could manifest consciousness, but it is evident that it is only in relation to the cell that the latter have importance. The condition of the peptic cell in the stomach during fasting and digestion, of the urinary cell in the kidney, of the essential cell of every other organ during activity and rest respectively, supports this argument. In sleep blood still irrigates the brain cell, and its processes are presumably still in connexion with it and with the rest of the body.

I have said that the primary element in the mechanism of consciousness is the brain cell, but behind all the factors named is the mystery of life. It might more truly perhaps be asserted, that consciousness is life manifest in certain brain cells, just as the exercised function of any other organ is life manifest in the cells proper to it; the brain or nerve cell, however, governs every other functionally active cell in the body in a way in which the latter do not govern it; nervous influence is as universally distributed as the blood. Since the discovery of the far-reaching processes of the nerve cell, as revealed by modern staining methods, it has been suggested that sleep may be due to the withdrawal cellwards or modification of these processes or of portions of them, and their loss of touch, in consequence, with afferent sources of stimulation. But of this there is no proof. Even assuming, however, such a hypothesis to be possibly correct, such a withdrawal would be a consequence, not a cause, of changes in the brain cell itself, and the fact that the sleeper may be wakened by sensory stimulation in greater or less degree proportionate to the profoundness of sleep rather argues that the afferent channels of sensibility still have touch of the external world, although *the centre, the cells on which they* converge, may not respond to stimuli falling upon them. It is also noteworthy that noises or stimuli which the mind has interpreted when awake frequently act rather as a lullaby than as a disturbance to sleep, while much lesser noises, not so interpreted and to which the individual has not become accustomed, serve frequently to rouse the sleeper to consciousness. The conclusion therefore seems to be warranted that a change in the cell itself is the primary cause of sleep, and that vascular and neural changes associated with sleep are effects, not causes, of the condition. What *the essential* cause of these intracellular changes is is unknown, but that they exist is indubitable. In the absence of more precise knowledge they can only be termed chemico-vital.

Normally a measure of exhaustion of the nerve cell from the exercise of function appears to be the essential cause of sleep. With this there may also be exhaustion of other organs, and more especially of the voluntary muscular system. But however the latter may participate in sleep-production the primary cause is the *need for rest* on the part of the brain cell itself, and its essential nature that chemico-vital change in it of which this need is the expression—a change of which we know no more at present than we do of the essential nature of life itself. Moreover, some interesting observations have been made on the appearance of nerve cells in conditions of functional activity and repose, and which can only, I think, be regarded as evidence that the cell creates as well as transmits energy. These visible changes in the bodies of cells respectively normally active and exhausted or at rest have been studied by many observers, and Ford Robertson thus summarises the general result of these investigations: "During normal activity the chromophile substance is utilised by the cell and slowly diminishes in quantity. At the same *time the* fuchsinophile granules of Levi increase considerably in numbers. The nucleus undergoes an increase in volume and the particles of chromatin adherent to it tend to become elongated. During rest the chromophile substance gradually accumulates again, the fuchsinophile granules diminish in numbers, and the nucleolus (nucleus ?) assumes a smaller volume. When the energy of the cell is exhausted by prolonged or excessive activity, the cell-body and the nucleus are distinctly diminished in volume; the chromophile substance of the cytoplasm is small in amount and appears diffusely granular instead of forming *local aggregations*."[3] These observations are surely sufficient to indicate that the organ of consciousness is the brain cell, or rather certain brain cells, in touch, on the one hand, with afferent influences by their receptive radicles and, on the other, putting forth the products of their activity by efferent channels, the whole being sustained in action by the blood, the nutrient fluid which bathes the organ of consciousness and source of mind.

But before passing from this subject we must remember that notable distinction between the results of mental cellular action and the action of unthinking cells, such as those of the stomach, liver, kidney, and spinal cord, or even of such cerebral cells as those the function of which is not emotional perception and ratiocination—namely, that the products of the organ of consciousness are more or less permanent, while those of unthinking cells are repeatedly produced, but each crop or series is itself transient and eliminated from the system. This permanent product of the organ of consciousness interests us on the present occasion because it may in its turn become a source of stimulation of the thinking cells. Itself an efferent product of their energy it may become in its turn an afferent source of stimulation. Memory, like thought, is cumulative. It has a *beginning*; much of it probably has an ending; some of it possibly is unending; but to inquire *as to this is* beyond our present purpose. These thoughts lead us to a short

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[3] Pathology of Mental Diseases, p. 226; Edinburgh, 1900.

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Throat Operations (Mr. Carson).
FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.
MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Mr. W. Turner: The Treatment of Syphilis.
TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye. 2.15 P.M., Special Lecture:—Dr. F. Taylor: Intra-thoracic Growths.
THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.
FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Acute Perforative Peritonitis.
SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.
MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).
TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).
WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).
THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).
FRIDAY.—3.30 P.M., Lecture:—Dr. C. E. Beevor: Diagnosis and Treatment of Hemiplegia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.
TUESDAY.—3.30 P.M., Lecture:—Dr. J. Taylor: Degenerative Diseases of the Spinal Cord.
FRIDAY.—3.30 P.M., Lecture:—Dr. A. Turner: Epilepsy.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.
THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: Syphilis: Papular (I., Miliary; II., Lenticular; III., Squamous; IV., Moist) Pustular and Tuberculous.

CHARING CROSS HOSPITAL.
THURSDAY.—3 P.M., Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M., Demonstration:—Dr. Eden: Gynæcological. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.
WEDNESDAY.—4 P.M. Lecture:—Dr. J. M. Bruce: Congenital Heart Disease.

LIFE ASSURANCE MEDICAL OFFICERS' ASSOCIATION, 20, Hanover-square, W.
WEDNESDAY.—8 P.M., Council Meeting. 8.30 P.M., Dr. T. Glover Lyon: Presidential Address.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

VOLUMES AND CASES.

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an appetite, the hunger of desire, may be an afferent cause of cerebro-cellular excitation as well as its over-gratification or improper indulgence. The infant at its mother's breast which obtains too little nourishment is frequently as sleepless as the child which is overfed or has improper food. In both cases there is a discomfort which is referred to the periphery, and in the case of indigestion certainly begins there. Moreover, what is true of the infant and its food is true also of the adult and of desires and appetites to which the infant is a stranger.

3. *Hæmic insomnia* is a term which, I think, may legitimately be applied to cases in which the exciting cause of sleeplessness is in the blood. As in the case of the cellular and neural group, the hæmic cannot perhaps be stated to act altogether independently of the other factors. There is reason, indeed, to think that the hæmic group is the smallest of those into which cases of insomnia fall, but our experience of anæmia, however originated and at whatever age, teaches us that defective nutrition and repair of the nervous system raise its sensibility and impair its stability. In the hæmic category we should also place cases in which the temperature is raised without the development of localised disease, as, for example, in the continued fevers and also various intoxications, whether with or without localised disease. The terrible insomnia, for example, of the delirious pneumonic, which in no small degree hastens the frequently fatal issue, belongs to this group. Drug and food agents also which disturb sleep may be regarded as acting through hæmic channels. Tobacco when smoked is possibly an exception to this rule, as it has a directly stimulating effect upon the sensory nerves of the oro-nasal cavities, but even in this case there is probably absorption in some measure into the circulation. The blood stream, moreover, may carry products of defective metabolism which act through the medium of the nervous system on the blood-vessels and induce a hypertonic state unfavourable to cerebro-cellular repose, for the most perfect unconsciousness is that which is associated with lowered activity and rest in every texture. Vascular hypertonus of a spastic and functional type has its organic expression in the arteriosclerotic rigidity of advancing life and old age, which is so often associated with defective sleep. Senile insomnia of this type is, indeed, exalted into a special variety by Sir James Sawyer in his interesting lecture on Sleeplessness.[4] Perfect normal sleep requires a normal minimum of physical and mental stimulation; unrest in one part of the body physical tends to rouse other parts which crave repose.

Prognosis.—The probability or otherwise of the subsidence of insomnia and the recurrence of normal rhythmical sleep depends naturally on the removeability or otherwise of the cause of disturbance. A good deal depends also upon the judiciousness with which protracted sleeplessness is handled by the physician and the strength of character of the patient whether the wakeful habit become fixed or subside. When insomnia is dependent upon physical lesion—ulcerative colitis, to choose a cause at random for the sake of illustration—it is self-evident that unless we can cure the condition, reducing thereby the discomfort and temperature often associated with it, the patient is not likely to drop into sound sleep without the aids of drugs. Similarly, when hæmic causes are at work the agents producing wakefulness must be eliminated or withheld before we can expect their effects to disappear. But in the large class of cellular insomniæ dependent upon abnormal excitation of the cells of consciousness, when we are face to face with a multitude of emotional and mental excitants, at times difficult even to discover, and when discovered frequently quite incapable of being removed, the obviation of effects as expressed in sleeplessness must depend largely upon the intelligence and strength of character of the patient. It is these cases which are so apt to acquire the drug habit, be it morphinism, chloralism, or any other "ism," which may in the first instance have been properly used to impose brain rest. A large proportion of these cases become chronic, less from the actual insomnability of the cells themselves than from their being kept active by the stimulus of apprehension on the part of patients lest they *may* not sleep and the baneful conclusion reached, usually erroneously, that they *can* not sleep without the aid of a hypnotic.

But, on the whole, the prognosis of functional as apart from organic insomnia is good. The normal rhythm tends to re-establish itself when the novelty of abnormal sleeplessness has passed off and sufferers begin to entertain the usual indifference towards what has become familiar. When, however, we are dealing with a patient whose reason is impaired and whose collective consciousness has lost the fixed points for rational arrangement, we can expect no normal rhythmical recurrence of sleep unless such disorder subside. Even in such cases, however, there is frequently a periodical recurrence of sleep alternating with equally rhythmical insomnia and excitement. Like the unconsciousness which follows an epileptic seizure, sleep follows recurrent psychical unrest as manifested by incoherent talkativeness with or without equally incoherent active violence.

Diagnosis.—Remembering what has already been remarked, that, whether we are dealing with the exercise of a normal function or with disorder of function, we cannot absolutely separate as independent factors the cell from its sources of neural stimulation or these from their indispensable blood-supply in the discrimination of one variety of insomnia from another, we have, nevertheless, to discover the preponderant rôle played in such cases by one or other member of this indissoluble functional tri-unity.

Infancy, at which period of life the storage of mental products is at a minimum, simplifies our task by leaving neural and hæmic sources of stimulation chiefly to be investigated. The organism is at this time chiefly concerned with the intake of nourishment, the elaboration of blood, the evacuation of waste products, and with growth. A comparison of the condition of these processes in a given case, with an accepted standard of health, will reveal whether they are normally exercised or defective, whether, that is, the child has too little or too much food or has improper nourishment, whether the evacuations are effectively carried out, whether the condition of the blood is normal for the age of the restless infant, whether the hard and soft textures of the body are of average form, size, consistency, and development, and whether the hygienic surroundings are such as are conducive to health. Defect in one or more of these particulars may reasonably be assumed to be causal of the restlessness which is manifested.

In the case of the adolescent and adult a similar physical examination will reveal facts equally capable of interpretation. But now we are dealing with a more developed mental organisation, with a stage of life which has other requirements, wants, desires, and attractions than the feeding-bottle, a warm cot, and a well-ventilated room. We have not even the comparatively simple task of dealing with the primitive savage adult but with a civilised being, girt round by necessity and laden with responsibility; with a creature, in short, which has ideas and ideals and is capable of being miserable if his ideals are not realised. At this stage, therefore, we may find a sound body yet a disturbed or unrestful mind, and by the exclusion of discoverable physical causes of unrest may correctly come to a conclusion as to the preponderant rôle played in the case by what I have termed cellular insomnia. This disturbance may be due to the over-reception of stimuli and consequent cogitation or to executive overwork either of head or hand or of both combined. In both instances the insomnia will probably be found to depend upon that exhaustion of cellular irritability which so frequently expresses itself in the more widespread functional disorders throughout the body which have been grouped under the term neurasthenia. The brain cells, like the plates of an electric battery, become exhausted by use and have to be raised out of the medium which generates their activity in order to revive. This period of recuperation is in normal circumstances sleep and its restitution when defective the task set the physician.

The treatment of sleeplessness.—There are some preliminary considerations which have a bearing upon the prevention and treatment of sleeplessness and which deserve mention. Except when insomnia is due to physical pain or discomfort, or to a state of the nervous system preceding serious cerebral disorder, or finally, in the case of tragic moral commotion, when the uneducated in self-control among the poor who cannot strictly be regarded as insane are perhaps more apt than the more reserved classes in the same circumstances to take refuge in suicide, sleeplessness is, in my experience, and I think I corroborate the general impression, more rare among the poor than among their wealthier neighbours. This conclusion on my part is based upon lengthened observation among hospital patients and the poor generally. It is remarkable how rarely in the mention of their diverse ailments sleeplessness is referred to by them. Serious nervous ailments such as epilepsy and various

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[4] THE LANCET, June 15th and 22nd, 1878.

A Lecture

ON

SLEEP AND SLEEPLESSNESS.

Delivered at the Great Northern Central Hospital on Dec. 18th, 1907,

By ALEXANDER MORISON, M.D. EDIN.,
F.R.C.P. LOND. AND EDIN.,
PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—A human being does not cease to be man when he becomes a patient. He remains such whether the host of a tapeworm or streptococcus or the subject of any other malady. This incontestable fact would not require mention were it not that it appears at times to be lost sight of when attention is directed too exclusively, as may happen, to the invading disease. Whether in health or in illness the mind plays an important part by the influence it exerts upon the body. This is more noteworthy in the case of the disorder of some organs than of others, and in none perhaps is it more so than in that of the cardio-vascular system which is not under the control of the will but is very sensitive to the influence of the emotions. It is obvious, therefore, that interference with the periodic repose of the organ of mind has a practical importance which justifies its particular study by the physician. A man may die exhausted "from the top" when other physical dangers threatening him have been successfully overcome.

While the hospital patient is often the victim of insomnia the satisfactory study of sleeplessness is best made in private practice, and I feel in addressing this audience on this subject that I am speaking to many who must have had a large experience of this condition. It is, moreover, one which requires a considerable experience both of disease and of life to discuss with advantage. It is probably because defective sleep is associated with so many states that text-books of medicine, notwithstanding its importance as a symptom of disturbance and cause of still further exhaustion, do not treat it fully under one heading. Like dropsy, it is referred to, if mentioned at all, in connexion with its causal conditions, and if this were done more systematically there would be no serious ground of complaint, but this is not the case. Comprehensive monographs and instructive papers have, however, been published from time to time on the subject and will repay perusal. Of these, it will suffice if I mention the monographs of Cappie and Macfarlane and the practical papers of Sir James Sawyer and Sir William Broadbent. In connexion with the purely scientific investigation of the subject the names of Durham and Donders deserve mention as early investigators, and since their time other physiologists and physicians have recurred to a subject which is always of interest.

In the present lecture I propose discussing so far as I can the factors which underlie sleep and wakefulness, the discrimination of one type of insomnia from another, the significance and prognosis of different varieties of sleeplessness, and the rational treatment of the condition. In short, I desire to discuss as briefly as possible, but with adequate fulness, the principles, so far as we can explain them, which underlie the etiology and treatment of insomnia.

Sleep and sleeplessness are synonymous with unconsciousness and consciousness. Intermediate degrees of these states are, in various proportion, conditions of partial unconsciousness or of partial consciousness—the dream state. Consciousness, whatever its psychological analysis or definition, is a property of the nervous system and of the highest plane of it—namely, of the grey matter of the cerebral cortex. Reflex actions we know may be provoked in decapitated animals and apparently even purposive movements manifested by them. The decapitated frog may raise its foot to all seeming in order to brush away a stimulation of the surface of the trunk, and the beheaded turtle may snap its jaws for a length of time after the severed head has lain far from its body. But the "spinal soul," if it exist at all, is peculiar to lower types of animal life, with which the physician has no immediate concern, and physiology teaches us that as the cortex is removed in layers unconsciousness deepens, although the functions of visceral life may continue little impaired. We may therefore conclude that, whatever the actual seat of consciousness, it stands in close relation to the cells of the cerebral cortex. Its manifestation among the higher animals is not possible without the agency of some cells in the brain any more than is the function of any other viscus without that of the cells proper to it.

Recent methods of investigating the anatomy of the cerebral cell have shown how far-reaching are its afferent sensory parts or receptive roots and their collateral tentacles or gemmules, and also how directly its efferent or executive processes transmit the nervous influence to the nerves or to the next in a series of cells conveying the motor impulse. In a sense the receptive radicles of a motor cell may be regarded as its sensory or afferent portion. This view of the relation of radicles or dendrites to cell-body and efferent fibres is regarded by those who accept this theory of the transmission of nervous influences as illustrative of what has been called the "law of dynamic polarisation"—that is, that nerve force entering at the receptive pole of a cell issues from the other, the axonic end, according to some by passing through the cell unaltered, and in the view of others modified by the action of the transmitting cell itself. Modern research has also shown the cell body to have a very complex organisation. Staining methods reveal constituents which hold and others which refuse the stain—the so-called chromatic and achromatic portions of the cell. Moreover, some of these constituents stain differently from others under the varying conditions of rest and activity. Thus some stain with certain reagents when the cell is exhausted and others with other stains when the cell is refreshed by functional repose. To these points I shall have occasion to refer again.

But consciousness, we also know, may be lost when animals are deprived of blood and restored with a renewal of the circulation. It follows, therefore, that the quantity of blood and character of the circulation have an influence upon the condition of the cells which manifest consciousness or unconsciousness as the case may be, and that whether unconsciousness be the result of a swoon or of sleep. We know further that substances introduced into the circulation may render an animal soporific or unconscious or, on the other hand, delirious and excited. The quality of the blood also has, therefore, an influence in the maintenance of consciousness or in the production of unconsciousness.

That the physical conditions obtaining within a closed chamber such as the skull, capable of resisting the atmospheric pressure in great measure, if not altogether, have an influence upon the character of the circulation within the skull may be granted. That the intracranial circulation, that is, differs in a measure from that in portions of the body not so protected, may be admitted. But the invariability of the intracranial blood content, which the doctrine of Monro assumed and on which some theories of sleep-production have been based, can no longer be regarded as a fact. That doctrine lived long and died hard, if, indeed, it be yet quite dead; so long indeed did it last that support for it was until recently sought in the assumed absence of innervation of the intracranial blood-vessels, because the innervation of these vessels had not been demonstrated. In a series of lectures which I delivered in Edinburgh ten years ago on the relation of the nervous system to visceral disease I was able, however, to show from specimens I stained in the laboratory of this hospital that the intracranial vessels were richly endowed with nerves, and, not only so, but that these nerves bore peripheral ganglionic cells. I afterwards learned that Obersteiner had previously stained these nerves and others also have done so since. My preparations were from vessels in the pia mater, but Ford Robertson figures an innervation of vessels in the cerebral cortex both of quadrupeds and men.[1] We therefore know now that intracranial vascular innervation is general and indubitable.

Some physiologists, notably Leonard Hill, have contended that, these facts notwithstanding, these nerves cannot be made experimentally to vary the calibre of the vessels they innervate, and for Hill the key to the intracranial lies in the splanchnic circulation.[2] It is manifest that this conclusion is difficult to accept, as nature is as averse to distributing functionless structures as she is to loving vacua. Observers have, moreover, shown that there is as direct a relation between cerebral activity and blood-supply as there is between the activity of any other group of functionally active cells and *their* blood-supply. This relation even Hill admits, reasons, and in quite a legitimate manner, they frequently continue to be used by the patient, openly or surreptitiously, after the need for their employment has gone. Their use, therefore, has to be constantly guarded from abuse. In the absence of physical pain and visceral commotion or discomfort the majority of reliable hypnotics in use belong to the methane series, of which alcohol, chloroform, paraldehyde, sulphonal, trianal, veronal, chloral, and chloralamide may be mentioned as examples. Why this group should have a special action in abolishing consciousness is not quite clear, notwithstanding some ingenious suggestions as to their *modus operandi*. Cushny[5] refers to the hypothesis of Meyer and Overton, according to whom their special solubility in lecithin and cholesterin, in which brain-cells abound, is a possible cause of this specific action. But, as Cushny points out, there are other substances resembling these in this particular of solubility which have no such narcotic effect. One would *a priori* expect that if this special solubility led to a more intimate incorporation of these substances with the brain cells their effect upon the latter would be more lasting than experience teaches to be the case. Thus the chloral habit, or even the habit acquired of taking that most disagreeable hypnotic paraldehyde, may exist for many years without apparently disabling the brain cells from doing much active mental work. But again, one meets with cases in which the drug habit appears to incapacitate its victims altogether for continuous mental application. These differences are not easy to explain merely as effects of the drug. There is evidently a personal factor involved, a personality which is a synonym for character, moral and probably also physical. The intelligent and industrious who dread the effects of insomnia may, like him who eats to work, take hypnotics to work. Others, like those who live to eat and who also live to sleep and to indulge in anything else that is pleasant, take hypnotics to squander in sleep the time they are too selfish or too inert or too ignorant to employ profitably when awake. But sleep is necessary for all; like rain it falls upon the just and upon the unjust, and, injurious as are the effects of the abuse of hypnotics in many cases, their actual destructive power is less than that of a continuous or persistent insomnia however caused. Regrettable as is the acquisition of the sleep-drug habit, there are cases, therefore, in which, as the lesser of two evils, the use of hypnotics for a considerable period seems unavoidable.

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[1] Pathology of Mental Diseases, p. 163.

[2] Schäfer's Physiology, p. 142, Edinburgh and London, 1900.

With one or other member of the methane group bromides may be prescribed, alone, or with the addition of a derivative of hyoscyamus or cannabis indica. The well-known effect of the hyoscyamus group upon the peripheral motor nerve-endings tends to quiet muscular unrest and helps to induce that quietude of the extremities which favours the advent of sleep. Hyoscine itself is too powerful a drug for habitual use, but in the violent excitement of the insane may be invaluable as a muscular quietant. I have not infrequently found the use of the bromides during the day and a separate dose of one of the methane hypnotics at bedtime an effectual means of removing the consequences of insomnia.

The most difficult cases to treat among those possessed of reason are those in which artificially induced sleep only leads to an awaking in which the recognition of persistent causes of mental disturbance again present themselves. A certain proportion of such patients, usually with a congenital neuropathic strain, develop some form of maniacal aberration, temporary or persistent. Others without such strain may, after continued anguish, even die from that exhaustion which has in figurative language been termed a "broken heart," and which, if, like Balzac's callous husband who sent his wife's tears to a chemist for analysis, we try to define it more scientifically, we shall find it compounded of malnutrition, anæmia, loss of flesh, and the unresisted incidence of some intercurrent affection which proves fatal.

Those, however, are the cases in which the acme of distress is witnessed, in which physical pain is added to mental torture from other than physical causes. Even such cases one has at times known to reach a harbour of quietude and relief, but sometimes only for a brief period, before they again cross the bar on a voyage from which no ordinary mortal has ever returned. This last journey is, however, not infrequently taken on the initiative of the miserable patient himself, either by the self-administration of an overdose of hypnotic or by a despairing leap into space when death is welcomed as a friend. The suicide of the insomniac is not an uncommon event, even when the physical or mental suffering involved is not of such a degree as would tempt an unhinged mind to do the desperate deed. This only emphasises the importance of the subject we are discussing.

Yet another group of cases in this class find relief and recovery by learning to ignore the pressure of such persistent psychical excitants. These three kinds or degrees of disturbance belong, however, to an exceptional and aggravated group and tax the ingenuity of the physician not only as one prudently administering certain physical agents which act as narcotics but also as a philosopher with experience of life, whose undisturbed vision relatively to his patient's may enable the latter to walk through the fog of his circumstances into clearer day and with better hopes of overcoming his "strong enemy." The vast majority of cases of cellular insomnia, however, present no such difficulties and merely require judicious management upon the part of both physician and patient to be satisfactorily replaced by refreshing sleep. The prognosis, as I have said, in most cases of insomnia is good—a fact to be impressed upon the patient, for a succession of *nuits blanches* has a very depressing effect which naturally aggravates the condition and renders the task of the physician proportionately difficult. Sleep at night has frequently to be earned under these circumstances during the day. Robust and wholesome life, fully exercised during the day, throws itself more or less tired on to its couch at night to sleep soundly, in some cases the sleep of the just, and in others that of the unjust with a maximum of digestive power and a minimum of conscience. But, as a rule, when, from one cause or another, peripheral or central, or both combined, sleep has been disturbed, the return to refreshing slumber at night must be earned by a carefully regulated life during the day.

In extreme cases, both in men and women, there is no doubt a place for the "rest cure" and all its appurtenances. By this I mean the isolation of the individual in a nursing home, quietude, massage, careful feeding, and a curfew sounded comparatively early after sundown. But in most cases of insomnia, and especially among men, the nursing home should be avoided. It stands not far under these circumstances from the lunatic asylum and leaves a memory of nerve-wreck, or even of cowardice, which does not minister to self-respect. The steady performance of a compassable amount of work; the avoidance of excitement so far as possible; the cultivation of self-control; the production by circumspect and wholesome conduct, physiological and moral, of a centre of calm into which the individual may retire, *saevis tranquillus in undis*, when external sources of irritation bear upon him; the consciousness of a brave endeavour to perform duties which cannot be neglected without injury to himself or others; the well-spent day which leads to the cool and quiet pillow at night—this *day-sleep*, as such an attitude from its reduction of the friction of life may be termed, will gradually lead by recuperation of energy to sound *night-sleep*, often without the aid of drugs, though sometimes requiring their help for a time. The most annoying incidents which, suddenly thrust upon a man, induce cellular mental activity and the vaso-motor disquiet normally associated with that state spend themselves. Bravely looking the situation, whatever it be, in the face and translating thought into reasonable action will do more for the average and normally constituted man or woman who suffers from insomnia than more elaborate and invalid methods which enhance introspective activity, sap the self-reliance and self-respect of the individual, and perpetuate that subjective sense of dissatisfaction which turns the useless and mis-spent day into the restless and wakeful night. Indeed, Sir William Broadbent's words on the abuse of drugs in insomnia apply equally to the frequently unnecessary incarceration of such patients in nursing homes—"they diminish," he writes, "the resistance and impair the manhood of the individual."[6]

In the same category should be placed the practice of hypnotic suggestion as a therapeutic agent. There is a residuum of effete men and women in whom it is almost hopeless even to attempt to rouse that "heart for any fate" which brings its own reward in steady effort and in calm repose, who drift at times into the hands of the practitioner of hypnotism to be coaxed into an oblivion not otherwise attainable except by drugs. But the type suitable for his consideration of some psychological points bearing upon our present theme.

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[5] Text-book of Pharmacology, p. 126.

[6] THE LANCET, Jan. 27th, 1900, p. 215.

Perhaps no subject has exercised more the ingenuity of the thoughtful than the nature and actions of mind, and classifications of the different manifestations of human consciousness have been very numerous. The phenomena of consciousness appear to be subjective and objective, involuntary and voluntary; I had almost said passive and active, but passivity is properly applicable only to the reception of a stimulus by the organ of mind. The "Senses and the Intellect," to use the title of Bain's well-known treatise, perhaps expresses this division sufficiently. *Feeling* and *expression*, in thought, word, and deed, embrace all phases of mind, for all these may be phases of an internal process of which there is no overt manifestation. Feeling in the first instance can of necessity only be appreciated by the individual. It is purely subjective. A thought need not be apparent to others, a word need not be uttered, and an act need not be manifested. A thought is an act, a word is an act, and a resolve is an act. They are all within the sphere of will, to be liberated or repressed, as the individual desires.

To enter at length upon the field of fine distinctions in moral philosophical terminology is, however, scarcely germane to our present purpose. It will suffice if I explain with greater detail what I mean by subjective and objective, involuntary and voluntary phases of the operations of mind. The subjective operations of mind deal with the *feelings*—with love, self-esteem, hate, joy, grief, hope, fear, certainty, uncertainty, satisfaction and dissatisfaction, however they may be provoked, and however they may be further divisible in relation to the desires and appetites of our nature. Primarily they appear to spring from our possession of life and the impulse to preserve and perpetuate it. When we cease subjectively to feel, our mental operations become objective; our feelings shape themselves towards intellectual effort and transpire in thought, word, and deed. Such action completed, we may again lapse into satisfied or dissatisfied subjectivity. We may feel satisfied or dissatisfied. Satisfaction is rest; dissatisfaction is unrest or continued stimulation. This may appear to some but prolix verbiage, but I hope to show that it has a bearing upon our theme in my endeavour to explain the phases of cellular action which underlie consciousness and which tend, according to their nature, to encourage or to thwart the normal advent of rhythmical sleep.

Another point of importance in relation to sleep and sleeplessness is temperament. While man may be regarded as essentially one in his nature—scratch anyone and he will bleed much like his neighbour—it is nevertheless a truism that no two men are precisely alike. In no respect is this more so than in his mental nature, in the sphere, that is, of his consciousness. These differences of temperament may be assumed to be based on physical differences which may escape detection by the test-tube or microscope, but which are unmistakeably written in the objective manifestations of mind, in the conduct and bearing of the individual. A man, the intellectual side of whose nature is well developed, may exercise a control which imposes outward calm on a naturally perfervid disposition, and may give a surface impression of quietude which is foreign to his nature. This is not likely to mislead those who have any faculty for distinguishing the quick, energetic type usually associated with the possession of powers of rapid perception, rumination, and expression, from the slower, more deliberate, and less impulsive type. The majority of men of the former type are easily recognised by rapidity of speech when discussing matters which interest them, frequently emphasised by gesture and decorated with metaphor or imagery which may easily degenerate into extravagance of language or oratory. Their emotions are easily roused and they sometimes advocate with enthusiasm causes not necessarily sound in themselves. What is true of the neurotic man is true also of the neurotic woman, "only more so," to use a conventional phrase. The intelligent man of a naturally imperturbable disposition, on the other hand, is not as a rule the stuff of which poets, orators, and artists are made. His ratiocination is often slower, but often also more accurate than the neurotic's and the results of his cogitation frequently more reliable, while his actions and expression are less explosive but often more sustained and effective. Dogged sometimes does it, after the rocket has flared into the heavens and returned as the unpicturesque stick. There is, of course, the contingent possibility of tardy worth arriving on the scene too late to be of much use to himself or anyone else. But that is a detail which probably would not disturb him to the same extent as it would his more impetuous fellow. Both types when not dullards may no doubt be raised to white heat on sufficient occasion, the one quickly and the other slowly, but the brain-cell rest of the quick is more easily disturbed than that of the slow. Both, however, in virtue of their intelligence tend to return to the normal, for each creates for himself a centre of calm by clear insight into circumstances and possibilities. Neither of them, that is, desires long a slice of the moon if that luminary cannot reasonably be reached with a knife.

When we come to a lower plane and the subjective differences remain while intelligence is less marked, the phlegmatic have the advantage still more. They have a bovine imperturbability which is conducive to good digestion and to doing nothing, which is sometimes safe. The stupid neurote, on the other hand, is apt to be hurried into precipitate and often unfortunate action, not calculated to hasten his return to normal quietude and rhythmical sleep. Alcoholism, morphinism, and other bad habits are more easily acquired by the stupid neurotic than by the stupid phlegmatic person, although, unfortunately, many a brilliant and lovable nature has also succumbed to the same fatal influences to escape the torture of insomnia.

These temperamental differences which influence cellular excitation, influence also disturbances of sleep due to afferent neural and to hæmic causes. Sleeplessness may therefore be placed in three groups—cellular, neural, and hæmic. Not that these can be altogether detached the one from the other any more than these factors can be separated in the production of normal consciousness, but inquiry will usually elicit in cases of insomnia which of them plays the predominant rôle in a particular case. But whatever the immediate cause of sleeplessness the effects of it, though varying in degree, are the same in kind and the opposite of those observed in sleep. Thus, the temperature of the body is slightly raised, visceral actions are quickened, and secretion, especially the urinary secretion, is increased, not diminished. The latter phenomenon is, like all the phenomena of sleeplessness, most evident in the neurotic insomniac and is due to the higher vascular tension involved which causes a larger excretion of urine by the kidneys, for the increased output is usually of a limpid character.

Let us now consider these varieties of sleeplessness seriatim.

1. *Cellular insomnia.*—The majority of cases of disturbed sleep are referable to this class, as might *a priori* be expected; indeed, most papers on insomnia deal solely with this class. We need not attach too much importance to statistics which are rarely based upon a sufficient number of cases to carry conviction to the mind of the lesson they seem to point. Such as they are, however, they indicate the preponderance of the cases I have termed cellular. Thus, the late Dr. Macfarlane in his thoughtful work found that neurasthenia and worry were responsible for 26 per cent. of cases of insomnia calculated from a total of 273 cases. Although gout, overwork, the menopause, dyspepsia, alcoholism, and senility are among the other causes which he mentions it is probable that the cellular factor played a not insignificant part in many of these also. We must distinguish, moreover, between the subjective and objective causes of cerebro-cellular disturbance. Of these the former, dealing with sensibility and emotion, are more likely to preponderate than those dealing with executive overwork. Worry kills and keeps awake more frequently than work. There is relief and attainment in action which does not appertain to the unutilised energy of subjective or unexpressed feeling. Action takes a man out of himself and thus favours repose.

2. *Neural insomnia*, in the sense in which I have used the term, includes all those cases in which sleep is disturbed by afferent impulses of a more strictly physical kind. Pain and bodily discomfort in various degree and originating in whatever system, be it cutaneous or pulmonary, renal or hepatic, gastric or intestinal, may rouse conscious activity and prevent its dropping into the rhythmical repose natural to it. Thus such efferent impulses may effect directly, as is the case in pain and local discomfort from any cause, when it is sufficiently pronounced to be perceived by the mind as such; or indirectly when the combined influence of afferent stimulation and cerebral excitation raises the blood pressure. We must remember also that the absence of satisfaction of

process of saturation of the human skin was an essential one in its disinfection and in making it antiseptic. And by antiseptic I mean that bacteria would refuse to live in it. So we have been trying of late to saturate our skin with biniodide of mercury. The way in which we proceed is this: we take the ordinary solution of spirit of biniodide of mercury, which is made of 75 per cent. of ordinary rectified spirit, and a solution of mercuric iodide in iodide of potassium to make it of a strength of 1 in 500. The water amounts to 25 per cent., and the reason for this addition is well known—and I need hardly dwell upon it—that when disinfectants or antiseptics are mixed with alcohol; or with glycerine, or with fat they become inert. A solution of disinfectant with spirit becomes potent again after the addition of water, and for practical purposes we find that a dilution of 25 per cent. suffices. Now as to the way in which we try to get the antiseptic into our skin. Biniodide suits my skin and it is a good antiseptic, and we have tested its effects on the tissues. With tissues which were washed with biniodide of mercury of a strength of 1 in 4000 I am unable to see the slightest change. Mr. A. J. Kendrew, to whom I am much obliged, showed me first sections of ordinary muscle and of ordinary fat and then afterwards some which had been washed with 1 in 4000 biniodide of mercury, and I was unable to tell which was which. So I think we may guess that many of the statements which are made about the harmful effects of chemicals upon the tissues will not apply to biniodide of mercury. I think that on looking through the literature you will find that the statements which are made apply to very strong solutions of sublimate and to strong solutions of carbolic acid, which you know combine with albumin very freely.

Now, how do we get biniodide of mercury into the skin of our hands? After the hands have been washed they are put in spirit and biniodide 1 in 500, and afterwards put into a watery solution of 1 in 500. That is repeated four times at least, until we get 1 in 500 watery solution absorbed into the depths of the skin. Dr. Hurtley has ascertained that skin treated in that way contains an appreciable amount of antiseptic. Also, I believe that it will bear tests which skin treated in other ways will not bear. Haegler tested the asepticity of skin by dragging across it pieces of silk which were afterwards dropped into broth or put on to the surface of a culture. And we have found that after these more rigorous efforts we have been able to drag pieces of silk through the fingers without infection. But this is not the most stringent test because the fingers are easy to disinfect. Therefore it has been dragged many times through the palms of the hands, which you know have numerous sweat glands upon them, and a large proportion of that silk was not infected. We have not been practising this stringent test for very long, but I am quite within the bounds of veracity in saying that 40 per cent. of our tests were aseptic. As a matter of fact, I believe the proportion is higher. Further, if some gentleman will apply his mind to this subject he will discover a better method than any of these for the disinfection of the human skin.

You might say this to me: "Why, if the skin of the hands is so difficult to disinfect, do you not wear gloves?" I have already partly answered that question. The assistants at operations should certainly wear gloves. I am not saying anything that is not quite kind or polite when I say that the assistants at operations cannot have had a very large experience in the methods of disinfecting their hands, and have already said that in disinfection of the hands experience counts for a very great deal. Why should not an operator wear gloves? Many operators do. I have been wearing gloves for a great many years. When I was surgical registrar I used rubber gloves in all the post-mortem examinations and was conscious that I could not feel properly in them. And with gloves on I could not during an operation put my fingers down into the depths of the pelvis and extract an adherent vermiform appendix or an adherent and suppurating Fallopian tube with any degree of confidence. But, for a great many operations, such as rectal examinations, operations for hæmorrhoids, for fistula, and for operations on septic sinuses and so forth, surgeons ought to wear gloves. Surely it must be easier to disinfect hands which have not been contaminated than to disinfect hands which have.

We come next to another matter and that is the testing of the skin of the patient. You probably know that the difficulty in disinfecting the skin of the patient depends to a very great extent upon the region from which it comes and you may say offhand that regions which have upon them hair and consequently deep sebaceous glands and which have long sweat glands are additionally difficult to disinfect. This is true with regard to the scalp; the skin of the back is also very difficult to disinfect, so is the skin of the groin and the skin of the armpits. The easy skin to disinfect is in front of the limbs, of the abdomen, and of the chest. The bearing of this is obvious and you will take additional pains in endeavouring to saturate the more difficult regions with disinfectants. The difficulty which you will meet with is the presence of fat in the sebaceous glands of the skin. And you will observe that I have almost put the difficulty in the order of the abundance of the sebaceous glands. I wonder if anybody has ever succeeded in disinfecting the scalp. If you are aware of the difficulty your minds will suggest to you methods of overcoming it. And you may have observed that we use all sorts of materials for extracting sebaceous matter from the human skin. Ether is good but it speedily evaporates. Turpentine is good and has some disinfecting properties. We have tried benzol and I do not see why we should not try others of the petroleum series. We also use alcohol as part of the process of disinfection. It is not only a disinfectant in itself but it is useful in the removal of grease. Again I say about disinfection of a piece of skin what I have already said to you about disinfection of the hands. As our realisation of the extreme difficulty of the process has grown, so we have become more successful. I regret not to have had time to abstract all the returns which the house surgeons and pathological clerks have with such great kindness sent me. But I believe it to be correct to say that we succeeded, taking every region of the body into consideration, in at least 75 per cent. of our attempts. I believe that is well within the truth. And it is comforting to think that in some of the regions where the effects of skin infection would be most disastrous it is least likely to occur. So that one feels very few qualms when called upon to open a knee-joint for the removal of a loose cartilage, as one had to do yesterday.

With regard to the disinfection of the human skin there are certain further tests which can be applied. One of the tests which we are endeavouring to apply on every occasion is the removal of a stitch from the wound when it is dressed and placing that stitch into broth. And here, again, with increasing experience and increasing trouble we are getting a very much higher proportion of asepsis. I ought to say that we are not contented with our methods of closing wounds. The stitch-hole often has a small red point around it which is objectionable. We have tried celluloid thread, which is better, but that often has a red point round it. I am not by any means certain that we may not try other means and shall suggest to the house surgeon that some of our wounds be closed with metal clips. The meaning of all this is—and I do not know what the house surgeon will think of it—that I shall not be content until we get perfection.

I now come to another point in regard to the source of wound infection, those which are due to the environment of operations. And I had this point brought home to me in a very painful manner when the temporary theatres were opened. This hospital is ultimately to be equipped with proper theatres and I cannot tell you what a very difficult problem the arrangement of proper theatres will be. I have learnt a very great deal from having to operate in different kinds of theatres in this hospital and hope that either I or somebody else will ultimately evolve the plan of a suitable operating theatre. But to come back to my painful experience. I had to perform a gastro-enterostomy and also a complete removal of the breast and also the removal of a myxo-sarcoma from the brachial plexus on one day. In those times the theatre had no bay in it for the audience. And that day, for some reason or other, there was a large audience, so that the floor of the theatre was full of people. The atmosphere was dreadful and the end was that the unfortunate patient who had gastro-enterostomy performed died from a slow form of septic peritonitis, although there was no leak nor any reasonable probability of some fault on the part of the operator. Next, the case of complete amputation of the breast suppurated freely but the patient fortunately survived. Lastly, the myxo-sarcoma of the brachial plexus healed by first intention, but by the time that operation was done most of the audience had departed, and the operation was a speedy one and did not involve exposure to a polluted atmosphere for over an hour. That was a sad experience.

And now I want to discuss with you for a few minutes the psychoses are apparently, though perhaps not actually, as common among the poor as the rich. I say apparently, because the poor as a body so greatly outnumber the rich. This fact, if such it be, that insomnia is rarer among the poor has a certain significance. The poor are neither overfed, overclothed, nor idle as a rule, except when unavoidably unemployed. I do not speak now of the submerged "unemployable" but of the labouring poor as a body, the peasantry, urban and rural, who are the source and foundation of a nation. No one will assert that these are free from anxiety or that they have not as tender a regard for their offspring and relations as their wealthier neighbours. It must therefore be that such sleeplessness as they suffer from must either be regarded by them as a minor evil or that their conditions of life are less favourable to its occurrence. I think the latter conclusion may be accepted as correct, for no human being can work hard unless he sleeps well, and as the poor must work hard they probably also sleep well. The workman's energies are largely peripheral, so to speak, or executive. He is hands as a rule, not head. His food is moderate in quantity and plain. He is not superfluously clothed day or night. He is inured to hardship. He is little concerned in laying up for himself "treasure upon earth" possibly from lack of opportunity, and is inclined to believe that the evil of each day suffices for it.

All these conditions of hardihood and hard work lessen as we pass into the so-called higher strata of society. Man then becomes more subjective in his mood, more fastidious in his appetite, "softer" generally, and demands more as his right, being proportionately discontented when his expectations are not realised. What he terms refinement takes the place of more natural and simpler conditions. Whether as a consequence of these altered circumstances or not, minor nervous disturbances bulk large in his imagination, and it is, I think, a fact admitted by most observers that insomnia not dependent upon physical pain or great moral distress is more common among the upper classes than among the lower orders.

Now we cannot expect the nervous system, modified by education, easy circumstances, and hereditary influences, suddenly to divest itself of all these properties as a man takes off an overcoat. It takes time to make the modification; time is also necessary to unmake it. But it is possible for the wealthy and cultured classes to lead the simple and strenuous life and not hopelessly to degenerate in the lap of luxury. To cultivate, that is, the sound body which holds the sound mind. To keep themselves fit—*toujours en vedette*, and to avoid becoming *blasé* in a life which may be made solidly interesting and beneficial from the dawn of intelligence to its close.

When, however, we have the particular instance of a given insomniac in more or less easy circumstances to deal with we cannot expect him suddenly to assume a Spartan mode of life and regard his state philosophically. We have to take him as he is, and endeavour by degrees to make him, if possible, what he ought to be. The young and potentially vigorous must be fed plainly, advised to take regular exercise, increasing with their improvement of tone, and placed under circumstances in which, day and night, they have an abundance of fresh air, a cool head, and comfortable surface warmth. The older, and especially those with a measure of persistently raised blood pressure, require to be particularly careful as to surface warmth in bed, and especially warmth of the feet, which helps to reduce vascular tension. To secure a cool head in bed the ordinary feather pillow is not a good contrivance. It may certainly be so arranged as not to heat the head for a time but a head-rest may be constructed which is much cooler. Inflated pillows are usually more or less hard and uncomfortable. A "pillow" has, however, been made under my directions by Messrs. Krohne and Sesemann of Duke-street, London, W., which, in my opinion, fulfils the indications better. It is a lightly padded iron frame covered by a case of smooth webbing and open at both ends on which the head and neck rest comfortably, surrounded by air of the same temperature as that of the bedroom. This pillow, which has been called the "open air-pillow," may be used under all circumstances in which such coolness is desirable (see Figs. 1 and 2). Indeed, the so-called hop pillow, consisting of a muslin bag filled with the dried flowers of the hop (*Humulus lupulus*), probably owed any reputation it ever had to its coolness and the suggested purpose of its use rather than to any direct narcotic influence of the odour of the flowers themselves. It is said to have been first used to woo sleep for a merry monarch now departed—Bacchus on a hop-pillow, not crowned in boisterous mirth with the more graceful leaf of the vine! What a falling off was there!

As night is the normal period for sleep it is well when that function is disturbed to secure darkness in the bedroom by blinds of a sombre hue. This is the more especially desirable because the insomniac, after tossing restlessly the greater part of the night, frequently falls asleep towards morning, and his slumber is more likely to be resumed, if, in a moment of wakefulness, he open his eyes upon darkness, rather than upon daylight with all its associated duties. In the case of nervous children, however, who dread darkness, it is frequently necessary to keep some shaded light in their rooms when first put to bed. But this luxury should be withdrawn as they grow older, to inculcate that mood which they will find invaluable in after life—namely, fearlessness under all circumstances. For the rest it need only be added that the insomniac should be enjoined to impose the calm of natural sleep on his *voluntary* muscular system and to resist the temptation to tossing and restlessness. Voluntary muscular quiescence affords in itself a measure of refreshment. Patients have frequently been advised to pursue some monotonous imaginative exercise like counting sheep jumping over a wall, but the less voluntary exertion there is imposed either on brain or muscle, the sooner as a rule will sleep ensue. Patients should especially be impressed with the fact that sleep will overtake *them*, but they will only postpone its advent by endeavouring to overtake *it*.

FIG. 1.

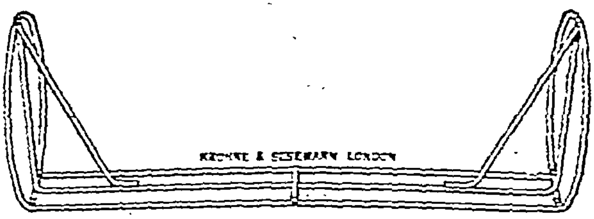
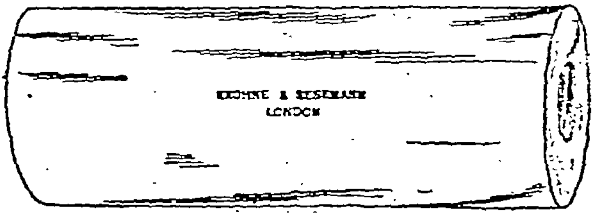


FIG. 2.



When sleeplessness is due primarily to *discoverable* physical causes, acting through afferent neural channels directly, or to causes acting indirectly as excitants to consciousness by conveyance to the centre in the blood stream, or, again, to such effects of these causes as disturbance of temperature or vaso-innervation, the removal or mitigation of such causes of defective sleep is necessarily the first duty of the physician. To enter with detail into this aspect of the treatment of sleeplessness would manifestly be out of place on this occasion, as it would require many lectures to deal with it adequately. It is therefore only possible in this connexion at present to indicate the principle of the removal of the ostensible cause of the sleeplessness in any given case to secure the disappearance of the effects in most instances. But even when such a procedure is in progress, be it temperature reduction, or the reduction or increase of vascular tension, or the treatment of any other abnormality whatsoever, it may be necessary to act directly upon the organ of consciousness, to secure sleep in that interval which must necessarily elapse in many cases before the introduced hæmic or the peripheral cause of disturbance can be eliminated. For this reason medicinal agents are necessary and their selection is not an unimportant detail.

Many as have been the hypnotics introduced into practice during recent years, when physical pain or disorders of visceral motion and sensibility are the active causes of insomnia, none of these has an efficacy in any way comparable to that of those oldest of hypnotics, opium and its derivatives. No agents, however, are more apt to induce the drug habit. Prescribed in the first instance for sufficient

TABLE I.—*Showing the Severity of the Eruption and the Age in 1824 Unvaccinated Cases of Small-pox.*

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	0–30	30–40	4 –50	Over 50	
I.	43	18	12	7	10	6	4	3	103
II.	37	20	32	22	27	7	3	0	148
III.	137	132	91	73	62	29	8	5	537
IV.	123	112	64	30	38	15	3	1	386
V.	130	102	57	27	30	8	0	3	357
VI.	108	85	44	21	23	6	1	5	293
Total ...	578	469	300	180	190	71	19	17	1824

Class I. is hæmorrhagic small-pox. Classes II. and III. are confluent cases, the former confluent before pustulation occurs and the latter after. Class IV. is discrete small-pox with over 500 pocks on the face. Class V. is discrete small-pox with from 100 to 500 pocks on the face. Class VI. is small-pox with less than 100 pocks on the face.

It will be seen that the figures in this table show no preponderance of severe eruptions at early ages or at the very late ages of life when the death-rate is very high. On the contrary, with one exception (Class I., in infancy) the preponderance is slight but significant in the opposite direction—viz., increased number of pocks at increased ages.

Table II. shows the distribution that would correspond to complete equality of severity at all ages, which is calculated thus. Take the total number of cases in the first column—i.e., 578—and divide them up in the same proportion as the grand total 1824 in the last column is divided between the separate classes. Repeat the process similarly for every column. Table III. shows the difference between Table II. and Table I. It will be noticed that the differences are not great, but all the positive quantities tend to collect in the upper right hand and lower left hand quadrants, showing a slight preponderance of severe cases at higher ages.

The difference between any figure in Table I. and that which corresponds to it in Table II. represents the tendency that small-pox of a definite type has to attack persons of a definite age *in excess or defect of the average rate of all ages.*

TABLE II.

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	32·6	26·5	16·9	10·2	10·7	4·0	1·1	1·0	103·0
II.	46 9	38·1	24·3	14·6	15·4	5 8	1·5	1·4	148·0
III.	170·2	138·1	88·3	53 0	55 9	20 9	5·6	5·0	537·0
IV.	122·3	99·3	63·5	38·1	40 2	15·0	4·0	3·6	386 0
V.	113·1	91·8	58·7	35·2	37·2	13 9	3·7	3·3	356·9
VI.	92·8	75 3	48·2	28·9	30·5	11·4	3·1	2·7	292·9
Total ...	577·9	469·1	299·9	180·0	189·9	71·0	19·0	17·0	183·8

Table III. gives these differences, a + sign denoting that the observed number exceeds that calculated from the average, a – sign that it falls short. To avoid confusion fractions are omitted and the nearest whole number is given. In a few instances the difference is less than ½, so that the nearest whole number is 0. The + or – sign of the fraction is, however, retained.

TABLE III.

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	+10	– 8	– 5	– 3	– 1	+ 2	+ 3	+ 2	0
II.	–10	–18	+ 8	+ 7	+12	+ 1	+ 1	– 1	0
III.	–33	– 6	+ 3	+20	+ 6	+ 8	+ 2	– 0	0
IV.	+ 1	+13	+ 1	– 8	– 2	– 0	– 1	– 3	+ 1*
V.	+17	+10	– 2	– 8	– 7	– 6	– 4	– 0	0
VI.	+15	+10	– 4	– 8	– 8	– 5	– 2	+ 2	0
Total ...	0	+ 1*	+ 1*	0	0	0	– 1*	0	+ 1*

* These totals would have been 0 if the actual fractional difference had been taken instead of the nearest whole number.

TABLE IV.—VACCINATED CASES.

Class.		Age-periods—Years.								Total.
		0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	Actual cases	*0*	*0*	*2*	*5*	*34*	*57*	*42*	*23*	*163*
	Calculated	0·5	2·7	7 9	19·5	59 2	41·7	20·2	11·1	—
	Difference	– 0·5	– 2 7	– 5·9	– 14 5	– 25 2	+ 15·3	+ 21·8	+ 11·9	—
II.	Actual cases	*0*	*1*	*0*	*13*	*39*	*49*	*30*	*10*	*142*
	Calculated	0·4	2 4	6·9	17·0	51·5	36·3	17·7	9·7	—
	Difference	– 0·4	– 1·4	– 6 9	– 4	– 12·5	+ 12·7	+ 12·3	+ 0·3	—
III.	Actual cases	*0*	*2*	*5*	*29*	*149*	*170*	*81*	*41*	*477*
	Calculated	1·4	8·0	23·2	57 3	173 5	122	59 6	32·5	—
	Difference	– 1·4	– 6·0	– 18·2	– 28·3	– 24 5	+ 48	+ 21·4	+ 8·5	—
IV.	Actual cases	*0*	*4*	*26*	*64*	*256*	*225*	*129*	*52*	*756*
	Calculated	2·2	12·6	36 8	90·7	274	193·5	94 6	51·5	—
	Difference	– 2·2	– 8·6	– 10 8	– 26 7	– 18	+ 31·5	+ 34·4	+ 0·5	—
V.	Actual cases	*2*	*9*	*43*	*115*	*377*	*285*	*120*	*78*	*1029*
	Calculated	3·0	17·2	50·0	123·5	374	263	129	70·0	—
	Difference	– 1	– 8·2	– 7	– 8 5	+ 3	+ 22	– 9	+ 8	—
VI.	Actual cases	*13*	*70*	*173*	*389*	*1005*	*524*	*239*	*145*	*2558*
	Calculated	7·5	43	124	307	929	654	320	174	—
	Difference	+ 5·5	+ 27	+ 49	+ 82	+ 76	– 130	– 81	– 29	—
Total		*15*	*86*	249	615	1860	*1310*	*641*	*349*	*5125*

The black lines divide the table into four quadrants. The top left-hand quadrant—i.e., cases of severe small-pox in young patients—and the bottom right hand quadrant—i.e., mild small-pox in old patients—both show deficiencies, while an excess of cases shows in the reverse conditions, viz., mild cases in young people and severe cases in old people.

ninistrations is likely to relapse at the first serious *contre-emps* unless lifted on to a higher level of open-eyed endurance, the road to which does *not* lie through hypnotism. On the therapeutic value in nervous disorders of indifference—*insouciance*—the readiness to meet with *sang-froid* whate'er betide, a not uninstructive essay might be written. It is a mood akin to, though not identical with, the grand attitude of Renunciation or *Entsagung* and both, born of strength, beget calm, and in the absence of organic disease, the normal consequences of that state, sound and refreshing sleep.

A Lecture

ON

SOME OF THE SOURCES OF WOUND INFECTION.

Delivered at St. Bartholomew's Hospital on Dec. 11th, 1907,

BY C. B. LOCKWOOD, F.R.C.S. ENG.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—You may have observed that twice a week in the operating theatre we make certain tests of the materials which we are using, of the hands which are brought into contact with the patient, and of the patient's skin. It is now some years since I last referred to this subject, and it is rather strange that I have never yet told you the reasons for my procedures. The essential object of making bacteriological tests during the performance of the operation is to ascertain the absence of bacteria. If bacteria are absent we then consider that we are working aseptically and we call the result asepsis. I am quite aware that that is not the sense in which the word asepsis is always used. Some surgeons apply the term to operations which are conducted by means of heat and with the aid of salt solution and without any stronger chemicals. Whether their results are clinically better than the results of surgeons who use mild chemicals I cannot say. But their published records show, I believe, that their results are never germ-free, and that in the vicinity of the wounds the staphylococcus epidermidis albus (the ordinary skin coccus) is continually present. The staphylococcus pyogenes aureus is not infrequent, and streptococci and even the colon bacillus are found. Now, I myself could not be contented with the presence of such micro-organisms in the vicinity of wounds. Besides, let us take what is after all a perfectly logical and scientific standard of excellence, the entire absence of bacteria, and then you know exactly where you are. At all events, a wound which contains no bacteria cannot be septic. What sepsis is I cannot tell you. It has never been defined. I should suspect that some of the wounds which contain streptococci, staphylococcus pyogenes aureus, or the colon bacillus may be very septic indeed.

The tests which we apply prove that everything which can be treated by heat gives perfectly aseptic results. Perhaps I ought to make this qualification and say that unless you steadfastly test—and I have been testing for more than 15 years—curious errors creep in. I remember a while ago being rather surprised when informed that the needles infected our broth. As soon as this was ascertained and brought to the notice of those who performed the process of sterilisation the needles were sterile. So, clearly, you must not assume the sterility of anything until it has been tested. In passing I would perhaps answer a question which has occurred to you, and it is this: Why might chemicals not be used for the disinfection of instruments? I have often wondered whether instruments dipped in pure carbolic acid are liable to infect. I am inclined to think that they may. Pure carbolic acid may coagulate albumin on the instruments and there may be infection beneath its layers and during the course of the operation the layer may come off and the wound may be infected. Mr. B. T. Lang very kindly tried to ascertain whether he could disinfect instruments by means of strong solutions of formalin. Formalin is a very potent disinfectant. A disinfectant is a chemical which kills bacteria. So Mr. Lang applied a 25 per cent. solution of formalin to infected instruments for 24 hours and had to acknowledge that he failed. Clearly, great caution is required before using instruments which you have attempted to disinfect by means of chemicals. I have said already that the effects of heat are absolutely certain. We have seen that over and over again. We are continually disinfecting silk by means of heat. It never comes into contact with any chemical whatever and is passed straight into broth but nothing grows. I want to make this qualification. Outside this hospital we have a hay market, and some years ago Dr. E. Klein pointed out that it was difficult, in experiments performed upon this site, to exclude the hay bacillus. And we have found that when any source of error has crept in the presence of the hay bacillus has been recorded. I need hardly say that the hay bacillus is a perfectly harmless bacterium, and one which is very easily recognised.

A far more potent source of wound infection is the skin of the human hand. When first I began to put a piece of skin from my own hand into broth an aseptic result was almost unknown. I became quite disheartened and thought it impossible to achieve asepsis. By making further efforts, and more especially by realising the value of alcohol, especially in conjunction with such antiseptics as the so-called biniodide of mercury, we began by degrees to achieve better results. I do not think that the inexperienced will ever get good results at all. I have been working at disinfection of the hands for over 15 years and am only now beginning to realise how difficult the problem is. I need hardly say that it is impossible in the preparation of the hands to disinfect or to clean beneath the angles of the nails; the nails must be cut off short. Next, it would be absolutely impossible to disinfect hands which have any open sore or septic place upon them. A new cut would not, I imagine, matter, but it would be unjustifiable to operate if there were any septic focus upon the hands. And, without going far out of my way, I could tell you of some dreadful disasters which have happened through the breach of this rule. You might think that if you had a septic sore upon your hands it would be justifiable to cover it up with, say, collodion or perhaps with a rubber finger stall or with rubber gloves. But I am afraid that that would not be right. Collodion comes off, finger stalls come off, gloves may have holes in them, and, further than that, gloves are often punctured during the course of an operation or may even be torn. So that a person with septic sores upon the hands should not perform surgical operations, or, what is equally important, gynæcological operations, including midwifery.

Supposing that the hands have been prepared for disinfection, that they have been cleansed as far as possible by means of soap and water, and freed from any superficial contamination, the next step is to disinfect the skin. Now that is really a most difficult problem. I have already told you that at one time we never achieved it. Then our results improved and we managed to disinfect perhaps once in five or six times. Then we have managed to improve and to disinfect 20 per cent. and then more. And on looking over the reports of the gentlemen who have so kindly taken cultures from my own skin I find in the last 66 tests that they have only caught me out once. As you know, this test is made with a small piece of skin snipped off and dropped into broth. Presently I shall tell you about more rigorous tests which we applied. I knew that various observers had examined the skin of their hands after they had been prepared with salts of mercury, such as sublimate or biniodide, and so forth, but usually sublimate, and that they had found that the skin after disinfection contained an appreciable quantity of mercury. Haegler in his book on the Disinfection of the Skin, which consists of 250 pages and four pages of figures, has made the same observation. After the hands had been prepared, treated with alcohol, and then soaked in sublimate he dipped them in a solution of sulphide of ammonium. Hands which had been treated with mercury came out black, proving conclusively that the skin retained within it a proportion of the sublimate. I snipped off some particles of skin from my own hands and sent them to Dr. W. H. Hurtley who with great kindness undertook to report upon their chemical properties. And he reported that the scraps from the freshly prepared hands contained an appreciable quantity of mercury. But Dr. Hurtley did not know until I told him yesterday that I had not for 27 hours applied any biniodide to some of the skin which I sent to him, so that the skin of my fingers had retained an appreciable quantity of mercury for that length of time and of course during that 27 hours they had been washed many times in the ordinary manner. So it is possible to saturate the human skin with mercury. On thinking this matter over it occurred to me that the

TABLE VII.—*Rash and Age.*

Years of age.	Rash.				Total.
	Faint.	Ordinary.	Marked.	Vivid.	
0–1	—	—	—	—	—
1	—	1	1	1	3
2	6	1	1	—	8
3	4	3	1	4	12
4	5	7	1	1	14
5	4	5	1	1	11
6	3	8	2	1	14
7	4	7	1	—	12
8	2	3	—	1	6
9	—	4	1	—	5
10	1	—	—	1	2
11	1	2	—	1	4
12	—	2	2	—	4
13	—	1	—	—	1
14	—	—	1	—	1
15	—	—	—	—	—
16–17	1	1	—	1	3
Total	31	45	12	12	100

We cannot, as in Table V., calculate the mean severity of rash for given ages, as our divisions are not quantitative, but it is possible to examine the table by working out the mean ages for given severity of rash, and we obtain:—

Rash, faint	Mean age,	5·76 years.
„ ordinary	„	7·23 „
„ marked	„	7·42 „
„ vivid	„	6·58 „

A more satisfactory method is to group the whole 100 cases in only four divisions retaining two age-periods, 0–5 and 6–16, and two grades of rash, faint or ordinary and marked or vivid. We get the following:—

TABLE VII.A.—*Rash and Age.*

Years of age.	Rash.		Total.
	Mild.	Severe.	
0–5	36	12	48
6–16	40	12	52
Total	76	24	100

Mere inspection shows that the agreement between the facts and the hypothesis of complete independence of age and severity of rash is as close as could be expected with 100 cases; but we can calculate the degree of dependence as follows: multiply the figures in opposite quadrants together, then take the ratio of the difference of these two products to their sum. This formula, called Yule's coefficient,[2] gives—

$$\frac{40 \times 12 - 36 \times 12}{40 \times 12 + 36 \times 12} = 0{\cdot}052$$

Pearson has given *formulæ for four-fold divisions, such as the above, which are probably more correct on theoretical grounds, but are much more tedious to calculate. In the* above case Pearson's formulæ give—

$$r = 0{\cdot}039.$$

The connexion is between high age and mild rash, but is so slight as to be negligible. We can examine throat severity in a similar way. The notes on this gave five natural classes, clean throats, either red or red and swollen, and dirty throats, with slight, moderate, or much deposit. *In the following* table only four divisions have been used.

TABLE VIII.—*Throat Lesion and Age.*

Years of age.	Throat.				Total.
	Clean.	Dirty.			
		Slight.	Moderate.	Severe.	
0–1	—	—	—	—	—
1	3	—	—	—	3
2	6	—	1	1	8
3	6	1	3	2	12
4	11	1	1	1	14
5	8	1	2	—	11
6	10	2	1	1	14
7	9	—	3	—	12
8	2	—	3	1	6
9	5	—	—	—	5
10	1	1	—	—	2
11	2	—	1	1	4
12	3	—	1	—	4
13	1	—	—	—	1
14	1	—	—	—	1
15	—	—	—	—	—
16	3	—	—	—	3
Total	71	6	16	7	100

TABLE VIII.A.—*Throat Lesion and Age.*

Years of age.	Throat.		Total.
	Clean.	Dirty.	
0–5	34	14	48
6–16	37	15	52
Total	71	29	100

$$\text{Yule's coefficient} = \frac{34\times15 - 37\times14}{34\times15 + 37\times14} = -\ 0{\cdot}008$$

$$\text{Pearson's} \quad „ \quad = -\ 0{\cdot}006$$

The correlation is thus even less than in the last instance. The negative sign means that high age is associated with mild throat lesion *though only to an insignificant extent.*

As a contrast to Tables VII. and VIII. the following two show a high association between severity of throat lesion and rash respectively and severity of fever, and the next a moderate association between the two former factors.

TABLE IX.—*Rash and Maximum Temperature.*

Maximum temperature.	Rash.				Total.
	Faint.	Ordinary.	Marked.	Vivid.	
98°–99°	3	—	—	—	
99°	6	6	1	—	13
100°	11	14	1	1	27
101°	1	7	3	1	12
102°	5	6	4	3	18
103°	4	10	3	5	22
104°–105°	1	2	—	2	5
Total	31	45	12	12	100

In Table XI. the correlation *is* rather irregular, that is, there is a higher *proportion* of clean to dirty throats in the middle row than in either the top or bottom row. Accordingly, we do not fairly represent the facts by condensing either the two top or two bottom rows to make the division fourfold. A fair result can be obtained either by working out both methods and taking the mean or by splitting the middle row into two halves to get a *fourfold table. By the latter* method I have calculated Yule's coefficient as $+\ 0{\cdot}146$. The source of this environment infection. First of all, the condition of the atmosphere would, of course, depend upon the size of the room. The room we are in is a very suitable size for an operating theatre. It contains about 9000 cubic feet. The small operating theatres contain from 5000 to 7000 cubic feet, and the old operating theatre contains some 12,000 cubic feet. The new theatre at the top of the east block is a very good size for a theatre and contains about 9000 cubic feet. I wonder if I am making any impression upon your minds. Some of you gentlemen will have to plan operating theatres, and this question of size will be one of extreme importance to you. The next thing about the atmosphere of an operating theatre is this. If you agree that you are going to have 10,000 cubic feet of space in your operating theatre how often ought that air to be changed for the comfort of the inmates? It is agreed by those who are versed in the science of ventilation that the air ought to be changed at least six times in the hour. In the building you are in at present they have instituted a modified form of the Plenum system of ventilation. That system does this, it takes air in from the outside. And that air is filtered and moistened. It is then passed over water-pipes to warm it in winter to 65° F. and cool it in summer, and then it is passed to where it is wanted. The vitiated air goes out at the top. I may tell you that I have no prejudice in this matter. The proper Plenum system necessitates the closure of doors and windows. But the Plenum system occasionally breaks down. I believe it broke down the other day at the new law courts with very unpleasant results. Again, I am told that the people living where that system is in operation do not feel comfortable and that children who live in it become anæmic. These are not my own experience; they are simply what I have been told. Against that you have to put what is known as the natural system. That admits air near the floor beneath radiators, and then it has an extractor consisting of a fan near the roof for the vitiated air. The theatre we are in has, in addition to these appliances, a Tobin's tube. My experience of these tubes is unpleasant, because the air enters half-way up the room and is often cold and falls down on to the top of one's head, and so is uncomfortable if you sit near it. What I want to impress upon you is that you have to make up your minds about the size of the operating theatre in which you work and decide how often the air ought to be changed, and next the method by which it is to be changed. Besides odour and unpleasantness, what other tests are there of the condition atmospheric? There is the bacteriological test. I can tell you offhand that in great cities air outside the windows contains various sorts of bacteria which are derived, of course, from the animals in the streets, from the surface of the bodies of the people who are walking about in the streets, from their respiratory tracts, and so on. I can tell you further that in a room such as this all those bacterial contaminations are increased. And they are increased in many ways. At present, whilst I am speaking to you in an ordinary colloquial manner, it has been scientifically shown that I am not sending my throat or mouth bacteria into the atmosphere. This work was begun by Flügge, but in the last few years Dr. M. H. Gordon has added most important scientific evidence and has extended the work by identifying the bacteria. He says that as long as a person speaks in an ordinary conversational tone nothing is emitted from his throat into the air around. But as soon as he begins to speak loudly and to gesticulate, then bacteria are showered to a distance of 40 feet from the mouth. Therefore the mouth is a potent source of infection of the atmosphere. What happens in that respect when a person coughs and sneezes it is difficult to imagine, but if loud talking and gesticulating will send bacteria 40 feet, I assume that coughing and sneezing will send them 20 or 30 more. Another potent source of aerial contamination is dust and dirt brought in upon the garments and boots of people from the street. The carrying of bacteria upon the boots is not a matter of speculation. That might be guessed when one thinks what a horrible mixture the mud in the roads is, that there may be colon bacilli in it, streptococci of various kinds, the tetanus bacillus, the bacillus septicus, tubercle bacilli, and many others. It is certain these may, when present, be carried into theatres on people's boots, because Dr. Gordon made the following experiment. At the House of Commons he put down some earth which had been contaminated with the bacillus prodigiosus, a bacillus which it is very easy to identify. He then examined the dust which fell from beneath the gratings where the Members of the House of Commons trod, and he found that they carried the *bacillus prodigiosus* on their feet a distance of 576 feet. You can therefore very well imagine the dangers of this form of infection. How is that to be met? One of the great ways in which anything is met is not by laying down rules but by educating people. And no man who had ever thought of this would willingly carry dirt or dust into rooms or operating theatres, nor would he, when he got there, stamp about the dust which is there. But, after all, there is a great deal of human nature in man, and human nature dictates that he will not always remember. In consequence of that steps ought to be taken—and we are taking them—to provide a cheap and efficient method of covering up dirty boots before they go into the theatres. But in addition a glass screen should be placed between the audience and the operator. The glass screen need not go up to the top of the theatre; it would become, perhaps, in such circumstances easily clouded with moisture and the audience would not be able to listen to the dulcet tones of the operator.

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[2] With both Yule's and *Pearson's formulæ* 1 would represent perfect correlation—i.e., that for every age there occurred only one fixed type of rash—and 0 would represent no correlation—i.e., that various types of rash occurred indiscriminately at all ages, which is *practically* what does occur.

I have only mentioned some of the matters on which we are engaged, but have perhaps told you enough to interest you in what we are doing, and I hope shall encourage gentlemen to take these matters in hand and try to go one better.

IS THE DEATH-RATE THE BEST MEASURE OF SEVERITY IN DISEASE?

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LONG habit has made many medical men so familiar with the use of death-rates (or, to use the stricter terminology, of case mortality rates) that they have come to regard them as *the only* possible measure of severity in disease. Others would not deny that other means of measuring severity might be used, but would emphatically deny that the latter could in any case give results more accurate than those given by mortality rates. To measure severity by any other criterion than recovery or death they might admit to be possible, but if the special method gave results *opposed to* those given by mortality rates such discrepancy would prove, they consider, the unreliability of the former. This exaltation of mortality rates into an absolute standard is quite unjustifiable. And, what is of more practical importance, a devotion to mortality rates as the chief, if not the only, subject worthy of study in medical statistics accounts in great measure for the present backward state of that branch of science. In the present paper I hope to show by very simple methods, first, that reliance on mortality rates can mislead; and, second, that the mortality test can for many problems be a very inconvenient one and much less likely to give the true solution than other methods.

I. *The mortality rate is not in all cases a reliable test of severity of disease.*—The first thesis will be proved if I can show that the mortality rate can be affected by other circumstances than the severity of the disease. It is often suggested that death or recovery may depend upon two independent factors: (*a*) the severity of the attack and (*b*) the strength of the patient; and although many will be prepared to admit both factors as possibilities they have no clear idea how the effect of these factors could be distinguished. How can we measure the vitality of our patients? Some would hold that it is not measurable, others would argue that whether such patients die or recover must be the true test. And how can we measure the severity of attack unless we here also fall back on the mortality rate? The answer is very simple. We can in many cases measure the symptoms, and, if so, we have a real test of the *severity of the disease*. And even if the symptoms are not measurable we can still get reliable results if we divide cases into groups or classes according to the *severity of any symptom*.

The first example which I will give is a table which I published in the reports of the Metropolitan Asylums Board for the year 1904, showing the connexion between the age of the patient and the severity of the eruption in cases of small-pox amongst the unvaccinated. For the facts I am indebted to Dr. T. F. Ricketts, medical superintendent of the Metropolitan Asylums Board small-pox hospitals.

death-rates is 1·24 and is not much larger than the probable error, which is 0·92. Such a difference might therefore very often arise as a chance effect. The severity of the cases, however, lends itself to measurement in many other ways, two of which I have used in attacking this problem. Classified according to duration of pyrexia the 78 cases caught in hospital were grouped as follows :—

Duration in days	0	1	2	3	4	5	6	7	8	9	10	11
Number of cases	4	8	10	20	9	7	3	4	2	1	1	2
Days (*continued*)	12	13	14	15	16	17	18	19	20	21	22	
Cases (*continued*)	1	2	—	1	—	1	—	—	1	—	1	

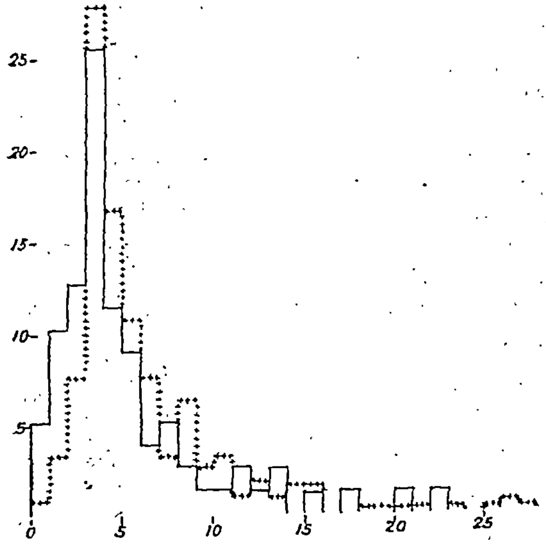
Giving a total of 78 cases.

A series of 314 ordinary cases all admitted on the first or second day of disease gave the following :—

Duration in days ...	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Number of cases ...	2	10	24	88	53	34	24	10	20	8	10	3	6	3
Days (*continued*) ...	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Cases (*continued*) ...	5	5	—	—	1	1	1	1	—	1	—	1	2	1

Giving a total of 314 cases.

The two series, reduced to percentages in each case, are shown together on the annexed chart, where the vertical line of figures shows the number of cases per cent. and the horizontal line of figures the duration of fever in days.



Cases caught in hospital shown by continuous line, other cases by dotted line.

The mean of the first series—i.e., cases contracted in hospital—is 4·05 ± 0·29 and of the second series is 5·05 ± 0·16. The difference in mean duration is therefore one day. The probable error of this difference being only 0·33, or one-third, it is unlikely that another series of cases taken in similar circumstances would give a different result.

The cases were also grouped according to the maximum temperature recorded, or culminating point of the fever, with the following results :—

Culmination of fever ...	98°	99°	100°	101°	102°	103°	104°
Number of cases	4	6	8	23	23	11	3

Giving a total of 78 cases.

A series of 679 ordinary cases similarly grouped gave the following :—

Culmination of fever	98°	99°	100°	101°	102°	103°	104°	105°
Number of cases ...	162		131	157	128	90	10	1

Giving a total of 679 cases.

The mean of the first series is 101·795 ± 0·10 and of the second series 101·167 ± 0·037 and the difference is 0·63 ± 0·11 degrees. Summarising the above evidence, cases of scarlet fever caught in hospital tend to have higher fever, which, however, does not last so long. The death-rate also appears to be less. The first two conclusions are, however, almost certain; the third is well within the limits of chance error.

A second problem of considerable practical importance is the *dosage of antitoxin in diphtheria.* In spite of the elaborate reports issued during the early years after the introduction of antitoxin into this country the proper scale of dosage remains still very uncertain; and I think the current doctrine on the subject consists more of *ex cathedrâ* statements than of proved facts. Quite recently the medical superintendents of the Metropolitan Asylums Board discussed this matter and a considerable divergence of opinion was shown. Surely the problem is capable of solution, but not if we rely on the death-rate as the only fact worth observing. Even if two hospitals be compared, each treating 500 or more cases a year, and one hospital employing on an average double the dosage of the other, I doubt if any differences observed in the death-rates would convince anybody. The advocates of the system which showed the higher death-rate would assume that the rival hospital got a larger proportion of mild cases. Our obvious duty, therefore, is to devise some method other than the death-rate for measuring the severity of cases, and if clinical observers set themselves seriously to this task I see every reason for believing that almost all problems connected with the efficacy of treatment of common diseases could be solved, say, within one or two years of their being propounded.

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EXCISION OF THE RECTUM FOR CARCINOMA.

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THE risk associated with the operation of complete removal of the rectum and of all infected mesenteric glands is so considerable that I have made many attempts to minimise it by modifying my operative procedures. I am not referring to such measures as that known as Kraske's operation which, in my opinion, is unsatisfactory for many reasons. The operation that I have adopted for some time appears to me to effect the maximum of benefit to the patient with a minimum of risk and discomfort. The last feature—namely, the absence of discomfort—is of paramount importance inasmuch as the sufferer is already sufficiently depressed by the very serious nature of his malady. I only apply this procedure to cases in which it is not possible to resect a portion of the bowel to establish continuity. I make use of it in cases in which it is advisable to remove the growth and all infected tissues, and when the patient is prepared to accept the very trifling inconvenience of a colotomy in the immediate vicinity of the middle line in the substance of the rectus. The younger the patient the more necessary is it that a very radical operation should be performed. The principle involved in this operation is the separation of the peritoneal space contained in the true pelvis with the diseased portion of the intestine from the general peritoneal cavity. This prevents any chance of a general infective peritonitis when the rectum is removed from below and obviates the formation of adhesions involving the small intestines, since no raw surfaces are left in the pelvis to which the bowel can become attached.

The procedure is as follows. A vertical incision is made three-quarters of an inch to the left of the middle line from the umbilicus *downwards for about four inches.* The opening is formed in this situation as it affords easy access to the pelvis and to the sigmoid flexure. In these cases the sigmoid flexure is almost always pinned down by adhesions. These are of the same nature and perform the same function of obliterating the loop as in obstruction due to constipation. A further reason is that in this situation a firm scar can be obtained in which the rectus muscle controls more or less completely the exit of material from the bowel. The patient being placed in the Trendelenburg position and the pelvic cavity being rendered *fully accessible* by the use of suitable retractors, the growth is carefully

A stronger preponderance of severe cases among the older patients is shown if we take the vaccinated cases; though the effect of vaccination in infancy and the gradual disappearance of the protection afforded by it render the table less suitable to the illustration of my thesis. To save space the numbers corresponding to equal severity at all ages and the differences between these and the actual figures have been entered in the same table.

A second instance is obtained from a paper, not yet published, by Dr. W. Lowson and myself on the temperature in scarlet fever. Here we have measured the severity of pyrexia in each case by measuring the area included on the temperature charts between the record of the patient's temperature and the normal line. For the precautions taken I shall have to refer my readers to the paper when it appears.

TABLE V.—*Temperature—i.e., Area on Temperature Chart.*

Years of age.	Area of fever shown on chart.								Total.
	0–5	5–10	10–15	15–20	20–30	30–50	50–100	Over 100	
0–1	1	—	—	—	1	—	1	—	3
1	15	2	3	1	—	3	4	1	29
2	27	5	1	1	4	—	1	2	41
3	25	1	4	2	2	4	4	1	43
4	25	12	3	1	5	1	4	1	52
5	13	4	3	1	2	5	1	2	31
6	18	1	4	3	2	5	1	—	34
7	11	1	2	1	4	1	—	—	20
8	4	1	—	—	1	2	1	1	10
9–10	3	2	—	—	—	1	2	—	8
10–15	8	8	7	5	5	4	1	1	39
15–20	3	2	1	—	2	—	1	—	9
Over 20	1	—	—	1	2	1	1	—	6
Total ...	154	39	26	16	30	27	22	9	325

Thus the top line shows that out of 325 cases of scarlet fever only three were under one year of age, and that of these one had very slight pyrexia, an area of less than five units—i.e., 0·5 of a square inch on the charts used. The other two had more severe attacks with areas of over two and over five square inches respectively.

In the first example we could not calculate the mean severity of eruption, since our six classes were not quantitative, and we had to fall back upon a less familiar way of attacking the problem. But in this example area is a measurable quantity, and we can accordingly find the mean area (i.e., the mean severity of fever) for each age-period. The results are as follows:—

Years of Age.	Mean area of temperature chart.
0–1	34·1
1	28·8
2	14·9
3	18·9
4	15·8
5	23·9
6	28·6
7	10·9
8	34·7
9–10...	26·5
10–15...	14·6
15–20...	12·7
Over 20	31·6
All ages	19·2

Though the numbers at different ages differ considerably, it will be noticed that those means, based on considerable numbers of cases, cluster fairly closely round the mean of the whole and that the most discrepant values are based upon a small number of cases; also that there is no tendency for high ages to be associated with low values of area. In other words, the differences found are probably due to chance. A more satisfactory calculation can be made by using formulæ which apply to the figure as a whole—viz., those introduced by Bravais and Pearson. By them I have obtained the value of the correlation coefficient of the table[1]—

$$r = +\,0{\cdot}0072 + 0{\cdot}038.$$

These figures may be interpreted thus: The correlation between age and severity of fever in the 325 cases investigated is positive, showing a greater severity at greater ages. In magnitude, however, it is extremely small, and if another 325 cases were examined the laws of probability would lead us to expect the discrepancy between the two series to be about five times as great. In other words the table shows, as clearly as can be shown with the number of cases investigated, complete independence of age and severity of fever.

We have now two instances, one in small-pox and another in scarlet fever, of independence, or at least almost complete independence, of severity of symptoms with age of the patient. In both cases, however, the mortality-rate shows a very great alteration with age, as shown below:—

TABLE VI.—*Mortality Per Cent. at Different Ages in Scarlet Fever and Small pox.*

—	Age-periods—Years.								
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	All ages
Small-pox, unvaccinated cases	48·3	18·0	23·1	25·1	35·5	48·1	75·0	55·5	33·2
Scarlet fever	6·09	1·68	1·44	0·63	1·90	0·71			3·26

If the quinquennium 0–5 be subdivided the variation with age becomes still more striking. The conclusion seems obvious that in these two diseases the great variation of mortality with age depends solely upon the vitality of the patient and is independent of the severity of the disease. Only one means of escape from this conclusion, which I confess was quite unexpected by myself when I started to collect the facts, seems possible; and I have no doubt that some critics will avail themselves of it.

We have taken in each disease one symptom only as criterion of severity. Is this justifiable? Does not the mortality test sum up all the phenomena of the disease in a perfect manner, so that the mere use of a single symptom is comparatively unreliable? To this objection the proper answer would be to take the various symptoms in order and see whether the high death-rate in early childhood could be ascribed to any of them. In small-pox this course was not possible for me; and in scarlet fever for a long time I considered that the facts could only be ascertained after a vast amount of labour, such as might take many years to carry out. For instance, the severity of scarlet fever rashes might be estimated by comparing the colour of the patient's skin with a set of standard shades of red and crimson. But it would take some time to get several observers used to working with these, and a further period for the collection and reduction of the observations. Only recently did it occur to me that for our present purpose such a high standard of accuracy is not required. The published statistics of fever hospitals show year by year that the mortality of scarlet fever in patients under two years of age exceeds about ten times that of the disease at the prime of life, say from 10 to 25 years of age. The tables given above show that this excess mortality in infants is not due to an excessive severity of fever. If it were due to excessive severity of rash or of throat lesion we must have severe throats and rashes preponderating amongst the younger children to an extent that would show itself in the notes taken by ordinarily careful clinical observers, and special observations *ad hoc* are not necessary. I accordingly took 100 consecutive reports of cases from the bed-cards of the South-Eastern Hospital and wrote a special slip for each case, noting (1) the age; (2) the severity of the rash; (3) the duration of rash, if noted; (4) the severity of throat lesion; (5) the presence of complications; (6) the duration of fever; (7) the maximum height of fever; and (8) the result—i.e., death or recovery. From these slips it was possible by sorting to examine into the connexion between age and any of the other factors, or between any pair of the latter. In short, it was possible to compile 56 different correlation tables, out of which I publish the following as sufficient to show (*a*) that there is little or no correlation between age and severity of rash or throat lesion; but (*b*) that there is moderate or high correlation between certain other pairs, such as throat lesion and maximum height of fever, and rash and maximum height. The notes as to rash varied a little in terminology with different observers, but seemed to fall most naturally into four classes—faint, ordinary, marked, and vivid.

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[1] The table given is abridged from that in Dr. Lowson's and my paper. The value given above was calculated from the full table.

various expedients of cruel and brutal nature are adopted. For instance, they may jump on the body of the woman as she lies upon the floor. They may try to seize any presenting part and tear at it, perhaps even pulling off the scalp of the child. They may tear the vulva and vagina or use knives in a senseless endeavour to make a way for the child. The woman may be made to sit over hot ashes and burning twigs or charcoal. When she is very far gone they may at last send for the medical missionary, who may find the patient severely burned or lacerated, bruised and bleeding. The bladder may be ruptured, the abdomen greatly distended, the patient pulseless and insensible. She may die before anything can be done or may expire immediately after delivery. If the burned cases survive the first shock they will very likely die from gangrene, or the whole of the vagina and bladder may slough, and tetanus is very common. After labour the patient is kept lying on the floor for three days without food or drink. The baby is given cow's milk at once, which upsets it. It is against their religious ideas to wash the child till the tenth day. A large proportion of the newly-born children die from tetanus. The mothers are considered to be unclean until the eighth day and are often kept outside of the house in a little shed, which is a dark room like a cupboard. After their first bath they are taken back into the house but if fever set in the bath of purification is delayed until they are well, if they do get well. If these women are treated rightly in childbirth their labours are as easy and normal as are those of women in England, probably more so on the average. When labour is delayed, or they desire to produce abortion, a powerful and irritant poisonous drug is sometimes administered, the nature of which is not known to us. It causes severe pain and green vomit and seems always to be fatal.

A second similar illustration is taken from the *New York Medical Record* for January, 1906, where Dr. W. D. Bell describes observations made during a residence of 13 months on the island of Luzon in the Philippines. He says that the so-called safety supposed to exist amongst savage peoples in childbirth was not found in these islands, for barbarous practices and tortures with far-reaching consequences were what were really observed. No attention was paid to the sanitary surroundings of the patient. As soon as the first real pains manifested themselves the patient was held on the ground and a cloth was passed around the abdomen and the four ends were pulled by four persons seated on the ground with their feet against her body. As soon as a portion of the child presented it was immediately seized by a fifth assistant and vigorously dragged upon, regardless of consequences. If any delay occurred a plank was laid across the abdomen on which a native assistant stood, raising himself on his toes and coming forcibly down on his heels. This was usually successful except in breech presentations, when a rude attempt at version was made with hands innocent of any effort to cleanse them. Few cases escaped laceration and sometimes the uterus was ruptured. If the same means failed to expel the placenta forcible traction was made on the cord and very often parts of the placenta were left behind, with the usual consequences. Prolapse, inversion, and puerperal sepsis were frequent here, also chronic endometritis. Syphilis and gonorrhœa were also common.

II.

The development of obstetrics falls into three stages. First, there is the *primitive stage*. This is characterised by the absence of all literature and of all knowledge of anatomy and physiology, and by an overwhelming amount of superstition, by the crudeness and absurdity of its ideas and the barbarity of its methods. It is almost without exception in the hands of women. In the second or *intermediate stage* we find the beginnings of obstetric literature and some attempt to describe the various positions of the fœtus in the womb and to lay down rules for treatment. The practice of midwifery is almost wholly in the hands of women, but men are called in in very bad cases to help. The treatises are written by men for the guidance of midwives. Version and embryotomy begin to be described but not forceps. The third or *scientific stage* may be said to begin about the time of Ambroise Paré in the sixteenth century, and its history has often been written. The intermediate stage has its dawn in the ancient Hindu physicians, such as Susruta, and there may even yet be recovered some of the lost literature of Egypt which will show more obstetric knowledge than we at present credit to those times. An account of their obstetric knowledge will be found in Mackay's "Ancient Gynæcology." Literature practically begins for us with the writings of Hippocrates and his followers in the fourth century B.C. Ancient obstetrics reached its high-water mark in the works of Soranus and his translator Moschion in the second century A.D. From this time it made very little advance till the time of Paré—in fact, there was decided retrogression during the middle ages.

Midwifery was in the primitive stage from the earliest times till the days when Greek learning made a bright spot in the general darkness, and it remained primitive throughout the centuries except where Greek, Roman, and Arabian medicine spread, and even here obstetric art was but too little removed from the realm of superstition and ignorance. It remains primitive to-day wherever Western science has not spread and forms a most interesting field for the study of the obstetrician and ethnologist. The human race has shown wonderfully little precocity in the practice of obstetrics. Nations who have perfected the arts of agriculture and of the chase, who have forged offensive and defensive weapons, built temples and palaces, woven textile fabrics, produced pottery, sculpture, poetry, and philosophy, have remained woefully ignorant of an art which, if necessity begets invention, might, one would think, have been one of the oldest and most advanced known to mankind. To some extent this may be due to the fact that the management of childbirth has been so very largely in the hands of women. The history of the race seems to show that all the mechanical arts have been developed not by women but by men. Obstetrics never began to develop till men took it from the exclusive practice of women, studied the mechanism of childbirth, and supplied the necessary mechanical aids. But man has no place in primitive obstetrics; uncivilised man would certainly decline to concern himself with such woman's affairs. She is regarded as an inferior being. As one writer says: "She is worth so little, so easily replaced; she is good for the bearing of children, to look after them, and to give satisfaction to her master, and especially to do the work of the field. As soon as she is a nuisance she is left, sold, killed, possibly eaten." It is certain that if scientific treatment were available but its cost exceeded the market value of the woman it would be refused. The birth of scientific midwifery coincided with the revival of learning, the introduction of printing, the Reformation, the discovery of the new world, and the introduction of inductive methods of research. The exalted estimate of the value of woman's life which the spirit of chivalry engendered prepared the way.

In studying this subject I have made use of Herrgott's French edition of Siebold's "History of Obstetrics" and also of the valuable historical sketch prefixed to Winckel's colossal "Handbuch der Geburtshülfe," but more especially of Ploss's ethnological monograph "Das Weib in der Natur- und Völkerkunde" (eighth edition, by Dr. Bartels, 1905). Also of Engelmann's "Labour amongst Primitive Peoples," and Mackay's "History of Ancient Gynæcology." There are various other papers scattered through the journals of the Anthropological Institute and elsewhere. An almost exhaustive bibliography will be found in Ploss, Vol. II.

The subject has two aspects. One is concerned with various rites, superstitions, and customs which have little or no direct bearing on the progress and welfare of the parturient woman, such as the various deities that have to be propitiated. These I pass by here. Secondly, there are various modes of practice (or malpractice) which bear directly on the obstetric management of the case and on the issue as regards mother and child. This attempt to give a concise, though by no means exhaustive, review of these will, I hope, interest those who may not have paid much attention to the subject. Perhaps this article may lead some readers of THE LANCET who have the opportunity of first-hand study of the practices referred to to add to our knowledge by recording personal observations, such as those which have already been given in this paper.

The question has been raised as to how far any obstetric art is necessary amongst uncivilised people. Are there not many of the primitive races where the process of parturition is so easy that difficulties and fatalities are rare? The answer gathered from Engelmann and Ploss seems to be that so long as the woman lives in a perfectly natural state, leading an active outdoor life and taking her share in manual toil, labour is usually short and easy and the process remains purely physiological and is only a rather difficult physiological evacuation. So that we find amongst nomadic

TABLE IX. A.—*Rash and Maximum Temperature.*

Maximum temperature.	Rash.		Total.
	Mild.	Severe.	
101°	48	7	55
101° or over	28	17	45
Total	76	24	100

$$\text{Yule's coefficient} = \frac{48 \times 17 - 28 \times 7}{48 \times 17 + 28 \times 7} = +\,0{\cdot}612$$

TABLE X.—*Throat and Maximum Temperature.*

Maximum temperature.	Throat.					Total.
	Clean.		Dirty.			
	Red.	Red and swollen.	Slight.	Moderate.	Severe.	
98°	2	—	—	—	1	3
99°	4	8	—	1	—	13
100°	8	13	2	4	—	27
101°	7	4	—	1	—	12
102°	5	6	1	4	2	18
103°	5	7	3	6	1	22
104°	1	1	—	—	3	5
Total ...	32	29	6	16	7	100

TABLE X. A.—*Throat and Maximum Temperature.*

Maximum temperature.	Throat.		Total.
	Clean.	Dirty.	
101°	46	9	55
101° or over	25	20	45
Total	71	29	100

$$\text{Yule's coefficient} = \frac{46 \times 20 - 25 \times 9}{46 \times 20 + 25 \times 9} = +\,0{\cdot}606.$$

TABLE XI.—*Throat and Rash.*

Rash.	Throat.		Total.
	Clean.	Dirty.	
Faint	22	9	31
Ordinary	35	10	45
Severe	14	10	24
Total	71	29	100

correlation is much lower than in the two preceding instances, and being irregular must be regarded as not very certain. A larger number of cases or a more careful system of note-taking might, however, show it to be real.

The foregoing examples suffice to show that high correlations exist between certain pairs of symptoms in scarlet fever but not between age and either of the three most obvious of the symptoms in this disease—viz., rash, throat lesion, and pyrexia.

II. *The inconvenience of the mortality rate as a test of severity.*—Those who have followed the first part of this paper will probably have already thought of most of what I propose to say under the second heading. Nothing is commoner in medical discussions than to hear it said that certain problems ought to be settled by statistics, and yet hardly anything is rarer than to see these vexed questions actually argued out and settled by an appeal to the facts—i.e., statistically. Various problems no doubt occur to all, but those I allude to may roughly be classed into the effects of treatment and the effects of other factors in the environment. To take examples from my own specialty, medical men who treat scarlet fever differ in some details of treatment, such as the routine time for keeping the patient in bed, the treatment of the throat, the amount of diet allowed both in the acute stage and in subsequent nephritis. Apart from treatment, many other questions have been raised, some of them of great theoretical or practical interest. Do fever wards get more unhealthy with continued use? Are such complications as post-scarlatinal otitis and nephritis infectious? Is there any evil result from overcrowding in fever wards? What effect has poverty on severity of disease? Are there differences due to difference of race, as between aliens and natives?

In the Metropolitan Asylums Board hospitals, with an experience of 20,000 scarlet fever cases a year, one would think that ample material was available for settling in the course of a few months, or at most in a couple of years, every one of the above questions. Yet very few of them have even been seriously attempted and the results of the attempts so far made have not always been as conclusive as could be desired. And one important cause contributing to this has been the very low death-rate in scarlet fever. In the last published volume of the Metropolitan Asylums Board reports the death-rate for all hospitals was 2·94 per cent. That is to say, that in 1000 cases one would expect about 29 deaths. Time and opportunity rarely allow any careful experiment to be made on any much greater number than this, so we require to know what would be the difference from 29 deaths per 1000 which would convince us that our treatment had been improved or that any other change had really happened in the conditions. A knowledge of the laws of probability would teach us that not unless the deaths fell to 15 or 19 per 1000 should we have good reason for supposing that we had anything beyond a chance variation. A knowledge of the mathematical formulæ appropriate to the case is not very widespread among medical men, but there is an equivalent deeply ingrained in the minds of those who are most familiar with statistics. Those who see scarlet fever cases by the thousand are well aware that any reduction in case-mortality that can be hoped for by improved methods of treatment will be too slight to be shown conclusively by working with death-rates. Theoretically the difficulty could be overcome by working out a sufficiently extensive series of cases; in practice this is improbable. The difficulty of insuring uniformity of treatment (or other conditions) over 10,000 cases is very great and the time occupied in the experiment would probably cause disturbance in the results from the slow alteration in type that goes on from year to year. On the other hand, if we use other criteria of severity, as in some of the instances given above, it is easy to find a line that divides the cases into two approximately equal divisions. Here with only 100 cases it might be possible in some problems to get a decisive result, and where 1000 cases are available a definite answer to any statistical problem would be almost assured.

The only important argument in favour of death-rates and complication rates, as against criteria obtained by measuring the severity of symptoms, is the risk of high personal equations in the latter. The risk is not so great as most people assume. It is quite possible to choose criteria of severity that are little affected by it—e.g., the duration of fever or the area of a temperature chart. And even in other non-measurable characters the adoption of standard degrees of severity for the purpose of collecting observations would not be very difficult, if only observers were convinced that it was worth while.

A concrete case or two will make my meaning clearer. A problem of considerable theoretical interest is this. "Are cases of scarlet fever contracted inside a fever hospital more severe than those contracted in the usual way?" Since the reopening of my own hospital 18 months ago 78 such cases have occurred with only one death. The death-rate has therefore been 1·28 per cent. The death-rate usually met with in my own and kindred institutions is about 3 per cent. The last published figure for my own hospital on 1001 cases was 2·52. Taking the latter figure, the death-rate amongst the cases caught in hospital is less than half that found amongst ordinary cases, yet the evidence in favour of a change in severity is very inconclusive. It is by no means uncommon to get a run of 78 cases with only one death and the difference in the two series might easily be due to chance. Mathematically calculated, the difference of the back, or made on her back while she lies on her face, while a pillow may be placed under the abdomen. Felkin depicts a woman on her knees leaning over a log whilst a bandage round the abdomen is twisted with a stick like a tourniquet, the pressure being applied intermittently. 5. Pressure is sometimes applied by weights. Heavy weights are used by the Tartars in Astrakhan, great stones in Serang, and warm bricks with great pressure (Malays). In the Philippine Islands a beam or plank may be laid across the abdomen and assistants may sit or stand on this. A carved wooden idol of great weight is used in Siberia. 6. The woman may stand and compress her body against a bamboo or may lean over a horizontal pole or cord. These violent methods often result in internal injuries, such as rupture of the uterus and bladder and other viscera. 7. Shaking the woman in labour was much esteemed in ancient Greece as a method of expediting delivery. A cloth was passed around her and she was shaken violently at least ten times. Then they laid her in bed so that the head lay downwards and the feet upwards, and the assisting women, who held the legs of the patient placed on their shoulders, shook her repeatedly to and fro. Soranus was wise enough to condemn this. As examples of the same barbarous method amongst savage races take the following: raising and shaking the woman with a jerk, as in shaking flour out of a sack (Mexico); rolling on the ground and then suspending by the feet and shaking (Southern India); and rolling violently in a blanket by four people and shaking in all directions. The woman may be slung to the branch of a tree by a cord running under the arms, whilst a woman hangs around her waist (Coyotero-Apachen Indians); or a man will take the woman on his back and run about shaking her (North-West Russia). 8. Another strange practice is to invert the woman with the idea of altering the position of the child into a more favourable one when delivery is delayed. This was done amongst the ancient Greeks. It has been observed in Algeria. Also amongst some Indian tribes this is done repeatedly, and if it prove of no avail the midwife inserts her hand and pulls at anything she can reach. Fatal results follow this treatment. An instance of extreme barbarity is reported by Stern and quoted by Ploss as occurring in Persia. In extreme cases the woman is held head downwards with the legs fully abducted, and the kabli, with rusty scissors or kitchen knife, cuts the perineum mercilessly. If the woman bleeds severely it matters but little, although the midwife would be blamed if the child's arm or leg were severed.

The serious nature of a transverse presentation is widely recognised. It is obvious that where no obstetric science is known a cross-birth will almost always be fatal. Various nations have made attempts to rectify the position of the fœtus during pregnancy and here and there some have learned how to do it by external manipulation. The prevalence of massage may depend partly on this idea. Metzger, quoted by Ploss, is of opinion that the women in Damaraland, South Africa, have a successful method of performing cephalic version by external manipulation. The art is handed down from mother to daughter. Lübbert says that the natives of German South-west Africa are well acquainted with cross-births and seek to rectify them by external manipulations, but if these fail they will put the parturient woman on a cart and drive her over a rough road to shake the fœtus into better position. Other crude attempts to rectify the malposition are recorded in various tribes.

That internal manipulations for the rectification of cross-births and other malpositions have been practised in the past to some extent is certain. The ancient Hindu understood how to turn for cross-presentation and how to deliver breech presentations by pulling down the legs. Probably the Talmudists refer to the same thing. The writings of Soranus give plain directions with figures for dealing with various presentations by cephalic and podalic version and the Japanese in this direction also show skill and knowledge. There does not seem to be much evidence of the practice of internal manipulations amongst savage peoples of to-day. Engelmann emphasises the rarity of such a method of manipulating within the vagina. As exceptions we may notice that the Calmucks have for a long time been able to perform version in difficult labour. The modern Greeks are said by Ploss to seek the help of shepherds in difficult cases, for these have experience in the delivery of sheep. Emin Pasha found in Unyoro in Africa men who were able in arm presentation to replace the arm and to turn the child in the womb. Version is said also to be performed in Massana in East Africa and also by midwives in Algeria.

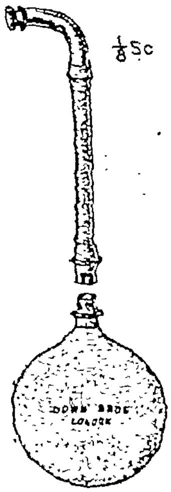
To pull violently on any presenting part is, on the other hand, the most obvious way of attempting delivery by those who do not understand anything about the anatomy of the parts. It is a sign of advanced knowledge to know when to refrain from doing it. Arms are often pulled off this way. I have been privately informed of a confinement in Africa where the head presented but would not advance, when a cord was tied round the neck of the child and then carried through a wall to be pulled by men outside the delivery chamber. The head, as might be expected, parted company with the trunk.

Embryotomy.—The idea that a child may be delivered in a difficult case by cutting it into pieces as far as it can be reached might occur to the savage mind and from this might come the discovery of the fact that perforating the head often is followed by speedy delivery after previous long delay. Susruta describes embryotomy and so do the ancient Greeks, who also employed hooks to assist in extracting the fœtus. Soranus describes the operation of embryotomy and speaks of its use in hydrocephalus, and from this time onwards it is well recognised. Amongst other nations we find mention of embryotomy performed with a knife by the medicine men of the Sungari (Manchuria). Schoolcraft describes a case amongst the Dacota Indians of an impacted arm presentation. The arm was cut off and the child extracted piecemeal by thoroughly ignorant women. Similar crude embryotomy is described by Baumstark as being performed amongst the Warangi in the Massai steppe in East Africa, and the necessity of delivery by destruction of the child is recognised amongst the natives of German South-west Africa. It is also performed in the same rough and dangerous fashion in extreme cases by women in Sumatra.

Cæsarean section.—Post-mortem Cæsarean section is of very ancient date and was even enjoined in the law of Numa Pompilius, and the Talmudist Rabbis discussed the legitimacy of the performance of post-mortem Cæsarean section on the Sabbath day. Niebuhr in the eighteenth century observed the practice amongst the Hindus; the child was buried if dead and the mother burned. In Malabar also, according to Speerschneider, the child was excised and buried separately. Emin Pasha relates that in Unyoro if the mother died in labour the child had to be removed with the knife, whether dead or alive. To neglect this was of evil presage for all concerned. From Bosnia comes an account of a horrible superstition which led thieves and burglars to kill a woman in the seventh month of pregnancy, extract the child, and cut it in pieces to make a charm which made the inmates of a house sleep like the dead while a burglary was being accomplished. A similar superstition is made the basis of one of the Ingoldsby *Legends* ("The Hand of Glory"). It is said by Ploss that even in 1889 this frightful superstition was in force. The removal of a living child from the living mother is said to have been first performed in 1500 by Nueffer. In a lecture published in THE LANCET of Jan. 9th, 1904, p. 76, I have given an account of this case. There are references to the operation in the Talmud and in the Norse Sagas and other legendary histories. But that which is of special interest in this place is the evidence that amongst savage nations in recent years Cæsarean section has been known to be successfully performed. The best example of this will be found in a paper by R. W. Felkin in the *Edinburgh Medical Journal* for April, 1884, a very accessible reference which everyone who may be interested in this subject should read. Felkin saw one case in which it was proposed to perform the operation, but obtaining permission to examine the patient he found it to be a simple case of uterine inertia, and he delivered with forceps. In a second case he was not allowed to examine and did actually see the operation performed by a man in Uganda, both mother and child surviving. The uterus was not sutured, the abdominal wound was closed with pins that are compared to acupressure needles, and with string made from bark which held the pins together. The woman made a rapid recovery. Schoolcraft speaks of a case amongst the Chippeway Indians in which a man successfully delivered his wife of a living child by Cæsarean section, but he did not witness the operation. And a slave woman in the West Indies is said to have delivered herself by abdominal section.

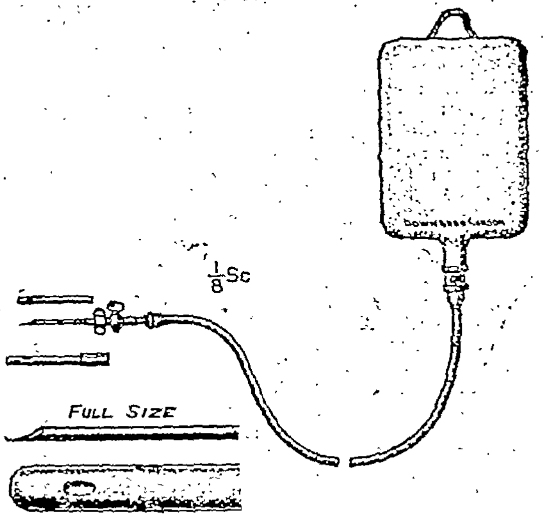
Support of perineum in labour.—In a certain number of instances it has been observed that native women give support to the perineum in labour. The practice is rare, but there are some well-established examples, as in certain tribes in defined, together with any infected glands or mesentery. The sigmoid flexure is rendered mobile by the careful separation from it and from the meso-sigmoid of the acquired adhesions already referred to. A sufficient length of bowel having been drawn out of the abdomen, it is divided with the cautery at such a point as to leave two or three inches of the proximal bowel protruding from the abdominal incision after the edges have been approximated by sutures. The mesentery of the distal bowel is separated from the sacrum as far down as possible and a ligature is tied firmly round the rectum at its lowest limit above the growth, any infected mesentery above the level of the ligature being thoroughly eradicated. The rectum is divided by the cautery immediately above the ligature. The ligatured stump is then inverted into the rectum and securely buried by purse-string and other sutures. Then the peritoneum of the pelvis lining its wall and the bladder in the male, and the uterus and broad ligament in the female, is picked up on a catgut suture so that that portion of the peritoneum of the pelvis which contains the rectal growth is completely separated by an artificial diaphragm from the general peritoneal cavity, and whatever disease still remains lies entirely below the protecting diaphragm which has thus been constructed. A curved tube fitted with a special rubber apparatus (Fig. 1), which I have employed for many years, is then tied into the portion of the sigmoid flexure left protruding from the abdominal incision, all fouling of the wound or discomfort to the patient during the whole period of convalescence being absolutely avoided by this means. The two or three inches of gut projecting from the wound is utilised to re-attach the glass tube as each section of bowel sloughs off with the constriction due to the ligature till the bowel is divided flush with the skin. This leaves a perfect aperture which is readily controlled by the rectus muscle and over which a cup and belt is worn without inconvenience.

FIG. 1.



After the operation the patient is put upon continual saline injections subcutaneously. Two pints are introduced into the axilla at once while the patient is still under the anæsthetic; during the three days following the operation about eight or ten pints are absorbed in this way by continued transfusion. To meet any risk of infection of the material introduced I devised an arrangement by means of which this can be effectually eliminated. It has also the advantage of occupying a very small bulk in the bag of the surgeon. It is made for me by Messrs. Down Bros. It consists of a bag made of the best rubber capable of containing two pints of water (see Fig. 2). It has a metal orifice sufficiently large to admit of the ordinary salt "tabloids." To this is joined a rubber tube by means of a bayonet catch, to which a suitable needle can be attached. This needle is fitted with a shield which serves the double purpose of keeping it covered after sterilisation and preventing any blunting of its point. A rectal nozzle is also supplied in the event of the surgeon wishing in certain cases to introduce the solution into the rectum. By using saline solution subcutaneously in this manner any sickness with the strain on the wound and the associated pain and distress is absolutely avoided, while the danger of shock to the patient from the operation is reduced to a minimum. I first employed this continual transfusion with the most marked success in cases in which I had removed the big bowel, with the result that the risks from the operation are very much reduced, while I believe the tendency to the formation of adhesions about the dilated small intestine, which is an occasional annoying sequence, is apparently obviated by it. The bag can be placed in any situation in or above the bed and its contents can be kept warm by placing it on a hot-water bottle, &c. If the solution does not run freely pressure can be exerted in it readily or it may be suspended at a greater height. To employ it the bag is filled with water after the salt has been introduced into it. The shield, tubing, and needle are then connected and the whole thing is put into any suitable vessel and boiled. The shield being taken off the needle, it is introduced between the cleansed skin and is fixed in position with a suitable dressing so as to assure asepsis at the seat of puncture.

FIG. 2.



After a fortnight has elapsed the remainder of the rectum is removed from below. This is done by a careful dissection of the rectum from the sacrum and from the bladder or vagina till the portion of the peritoneal cavity which has been shut off by the artificial diaphragm is encountered. From this peritoneal space into which the finger enters the remainder of the rectum is easily removed. The cavity left is drained in the usual manner and closes up rapidly.

One satisfactory result of this method of operating is that before the second step in the operation the patient gets about with comfort, and after the second step the sitting posture can be resumed after the lapse of a few days.

Cavendish-square, W.

THE METHODS OF PRIMITIVE MIDWIFERY.

BY JOHN BENJAMIN HELLIER, M.D. LOND.,
PROFESSOR OF OBSTETRICS IN THE UNIVERSITY OF LEEDS AND OBSTETRIC PHYSICIAN TO THE LEEDS GENERAL INFIRMARY.

I.

I WILL introduce my subject by quoting a description of present-day practice as observed by a member of our profession who was for many years in charge of a mission hospital in South India, who has kindly communicated it to me verbally. It gives an excellent illustration of the methods to which the reader's attention is invited.

When a Hindu woman is in labour all her relations crowd into the room. In an ordinary case they may let the woman go on as best she can, but in any case of difficulty they call in a so-called "barber woman." She is supposed to know something and claims to know a great deal, but as a matter of fact is completely ignorant and filthily dirty. Suppose the labour to be lingering or the case to be primiparous and that delivery does not follow as soon as expected, then skill. For those English and American ladies who having qualified themselves by a full curriculum at home have devoted their lives to helping *their suffering sisters* in regions remote from civilisation by skilful practice of scientific obstetric *art we feel a degree of respect and admiration which is beyond expression.*

Leeds.

OBSERVATIONS ON PHOSPHATURIA AND THE TREATMENT OF DISEASE BY CONVERSION.

BY REGINALD HARRISON, F.R.C.S. ENG.,
PAST VICE-PRESIDENT AND HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN interesting article on the conversion of diseases in a work by Dr. John Ferriar, physician to the Manchester Royal Infirmary, entitled "Medical Histories and Reflections," published in 1795, opens with the following passage: "A disease is said to be converted when new symptoms arise in its progress which require a different designation and which either put a period to the original disorder or combining with it alter the physician's views respecting the prognostics or the method of cure." In the course of this article, which is now as suggestive as it was when written over 100 years ago, numerous illustrations from practice in support of his views will be found. I am mainly interested in one of Dr. Ferriar's references which provides an additional reason for ventilating the application of conversion in the instance I am taking. The reference is as follows: "It must be added that general fever sometimes cures local inflammation; Mr. Hunter says he has seen a gonorrhœa extinguished by the accession of a fever." Such an experience must not be unknown to many others.

It has not infrequently been observed in the treatment of chronic urethritis and muco-purulent discharges following it, irrespectively of the internal administration of alkalies and often imperceptibly to the patient himself, that the urine became altered in character and assimilated with that known as phosphaturia. And, further, that when this change was observed the cessation of the discharge or gleet, as it is commonly called, for which the patient had originally come under treatment, usually soon followed, either spontaneously or by treatment appropriate to the phosphaturic state without apparent reference to the cause which preceded it. This casual observation raised the question whether it was possible that there was any relationship between this incident and what followed, whether, in fact, the phosphaturic state of the excretion was inimical to the existence of the infecting bacillus. The observation was made so frequently as to suggest this and led to the systematic examination of the urine and other discharges for gonococci in all persons coming under treatment for gleet more carefully and frequently than previously. From them the following conclusions appeared to be grounded.

1. That in a considerable number of instances thus designated and of undoubted specific origin there was no evidence at the time of my examination that there was anything wrong with the urine or with any urethral discharge complained of inconsistent with the phosphaturic *state alone.* This condition was either apparent to the eye on allowing the urine to stand for a short time in a *glass vessel* or was evidenced by boiling the excretion *when any cloudiness* which followed was *immediately removed by the addition* of nitric acid. Here any pus corpuscles which the microscope detected were physically *explainable by the crystalline* precipitates the urine contained and which were often present in sufficient quantities *to give this excretion* a semi-purulent or opaque appearance. How or when this phosphaturic transformation *took place in the history* of an ordinary case of chronic infecting urethritis was not always easy to determine. *In many instances* which were carefully tested and microscopically examined this change appeared to mark the concluding stage of gonococcal life and was also often coincident or nearly so with the adoption of such treatment as the phosphaturic state usually requires. Further, these examinations showed how easily and frequently phosphaturia may counterfeit and be treated for a specific urethritis and even be intensified by the remedies commonly used for the latter.

2. The second inference was that the artificial production and temporary continuance of a state of phosphaturia might be utilised in the treatment of specific gleety affections following upon gonococcal infections. To produce a urine having the prominent features of phosphaturia by the administration of alkalies—bicarbonate of potassium was generally selected for this purpose—is not a matter of much difficulty or of any detriment to the patient. The effect on the urine should be sufficient to render it responsive to the usual tests, microscopical and otherwise, by which phosphaturia is recognised, and not merely to produce an alkaline reaction to test paper. Further, it is necessary to maintain this condition for some little time, during which period all local applications should be suspended. It will usually be found after a period of ten days or so and as the phosphaturic condition gradually passes off under the influence of altered treatment and diet appropriate to this state that no signs will be found such as were previously complained of. In some instances the artificially induced phosphaturia was slow in passing off, whilst in others its presence appeared to have been too limited to effect the desired object and required repetition. On the whole, however, the results have proved satisfactory. There was a time when infecting urethritis—at all events in its earlier stages—was very generally treated by the administration of alkalies, though the reason for this was not such as I am offering. I am not at all sure in the matter of rapidity of cure that we have much improved upon this older practice by the more mechanical processes which are now often substituted.

If these observations are found in their wider application such as I have construed them a more convenient and less unpleasant method of treatment may be arrived at. They have extended over some years, and though they may not embrace the whole truth they may be read in the light of a contribution towards it.

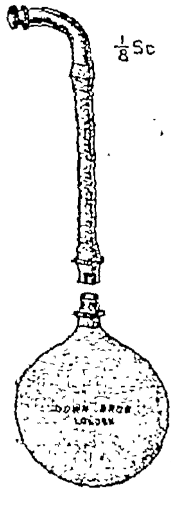
Lower Berkeley-street, W.

HÆMO-PERICARDIUM ASSOCIATED WITH SYPHILIS.

BY J. LOUGHEED BASKIN, L.R.C.P., L.R.C.S. EDIN.,
MEDICAL SUPERINTENDENT, FISHERTON ASYLUM; LATE DEPUTY MEDICAL SUPERINTENDENT, DEVON COUNTY ASYLUM.

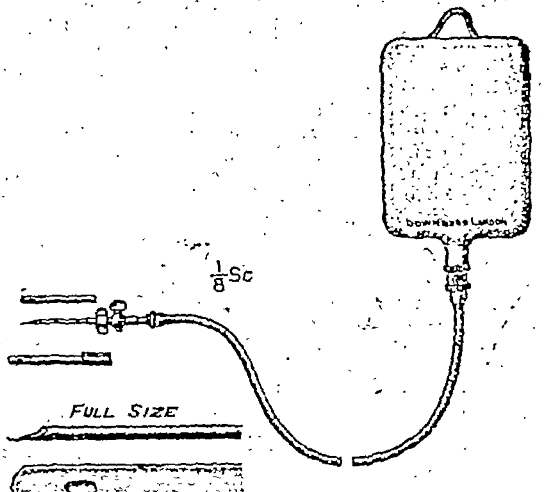
THE following case came under my *notice some time ago* and presents some interesting *features. The patient was* a married man, aged 65 years, of German nationality. When first examined *by me he was fairly well nourished* and well developed. His expression was gloomy and unintelligent; he was partly *demented*; *he retained* a delusion that he had been given 129 pints of medicine in one dose at a hospital. No *other symptom* of megalomania had been forthcoming and his general condition alternated chiefly between emotional *restlessness* and apathy. The *skin* of his entire body was very dry and slightly jaundiced. On the skin over the *sternum* and the interscapular region were several scars of either circular or crescentic shape, each of the size of a large pea. There was a painless swelling on the anterior border of the right tibia of the size of a florin and below this and immediately above the ankle were several small cicatrices irregular in shape; on the left leg were several ulcers with "punched-out edges" below the tuberosity of the tibia, and several similar ulcers on each forearm and extending on to the dorsum of the hand, and vaccination marks on the left upper arm. He walked slowly and with some stiffness of the hip-joints; the patellar reflexes were diminished and delayed; his grasp was feeble. Babinski's sign was absent and ankle clonus was not elicited. His right pupil was larger than the left; both reacted sluggishly to light and for the process of accommodation; the consensual reflex was present. The hearing was bad on each side; his tongue protruded in the middle line and was fleshy and grossly tremulous and *furred* posteriorly. He had only four teeth in his mouth (in the upper alveolus) and those were *carious.* His palate was unduly arched anteriorly. The cardiac sounds were irregular in rhythm; a slight bruit was audible at the first sound; his pulse was 70 and the radial and temporal arteries were tortuous and thickened. The respiratory system was healthy. His appetite was good; his intestinal movements were performed regularly. The liver was tender but no enlargement or alteration in shape or surface was discoverable. There was a brown discolouration on the glans penis one-eighth *of an inch in* defined, together with any infected glands or mesentery. The sigmoid flexure is rendered mobile by the careful separation from it and from the meso-sigmoid of the acquired adhesions already referred to. A sufficient length of bowel having been drawn out of the abdomen, it is divided with the cautery at such a point as to leave two or three inches of the proximal bowel protruding from the abdominal incision after the edges have been approximated by sutures. The mesentery of the distal bowel is separated from the sacrum as far down as possible and a ligature is tied firmly round the rectum at its lowest limit above the growth, any infected mesentery above the level of the ligature being thoroughly eradicated. The rectum is divided by the cautery immediately above the ligature. The ligatured stump is then inverted into the rectum and securely buried by purse-string and other sutures. Then the peritoneum of the pelvis lining its wall and the bladder in the male, and the uterus and broad ligament in the female, is picked up on a catgut suture so that that portion of the peritoneum of the pelvis which contains the rectal growth is completely separated by an *artificial diaphragm* from the general peritoneal cavity, and whatever disease still remains lies entirely below the protecting diaphragm which has thus been constructed. A curved tube fitted with a special rubber apparatus (Fig. 1), which I have employed for many years, is then tied into the portion of the sigmoid flexure left protruding from the abdominal incision, all fouling of the wound or discomfort to the patient during the whole period of convalescence being absolutely avoided by this means. The two or three inches of gut projecting from the wound is utilised to re-attach the glass tube as each section of bowel sloughs off with the constriction due to the ligature till the bowel is divided flush with the skin. This leaves a perfect aperture which is readily controlled by the rectus muscle and over which a cup and belt is worn without inconvenience.

FIG. 1.



After the operation the patient is put upon continual saline injections subcutaneously. Two pints are introduced into the axilla at once while the patient is still under the anæsthetic; during the three days following the operation about eight *or* ten pints are absorbed in this way by continued transfusion. To meet any risk of infection of the material introduced I devised an arrangement by means of which this can be *effectually* eliminated. It has also the advantage of occupying a very small bulk in the bag of the surgeon. It is made for me by Messrs. Down Bros. It consists of a bag made *of* the best rubber capable of containing two pints of water (see Fig. 2). It has a metal orifice sufficiently large to admit of the ordinary salt "tabloids." To this is joined a rubber tube by means of a bayonet catch, to which a suitable needle can be attached. This needle is fitted with a shield which serves the double purpose of keeping it covered after sterilisation and preventing any blunting of its point. A rectal nozzle is also supplied in the event of the surgeon wishing in certain cases to introduce the solution into the rectum. By using saline solution subcutaneously in this manner any sickness with the strain on the wound and the associated pain and distress is absolutely avoided, while the danger *of* shock to the patient from the operation is reduced to a minimum. I first employed this continual transfusion with the most marked success in cases in which I had removed the big bowel, with the result that the risks from the operation are very much reduced, while I believe the tendency to the formation of adhesions about the dilated small intestine, which is an occasional annoying sequence, is apparently obviated by it. The bag can be placed in any situation in or above the bed and its contents can be kept warm by *placing it on a hot*-water bottle, &c. If the solution does not run freely pressure can be exerted in it readily or it may be suspended at a greater height. To employ it the bag is filled with water after the salt has been introduced into it. The shield, tubing, and needle are *then connected* and the whole thing is put into any suitable vessel and boiled. The shield being taken off the needle, it is introduced between the cleansed skin and is fixed in position with a suitable dressing so as to assure asepsis at the seat of puncture.

FIG. 2.



After a fortnight has elapsed the remainder of the rectum is removed from below. This is done by a careful dissection of the rectum from the sacrum and *from* the bladder or vagina till the portion of the peritoneal cavity which has been shut off by the artificial diaphragm is encountered. From this peritoneal space into which the finger enters the remainder of the rectum is easily removed. The cavity left is drained in the usual manner and closes up rapidly.

One satisfactory result of this method of operating is that before the second step in the operation the patient gets about with comfort, and after the second step the sitting posture can be resumed after the lapse of a few days.

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A CASE OF ENUCLEATION, DURING THE SEVENTH MONTH OF PREGNANCY, OF A UTERINE FIBRO-MYOMA WEIGHING 17½ POUNDS; PREMATURE LABOUR TWO DAYS LATER.[1]

BY HERBERT WILLIAMSON, M.A., M.B. CANTAB., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN ACCOUCHEUR TO ST. BARTHOLOMEW'S HOSPITAL; PHYSICIAN TO OUT-PATIENTS, QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

ON Dec. 15th, 1906, I was asked by Dr. T. H. Fowler of Epping to see a woman in whom pregnancy was complicated by the presence of an abdominal tumour. The patient was 32 years of age and had been married for 15 months. Menstruation commenced at 14 years of age. The periods had always been regular every 28 days, had lasted six days, and the amount lost had never been excessive. The date of the last period was June 15th to 21st, 1906. Shortly after this the patient became pregnant and from that time no vaginal hæmorrhage occurred. Previous to conception she was in her usual health, had not noticed any enlargement of the abdomen, and had not found it necessary to loosen her clothes. Towards the end of September, 1906, in the fourth month of her pregnancy, whilst engaged in her household duties, she was seized with acute abdominal pain. The pain did not cause vomiting but was so severe that she was unable to stand upright. She went to bed and remained there for two days, the pain gradually subsiding. A few days later in the early part of October the pain was so much less that she undertook a short railway journey and whilst in the train was seized with another attack similar to the last, though more severe. She was unable to sit or lie down but had to finish the journey standing up clinging to the carriage door. On reaching her destination she was put to bed and remained there for six days but gradually recovered and at the end of another week was able to return home. To use her own words, "the journey home seemed to bring back the pain." For a fortnight she was confined to her bed and from that time until I saw her some five weeks later was unable to leave her room. There was rapid loss of flesh and the abdomen became distended to such a degree that it was impossible for her to lie down. Fœtal movements were felt in November and from that time onwards. On Dec. 15th I made the following note: "The patient looks ill and is anæmic; she is very thin, almost emaciated. The tongue is furred. Temperature 99·5°. Pulse 100, of poor volume. When lying down there is grave difficulty in respiration. The breasts are active and contain secretion. The abdomen is enormously distended, the skin over it tense and shining, a number of large dilated veins are seen on the surface. On palpation the abdomen is tender all over. Two tumours can be detected. The larger lies to the right; it is hard, feels solid, and nodular on the surface; it extends upwards for a considerable distance beneath the costal margin and has displaced the diaphragm causing respiratory embarrassment. It reaches well beyond the middle line and descends into the pelvis. The second tumour lies to the left and below; its limits cannot be accurately determined, for it is overlapped by the one just described; it lies over the left iliac fossa and bulges the abdominal wall outwards in the left flank. Its consistence is soft and elastic, like that of the pregnant uterus; fœtal parts cannot be distinguished nor can the fœtal heart be heard. The uterine souffle is clearly audible. Per vaginam the cervix is soft and lies high up to the left; the finger can be introduced through the os internum, the bag of membranes can be felt, and in this a child's foot which moved on touch. Bimanually, the tumour to the right rests upon the pelvic brim, whilst the lower pole projects into and occupies the right half of the pelvic cavity. The tumour to the left is identified as the pregnant uterus."

As to the nature of the mass to the right I was in grave doubt but thought it was probably a rapidly growing malignant tumour of the ovary. The reasons which led me to form this opinion were briefly these: (1) the rapidity of growth was in favour of a tumour of the ovary rather than of the uterus, yet the tumour felt too hard and inelastic for an ovarian cyst; (2) I could not satisfy myself that the tumour was definitely connected with the uterus; and (3) the cachectic appearance of the patient, the rapid loss of flesh, and the evidences of a toxæmia were in favour of a malignant growth. In spite of this view I urged strongly that an exploratory operation should be undertaken because it was clear that the patient would soon die from respiratory trouble if nothing were done and also that delivery of the child *per vias naturales* was an impossibility. The patient and her friends consented to my proposals and she was brought up to town on an ambulance.

On Dec. 19th I opened the abdomen by an incision in the middle line. The incision was subsequently enlarged so that it extended from two inches above the pubes nearly to the ensiform cartilage. When the abdomen was opened two tumours presented; the pregnant uterus deep red in colour lying below and to the left and a large nodular growth lying to the right extending upwards beneath the costal margin and downwards into the brim of the pelvis. The tumour was adherent to the parietal peritoneum, to the bowel and omentum, but the adhesions were easily separated. I found that the growth was a fibro-myoma attached to the right side of the anterior aspect of the uterus by a pedicle rather thicker than a man's wrist. After separating the adherent viscera it was brought out of the abdomen without difficulty and enucleated from the uterine wall. I do not think I opened the uterine cavity during this procedure but the mucosa was exposed. Free hæmorrhage occurred from the cavity left in the wall of the uterus after enucleation. So free was the bleeding that I feared it would be necessary to complete the operation by performing Cæsarean section and possibly hysterectomy. Eventually, however, by underpinning the whole of the raw surface and closing it in by means of cat-gut sutures the hæmorrhage was arrested. The abdominal wound was closed by through-and-through sutures with a separate layer for the fascia. For 48 hours the progress was entirely satisfactory, but on the morning of Dec. 21st labour pains commenced and after a short and easy labour the patient was delivered of a six months child which lived only 18 hours. There was no post-partum hæmorrhage but with the expression of the placenta two masses of dark blood-clot, each of the size of a hen's egg, were expelled. These clots were evidently two or three days old, and I have very little doubt that during the manipulation of the uterus I partially detached the placenta. To this accident is to be attributed the onset of labour. From this point convalescence was uninterrupted and the patient returned home a month after the operation. I noticed a number of fibroids in the wall of the uterus, one of the size of a Tangerine orange and two or three others nearly as large as this. When the patient came to see me six months later the uterus had involuted well and the whole mass, uterus and fibroids, was no larger than a man's fist. There can be no doubt that in this case the individual fibroids were much smaller six months after delivery than at the time of labour.

I show to-night a portion of the tumour removed. Its weight was 17½ pounds, its length 12½ inches, its breadth 9 inches, and its circumference 25 inches. On section it is seen that the tumour is degenerate, more especially towards its centre. Areas of mucinoid degeneration, cyst-like cavities, and patches of necrobiotic tissue are scattered through it. Microscopical sections show the histological appearances commonly seen in a degenerating fibro-myoma. These call for no special description.

I have related this case because of its clinical interest and because it is important to record instances in which premature expulsion of the ovum follows operations upon the uterus during pregnancy. So many cases have been published of pregnancy continuing in spite of the enucleation of uterine fibroids that a false idea of the safety of the ovum may become prevalent unless our failures are recorded also. I do not mean to imply that abortion is the rule, but it occurs with sufficient frequency to make me hold that a fibroid should not be enucleated during pregnancy unless it causes, or clearly threatens to cause, urgent symptoms.

The rate of growth in this case is remarkable. I have no doubt that the tumour existed before the commencement of pregnancy, but it had been noticed neither by the patient nor her friends. Its increase in size must be attributed to two factors: (1) the richer blood-supply of the uterus associated with gestation; and (2) the degenerative changes in the tumour partly mucinoid and partly necrobiotic. It is tribes that a childbirth may be only an incident in a day's march, the woman after an hour or two resuming her walk carrying her newly born child, or mounting her horse and galloping on after her company, and many native races know almost nothing at all of a "lying-in" period. But on the other hand, as soon as the more natural conditions are interfered with difficulties and dangers arise. Even amongst the former class such conditions as the falling of the womb and of the vaginal walls have a notable frequency. Intermarriage of different races, especially of lower with higher, produces dystocia, and women with half-breed children often die in labour. But the evidence available suffices to make it abundantly clear that amongst untaught nations there is a very serious amount of ignorance, maltreatment, and brutality which entail a vast amount of suffering and death which might be avoided by the introduction of Western methods. Let no one adopt the comfortable notion that it is superfluous to seek to diffuse scientific obstetric teaching in the world. One object of this paper is to prove the contrary.

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[1] A paper read at a meeting of the Obstetrical and Gynæcological Section of the Royal Society of Medicine on Jan. 9th, 1908.

Let us take an example. China is known to be a land well advanced in certain arts. How is it with midwifery? In the *China Medical Missionary Journal* for 1890 Dr. J. C. Thomson tells us that Chinese women naturally suffer less and have easier deliveries than Western women, but owing to the violent massage and other manipulations to which they are subjected the severest ruptures and lacerations are seen, with all the inevitable consequences of sloughing, necrosis, sepsis, and death. The mortality in childbed is excessively high, and he says: "In the practice of obstetrics in China we see century after century of the blindest empiricism, with no ray of medical science to shine into the habitations of cruelty."

As examples of the atmosphere of ignorance and superstition in which such races dwell I may remind the reader that many races recognise no death from natural causes, ascribing all fatalities to witchcraft or "the evil eye," or to the malevolence of some supernatural being. We find such absurdities as the custom of putting the husband to bed when the child is born, whilst the wife waits upon him.[1] Amongst one tribe of Finns the pregnant woman changes her shoes every month to throw off her tracks the devil who is waiting to devour the newly born child. The Chinese hold that pregnancy may last for three years if the child does not wish to leave the womb. The Indian women will whisper to the unborn child that a rattlesnake is near so as to induce the child to leave the womb. Chinese women will wear stockings which have been blessed by the lama, so as to expedite delivery, and will swallow pilules of paper on which magic words are written, while for cross-births a remedy is found in the ashes of the husband's hair. Examples of such puerile and ludicrous practices could be multiplied indefinitely.

III.

We will now consider some of the actual methods employed in primitive midwifery with some allusion to traces of the same amongst more civilised peoples. The different *postures* occupied by women in labour have been studied by Engelmann and Ploss and will be found described and illustrated in the works already referred to. The most common and natural position in ordinary cases seems to be a squatting posture, like that of defæcation, but almost every conceivable position has been noted.

Administration of internal remedies.—Of world-wide prevalence is the use of medicines to strengthen the patient, to ease her sufferings, or to excite uterine action. Probably every kind of aromatic drug has been employed for this purpose. The Hippocratic school esteemed silphion which the Latin calls laserpitium and which was perhaps asafœtida. The Romans used pomegranate and fenugreek, and the Arab physicians use an enormous number of drugs, and amongst European nations honey, myrrh, henbane, adderswort, castor, savin, mint, rue, pepper, cinnamon, figs, various balsams and oils, and so on, infused in water, wine, or beer. Amongst other nations than European we may select from many examples, turnip juice (Caribs), decoction of tobacco in cow or ewe milk (Hottentots), decoction of opium (Chinese), the powdered vertebræ of the electric eel (Venezuelans), slippery elm (North American Indians), and so *ad infinitum*. Nauseous and repulsive substances also may be employed such as cold water in which a woman has just washed her feet or even urine (a tribe in the Dutch East Indies), and sometimes irritant or poisonous substances. Emetics have been widely used. Engelmann depicts a midwife amongst the Kiowa Indians blowing an emetic into the mouth of a parturient woman. It is obvious that the straining caused might act on the uterus mechanically. The Chinese often excite vomiting and uterine action by thrusting the woman's own pigtail down her throat till she is sick. Sternutatories played a considerable part in ancient midwifery. They were condemned by Soranus but are advocated by Roesslin. Ergot does not seem to have been used until the sixteenth century. To deprive a woman of food or drink or both from the beginning to the end of labour is a not uncommon custom. This was the practice in Germany in the seventeenth century: while the woman was on the "birth-chair" absolutely nothing to take was allowed her. In some parts of India it is thought to be very dangerous for a woman in labour to drink water.

External remedies.—The use of unguents to facilitate delivery is one of the oldest practices in obstetrics. Susruta, whose date is anything up to 1000 B.C., recommends anointing of the external and internal genitals. Similar advice is given by Moschion, Aëtius, Paulus Aegineta, and Avicenna, and the practice has continued to the present day, and it is only modern aseptic ideas that exclude these miscellaneous lubricants. The abdomen also is rubbed with various medicaments. For example, I may mention the use of oil in Guatemala, of an infusion of an astringent plant in Mexico, of Kalapa milk in the Babber Islands, and of a mixture of fat and brandy in Galicia. The Greeks and Romans used medicated bougies or pessaries placed in the vagina or os uteri.

Baths and affusions.—These are also employed. For example, hot water is applied to the abdomen in Peru. Some Australian tribes pour cold water over the abdomen. In Doreh, in New Guinea, the parturient is held by two other women while a third pours cold water over her till the child is born.

Vapour baths and fumigations have a very wide distribution. Felkin gives a sketch from a tribe on the White Nile of a woman who is in labour and is squatting over a hole dug in the ground in which is a fire and over it a pot containing a decoction of herbs. The rising steam is said to make labour easier. Steam baths with medicated vapour are similarly used in Russia, in China, and in many other places. In Central California in difficult labour a plaster consisting of hot ashes and wet earth is placed on the abdomen. The Arabians used many such methods and in the oldest German works for midwives many substances are recommended for fumigation, such as galbanum, castor, cow's hair, sulphur, opopanax, and the dung of pigeons or hawks. In German South-West Africa in lingering labour the woman is placed in a bath or has applied to her body the abdominal viscera of a recently killed ox, while the still moist skin serves for a wrap. These are sufficient examples of very widespread practices.

Mechanical assistance to women in labour by employment of external force.—The idea that labour may be assisted by pressing or squeezing the abdomen is obvious, and very primitive, and has given rise to almost universal practice. It has a basis of sound principle in it, and applied within due limits and according to right methods it has a well-recognised place in obstetric art, but nothing that we shall discuss in this paper shows more forcibly how a right idea may be exaggerated and abused till it gives rise to the most brutal and dangerous malpraxis. Gentle finger pressure and massage, rhythmic and well designed, may really be of service in exciting pains and even in rectifying cross-births; and massage has been very widely practised in various times and amongst various races. The Japanese may be especially mentioned for their skill in this respect. As varieties and examples of the more violent methods of applying external force I may mention: 1. Violently kneading the abdomen of the parturient or giving blows with fists, knees, or feet, or by butting with the head. 2. Forcible compression with the arms. For this purpose the helping woman may sit behind the patient and compress the womb with hands clasped around the abdomen. Sometimes the husband or a strong man may be employed for this purpose. The woman may kneel or stand meanwhile or may even be hanging to a bar or partially suspended to a tree-trunk or branch. 3. The pressure may be made with a bandage surrounding the abdomen, the ends being pulled by one or more women or by a man. 4. Or pressure may be made by kneeling or standing on the patient's abdomen while she lies on her constipation relieved by enemata was due to sluggish action of the lower part of the colon. But enemata were not often employed without the simultaneous administration of purgatives, so that it had not been possible to separate clinical groups of cases in which enemata and not aperients were indicated. He had attempted by the aid of the x rays to discover what part of the intestines was to blame in different cases of constipation and thus to obtain a rational basis for treatment. It was only in the severer forms of chronic constipation such as those in which the question of operative interference might arise that the somewhat prolonged investigations required could be profitably carried out in practice. But he hoped that the examination of a large number of cases of constipation of every variety and degree might lead to the discovery of some simple clinical signs which would show what part of the intestines was at fault. It might also be possible to discover by similar means the exact effect of the various drugs and other measures employed in the treatment of constipation so that each case might be provided with a suitable treatment. The method employed consisted in the administration at breakfast of one and a half ounces to two ounces of bismuth carbonate mixed with bread-and-milk and then subsequently periodically examining the patients with the aid of the x rays. This large dose of bismuth had never produced any unpleasant symptom and on no single occasion in healthy individuals was constipation or any other disturbance of the normal activity of the alimentary canal produced. The time relations obtained by means of the x rays could therefore be looked upon as normal. The average normal time for the food to reach the cæcum was four and a half hours. Two hours more were required for it to reach the hepatic flexure and another two and a half hours for it to reach the splenic flexure. The rate of passage through the descending colon was somewhat slower and the activity of all parts was lessened during sleep. In a severe case of constipation described by Dr. Hertz the method showed that the passage of the intestinal contents through the colon as well as through the small intestine was unduly rapid rather than unduly slow. By means of the investigation with bismuth he found that the seat of the constipation in this case was the sigmoid flexure and the rectum. The rectum was considerably distended and fæces were present in the anal canal but the patient experienced no definite desire to defæcate. That meant that the rectum and anal canal must have become so far anæsthetic that the normal defæcative reflex no longer occurred. That together with the atonic condition of the sigmoid flexure and rectum caused the constipation. In this case by the use of daily enemata the constipation was "done away with" and the toxic symptoms and the pain were relieved. After this treatment an investigation made with bismuth carbonate showed that the sigmoid was no longer distended and that the bismuth passed at the normal rate through the intestines. Dr. Hertz then proceeded to relate the circumstances of a second case of severe constipation of 33 years' duration in a woman, aged 44 years. In this case as in the former one, bismuth carbonate passed through the small intestine at the normal rate and the distance reached in the first 28 hours also was not abnormal, but from the last part of the transverse colon onwards there was considerable delay. The constipation was probably due to anæsthesia of the rectum and anal canal and atony of the muscular wall of the pelvic colon and rectum. Dr. Hertz did not consider that the case would have been suitable for the operation of colectomy. In this case by the use of daily enemata the pelvic colon and rectum were prevented from becoming distended. The abdominal pain due to the fæcal mass disappeared with the enema treatment and the patient felt in every way better. It this case it was found that the patient did much better when the enema was given at night just before going to bed. In a case of tabes dorsalis and one of lead poisoning Dr. Hertz described the effect of drug treatment and observed in regard to a case of constipation in chlorosis that the cause was due to the sluggish action of the part of the large bowel beyond the middle of the transverse colon and if the case proved to be typical of the constipation of chlorosis it explained why ordinary aperients were able to relieve the constipation as the sluggish action occurred in a part of the intestines which was readily influenced by drugs. In the case of a patient suffering from constipation with neurasthenia the bismuth carbonate method showed that the constipation was due to sluggish action of the colon beyond the hepatic flexure, the last part of the transverse colon being most at fault. By treatment with liquor strychninæ and magnesium sulphate the condition was relieved and the bowels became regular.—Dr. H. Morley Fletcher asked what was the position of the patient when the x ray photograph was taken.—Dr. C. E Beevor said Dr. Hertz had given interesting details concerning constipation in cases where there were definite causes for the condition. What was the explanation of constipation coming on in a man between 50 and 60 years of age who found himself compelled to use purgatives or enemata?—Dr. F. de Havilland Hall laid stress on the importance of giving enemata at night time.—Dr. Hertz, in replying, said that the position of the patient when x ray photographed was lying down, but there was now at Guy's Hospital an apparatus by means of which the x ray investigation could be carried out with the patient in the upright posture. In regard to the question asked by Dr. Beevor, Dr. Hertz said that he had not examined such a patient, but he considered the constipation was similar to that seen in cases of the neurasthenic type.

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[1] See Lubbock: Origin of Civilisation and Primitive History of Man, chap. I.

DERMATOLOGICAL SECTION.

Exhibition of Cases.

A meeting of this section was held on Jan. 16th, Dr. H. Radcliffe Crocker, the President, being in the chair.

Dr. E. G. Graham Little showed a young girl with Granulomatous Swellings on the hand, wrists, ankle, and neck, which seemed to be of the same type as the cases of disease grouped under the title of "granuloma annulare." A specimen of a section of the skin was shown and its appearance was like that described in some cases of the disease to which this name had been applied. Several members suggested that the skin lesions were like those of acnitis, and it was decided to try the effect of a Calmette ophthalmo-tuberculin reaction.

Dr. J. M. H. MacLeod showed a case of Annular Lichen Planus in a man in whom the lesions were confined to the penis and the forearm. The annular lesions could be traced as being formed by the peripheral extension and central involution of papules.

Dr. J. A. Ormerod showed a case of very extensively distributed Pityriasis Rubra Pilaris in a man, aged 30 years. In spite of the wide area of surface covered the scalp was little affected.

The President and Mr. George Pernet showed a Case for Diagnosis—a man with a number of Circumscribed Patches of Redness and Scaliness, the skin being free both from infiltration and atrophy. This case had been seen by a dermatologist in Chicago and had been published as an example of parakeratosis variegata. Diagnoses of mycosis fungoides and of leprosy had also been offered. The exhibitors thought the case corresponded more nearly with the type of xantho-erythrodermia perstans.

The President and Mr. Pernet also showed a case of Lichen Planus Verrucosus treated with the violet rays of a mercurial vapour vacuum tube. The patient had benefited greatly by this treatment.

Dr. J. H Sequeira showed a case of Tuberculides in a girl, aged 19 years, in whom the lesions had been noted for several years. These were of the type of acnitis. The opsonic index had been found to be 1·1. Calmette's ophthalmo-tuberculin reaction had been demonstrated in this case, but there was no other evidence of tuberculosis in the patient and there was no family history of the disease.

Dr. J. H Stowers showed a case of a small Rodent Ulcer on the Bald Scalp of a man, aged 53 years. This was of the size of a threepenny-piece and had lasted for 12 months.

OPHTHALMOLOGICAL SOCIETY.

Microphthalmia resembling Glioma.—Optic Neuritis in Cerebral Tumours.—Carcinoma of Orbit.—Coloboma of Iris in Each Eye.—Exhibition of Specimens.

A meeting of this society was held on Jan. 30th, Mr. R. Marcus Gunn, the President, being in the chair.

Mr. M. S. Mayou described a case of Microphthalmia resembling Glioma, with lenticonus and hypertrophy of the ciliary body. He said that the case belonged to the class of phthisis bulbi. Some of those cases had been of inflammatory origin, but this, and possibly some of the other cases, were attributable to the imperfect development of the mesoblast

Palestine, Russia, and India, and also in Japan and Persia. In the East Indies rags are sometimes stuffed into the anus and in Southern India a bag of ashes has been used to support the perineum. In our survey of primitive midwifery it is possible to find many grains of common sense amongst an overwhelming quantity of rubbish.

IV.

Treatment of the umbilical cord.—The widest differences are observed in this respect. The severance may be made by the father or by an assisting woman, or by the mother herself. It may be bitten through with the teeth, the mother even doing this for her own infant. It may be cut with sharp shells or sharp stones or pieces of wood, or with a kind of knife or saw fashioned from bamboo, &c. Sometimes the cord is ligatured with vegetable fibre or string, or may be tied in a knot. Many tribes never ligature. The cord is then often divided with a blunt instrument and being torn and crushed natural hæmostasis may be thus secured. Often some rough kind of styptic is applied to the fœtal end, such as ashes or charcoal or chalk. Sometimes it is cauterised with a glowing piece of wood or iron. In some parts of China the end of the cord is wrapped in oiled paper and then ignited. Fatal hæmorrhage is common when these primitive methods are in vogue. The cord may be cut close to the body, or, on the other hand, be left very long, sometimes even looped around the neck of the child. Umbilical hernia is a common result of such modes of treatment. The cord may be divided as soon as the child is born, or not till the placenta is delivered, and the placenta may undergo various anointings and washings first. Sometimes the child's body is twisted round directly after birth, so as to produce torsion of the cord.

Delivery of the placenta.—In very many cases where labour is easy the woman is delivered without assistance and remains squatting on the ground and straining till the placenta comes, as with patience it usually will. Sometimes, although the placenta is retained, no further efforts are made to extract it and this, of course, may lead to septic symptoms. To assist the delivery of a retained placenta all kinds of drinks are in use, also emetics, disgusting nauseants, and sternutatories. Sometimes the finger is thrust into the patient's mouth till she vomits or a lock of her hair is used for the same purpose; in China I am told by my friend Dr. O. Wenyon that the woman's own pigtail is thus employed. Barbarous methods are also common. The woman may be made to stand up and jump or be jolted by others. Amongst the Khirgis we read of her taking a wild ride on horseback over hill and dale to dislodge the retained placenta, often returning more dead than alive. The steam or vapour bath is used for this purpose also. To pull on the cord when the placenta is not delivered as soon as is deemed proper is a universal error. Fatal hæmorrhage, inversion, and prolapse follow this practice. Some tribes tie a stone to the cord and let the woman walk about. Others tie the cord to the thigh to prevent the imaginary danger of the placenta being drawn up into the abdomen. There are some tribes amongst the North American Indians who have learned that only gentle traction is permissible; it is obvious that when the placenta is lying in the vagina traction on the cord will appear to be a brilliantly successful method. Abdominal manipulations for the same end are common all the world over. They vary from gentle massage with perhaps inunction of oil to firm or severe hand compression of the uterus, violent kneading of the abdomen with fists, or pressure with hot stones placed on the abdomen. Worse still, a woman may stand on the patient's abdomen kneading violently with her feet; or, while the patient stands erect she may be clasped forcibly around the body. The abdomen may be compressed by a cloth passed around it and dragged or twisted with a stick after the manner of a tourniquet. Also water may be poured from a height on to the abdomen. That very serious injuries often result from the more violent measures it is unnecessary to say. Internal manipulations for placental extraction are not very common, but examples are recorded in various parts. Some of the North American Indian women have been known to introduce the hand, and so in India and some of the Pacific Islands. In German South-West Africa Lübbert has seen this done with very great care and very reasonable precautions. Here, also, the Japanese are distinguished by careful treatment of the third stage of labour.

Treatment of post-partum hæmorrhage.—All sorts of drugs and decoctions are in use. Kneading of the abdomen is a more rational remedy and doubtless is often effective. It is often done with great violence and we read of a woman being made to stand against a wall while another woman strikes the abdomen with her head or her knee (Indian tribe). Binding the abdomen is a common expedient. Various charms are in vogue and one cure is to make the woman swallow a spoonful of her own blood. In Annam post-partum hæmorrhage has been treated by laying the patient on her back while another woman treads on the abdomen, thus giving violent massage with her feet. Or she may be violently dragged by the hair. Cold affusion is sometimes used, or heat may be applied to the genitals till the pubic hair is singed. As the result of such treatment, of which the above are but a few examples, falling of the womb is very common.

The puerperal period.—With the idea that something must be done after delivery to restore the womb to its place we find amongst certain tribes such measures as massage and compression, various vaginal injections, the application of hot stones to the abdomen, or even violent tamponade of the vagina (tribe in Palestine). Especially noteworthy is the very widespread practice of applying heat, smoke, or steam to the woman in the puerperal period. This may be done by digging a hole in the ground, putting in hot stones, and pouring vinegar over them while the patient sits above. Or she may be exposed near a fire or may stand or lie above it. This is often carried out so severely that the mother is badly scorched or fatally burned. She may be kept in a small hut and the heating process continued for many days, and even a whole month. Flagrant examples of this are seen in Cochin China and amongst the Siamese, in New Guinea, in some Indian tribes, and in many other places. The child may share the treatment. Milder forms of vapour baths and fumigations have been common in various parts of Europe.

Most various are the customs in regard to bathing and ablution after childbirth. Religious belief governs this to some extent. Near Cape Horn a woman was seen to take four sea baths on the day on which she was confined. In another tribe we read of a woman being confined on the bank of a river and taking a plunge in the water immediately after. Others are washed two or three times daily, whilst on the other hand we find that all washing may be postponed for 14 days or more. Various medicated solutions may be used for the ablutions of the puerperal period. In Turkestan the woman after delivery has been known to be treated by wrapping the loins and abdomen in the skin of a black sheep just flayed alive, while the skin of a hare recently killed enwrapped her feet. To feed the woman after delivery on fluid or exclusively vegetarian diet or on some form of broth is very common. The most brutal practice we read of in this connexion is the refusing of drinks to the woman after delivery. In Malacca they may not drink cold water for 14 days. Among the Hindus, for instance, the custom is found of allowing the woman to hunger and thirst for five days, giving only some dry rice, and this in spite of the heat. This withholding of water even accompanies the barbarous treatment by scorching fire of which I have spoken. Sometimes women are made to drink urine. The idea that water is harmful and must be given in very small quantity is a barbarous notion, of which we have scarcely shaken ourselves free in the treatment of fever and post-operative thirst. Childbirth usually takes place in more or less seclusion, and it is a practice somewhat widely diffused to erect a special hut either near the house or at a considerable distance, say in the shelter of a wood, where the woman may pass the days of her lying-in, her husband being more or less attentive to her requirements or more or less completely neglectful of her according to local custom. On the other hand, the confinement may take place *coram populo*, with a crowd of interested spectators, who may contribute invocations or encouraging cries (Loyalty Islands).[2] Space forbids extending this article further, but fuller details will be found by the student in the authorities indicated. In India the education and provision of native midwives are promoted by such excellent institutions as those founded by Lady Dufferin and others. Many mission hospitals are doing similar work in various parts of the world. I know that it has been found in some parts of China that native Chinese women when properly trained are very apt to learn and make excellent midwives who can even use forceps with

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[2] See Journal of the Anthropological Institute, vol. xix., p. 503.

(5) Colloid Carcinoma of the Colon from a case of Colectomy; and (6) Calculi from the Female Bladder.—Dr. Gilbert T. Beatton read notes on a case of Neurasthenia.—Dr. J. Metcalfe read notes on a case of Ureteric Calculus, with skiagram.—Mr. W. H. Horrocks read a paper on the Classification of Appendix Abscesses. He said that so much had been written about appendicitis that it seemed almost futile to attempt to say anything fresh about this condition. The anatomy and pathology had been fully discussed, and after the numberless cases which had come under observation the time seemed to have arrived when some classification of the different forms of appendix abscess might with advantage be attempted. In carrying out this idea the subject would be approached from its clinical rather than its pathological aspect. The first point to which he would call attention was the significance of the tender point lying in the line between the anterior superior spine and the umbilicus known as McBurney's point. This tenderness was generally present in appendicitis, but it was obvious that it did not indicate the position of the part of the appendix most affected. The appendix varied greatly in position. It might lie transversely across the iliac fossa, point downwards, towards the internal abdominal ring, or lie behind or outside the cæcum. Yet in all these cases there was tenderness over McBurney's point. This point really marked the attachment of the appendix to the cæcum, where the mesentery contained the lymphatic glands which became inflamed and tender. Hence this point gave no indication as to the position of the acute disease. Some years ago Sir F. Treves pointed out that a ridge might be felt crossing the appendix line in chronic appendicitis. This in some cases was mistaken for a thickened appendix as it was tender on palpation. Sir F. Treves pointed out that this ridge was probably the ileo-cæcal valve, and certainly not the appendix. On examining the blood-supply of the appendix two arteries were usually found, one of which ran along the free margin of the mesentery and the other near the attachment of the appendix to the cæcum. Generally from one-fourth to one-third of an inch of the termination of the appendix was without mesentery. This part was most subject to perforation. In other cases a kink occurred from adhesions or stricture about midway in the appendix and perforation might occur less commonly in this position. For purposes of classification appendix abscess might be grouped into three divisions. In all three cases the appendix lay in a plane behind the intestines, attached to the posterior wall of the peritoneum or in some rare cases to the under surface of the intestinal mesentery. Group I.—In which the appendix lay transversely across the iliac fossa so that its tip approached the brim of the pelvis. This was, perhaps, the commonest form. The small intestines matted together by plastic lymph formed a large tumour. There were marked local peritonitis and swelling of the abdomen. The bladder was frequently affected, there being pain and frequency of micturition. The abscess formed in the iliac fossa near the brim of the pelvis and might remain there, or it might gravitate into the pelvis occupying a position between the bladder and the rectum. Such abscesses might point by coming forwards between the coils of intestine to the anterior abdominal wall, usually near the outer margin of the rectus muscle, about a hand's breadth above the pubes. This form of appendicitis was the most dangerous from its liability to cause general peritonitis or to burrow among the organs of the pelvis. In this form examination per rectum was most valuable. Group II.—Where the appendix lay in the iliac fossa as a direct continuation of the cæcum. The affected part of the appendix lay usually near the internal abdominal ring. This form was not generally characterised by a large abdominal tumour. The abscess was frequently of small size and could be quite readily felt above, and parallel to, Poupart's ligament. The tendency of this abscess was to follow the cord along the inguinal canal. It was the least dangerous form of appendix abscess. Very often this form of abscess discharged into the cæcum and so cured itself. Group III.—Where the appendix lay between the layers of the cæcal mesentery or on the outer side of the colon. This was the most obscure form of appendicitis. It was attended by no definite tumour. The pain and tenderness seemed to travel upwards. The risk of general peritonitis was very slight, but on the other hand there was a tendency for the formation of subdiaphragmatic abscess with secondary empyema of the right side. There was often œdema of the skin of the right loin. In dealing with such abscesses there was considerable difficulty and a deep dissection might be required.—A discussion followed the paper and Mr. Horrocks then replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 17th, Dr. J. Walker Downie, the President, being in the chair.—Dr. G. Burnside Buchanan reported a case of Extensive Injury to the Brain. The patient sustained a compound fracture of the skull from a block of wood falling on his head. There was a large irregular wound about the right parietal eminence. Some of the fragments were depressed under the edge of the fracture. A splinter of wood about one inch by a quarter of an inch thick was imbedded in the brain. There were much effusion around and considerable hæmorrhage from the wound. He was not entirely unconscious. The left side of the body and face was paralysed. Loose fragments of bone and the piece of wood were removed. Detached brain tissue and gritty particles were removed and the wound was packed with iodoform gauze. Anti-tetanic serum was given. The wound healed slowly without suppuration but a large quantity of necrotic brain matter escaped. He regained slight power over the leg. Sleeplessness and restlessness were very troublesome and could only be controlled by morphine. The leg and facial paralysis made marked improvement but the mental condition deteriorated.—Dr. A. N. McGregor described a Method of Recording the Efficiency of the Discharge of Urine per Urethram. He considered the estimation of the size of the urethra from casts, as done by Reybard, and the use of the urethrameter of Otis, Luis, &c., did not give the rate of discharge in a given case, which was the chief point of importance. His method was to get the patient to measure the urine passed during five seconds without voluntary exertion and in similar circumstances from day to day. These results recorded on a chart gave a permanent record of variations in the efficiency of urination. A number of charts were shown and demonstrated the more lasting effects after moderate dilatation as compared with extreme dilatation. Charts from normal cases were also shown.—Dr. W. S. Syme showed: 1. A boy, aged six years, operated on for Septic Sinus Thrombosis consequent on Middle-ear Disease. There was a small carious opening into the mastoid antrum on admission. The whole mastoid process was carious. At the operation this was cleared out and *the lateral sinus was exposed.* Its wall was covered with unhealthy granulations. Three days later symptoms of septic infection developed. The sinus was opened and a thrombus was found adherent to the inner surface. The internal jugular was tied. Progress was slow but progressive. 2. Patients operated on for Diseases of the Accessory Sinuses. Intranasal treatment should be given a good trial first. Extensive operations should be performed externally and the extent of operation depended on each individual case. The sphenoidal sinus could be opened externally (the Killian operation), by way of the maxillary antrum, by the naso-pharynx, or by the anterior nares. The last method was generally preferable. 3. A case where part of the Root of the first Upper Right Molar was removed from the Maxillary Antrum into which it had been driven six years before as the result of an unsuccessful attempt at extraction.

THE KING AND THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Excellent photogravures of the portrait of the King, which was painted by Sir Luke Fildes, R.A., by His Majesty's command, for the Royal College of Physicians of London, of which corporation His Majesty is an Honorary Fellow, can now be obtained from the Berlin Photographic Company, 133, New Bond-street, London, W. The portrait represents His Majesty, to use the words of the publishers of the photogravure, "not in the uniform of a soldier, nor as the head of the State, but in that garb to which his fine presence lends fresh dignity—namely, as the First Gentleman of the Realm." An advanced proof of the engraving was submitted to the King, when the publishers were fortunate in finding that they had secured His Majesty's approval. Artist's proofs on Japanese paper, signed by the artist, and limited to 300 impressions, are now to be purchased priced at 5 guineas. India prints will be published at a later date at the price of 1 guinea each, and members of the medical profession will receive special consideration from the publishers diameter; the inguinal glands were hard but easily moveable on each side. There was no urethral stricture. He was treated with antisyphilitic and cardiac remedies, chiefly sodium iodide and tincture of strophanthus, and considerable improvement occurred. The ulcers, which were dressed aseptically, healed rapidly, the swelling in the leg diminished, and the hepatic tenderness disappeared. The right inguinal glands still remained hard but his tongue showed more tremor on protrusion a few weeks after the ulcers had healed. On going into the water-closet one evening he became giddy and fainted, and though he rallied for a little time he died half an hour afterwards.

I am indebted to Dr. W. Lind Walker for his assistance in the post-mortem examination which revealed the following conditions. The basal arteries of the brain were markedly atheromatous, thickening of the arterial wall being noticeable in the anterior cerebral; no sign of cerebral or other hæmorrhage was present. The cerebral substance was so soft as to break down on touching slightly with the finger and was consequently not examined microscopically. The brain weighed 49 ounces. The right lung presented a calcified mass at the apex of about the size of a pigeon's egg. The heart weighed 11 ounces. The pericardium was distended with post-mortem clot. The coronary arteries were calcareous in character; the left one was ruptured 1½ inches from the aorta; at the seat of rupture was a small node of pale yellowish coloured material which extended about 1¼ inches into the myocardial substance, which was hypertrophied and around it the tissue was of fibrous consistency and tough under the knife. On the pericardial aspect the necrotic changes appeared to have involved the artery which lay on the gumma; the arterial wall where ruptured presented a star-shaped fissure. The aortic valve was thickened at the base of each cusp; the columnæ carneæ showed signs of fatty degeneration. The liver was congested. Nothing worth recording was found in the examination of the other organs.

Remarks.—Signs of marked distension of the pericardial sac were found on the occasion of the patient's collapse, and gentle percussion revealed dulness extending up into the second left intercostal space; the cardiac sounds were muffled and the respirations were stertorous in character; the pulse was imperceptible at the wrist. When found in the heart gummata are usually multiple and often of cartilaginous-like consistency; only the one described was found in this case. Virchow has described a case in which at the same time was found syphilitic disease of the testis; in the above case the testicles were not involved, though there were pigmentation on the glans penis and a caseating node in the tibia and inguinal glands. Aitken recorded in his "Science and Practice of Medicine" (seventh edition) how there used to be in the Army Medical Department at Netley two preparations showing gummata of the heart—one from a soldier, 24 years of age, who had been under treatment for nine months for venereal ulcers; in the above case some of the ulcers had healed only three weeks before the patient's death. Gummata are usually found in the septum between the ventricles.

Salisbury.

A CASE OF ACUTE ASCENDING PARALYSIS WITH RECOVERY.

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THE patient in the following case was a well-nourished muscular man, aged 24 years, who was admitted into St. Mary's Hospital on Dec. 2nd, 1907, under the care of Dr. Sidney P. Phillips. He felt quite well up to Nov. 28th when he experienced a feeling of weakness in the calves of his legs. He started out to work the next day, but while on the way he had to return home owing to the increasing weakness. On the 30th he noticed blurring of vision on reading the newspaper. On Dec 1st the weakness of his legs was still more pronounced and he could not articulate distinctly. On the following day he could not stand without assistance and his arms were also weak. He had fallen off a ladder on to his feet a week previously to the onset of the symptoms but experienced no inconvenience at the time.

On admission he was unable to walk but could just stand with assistance. There was also considerable weakness in the muscles of his arms, especially in the extensors. The muscles were flaccid but not wasted and there was an absence of all reflexes, including the palatal reflex. The respiratory, abdominal, and intercostal movements were normal. There was slight right-sided facial weakness. The external muscles of the eye were normal. The right pupil reacted sluggishly to light and to accommodation and was somewhat larger than the left. The fundi were normal. Speech was a little indistinct, apparently due to difficulty in the movements of the tongue, and there was slight difficulty in swallowing. There was no alteration in the sensory functions except that he appeared to have lost sensation of the palate. His mouth was dirty with sordes on the lips. Cultures were obtained from the mouth and throat, but nothing resembling a diphtheritic organism was found. A lumbar puncture was performed soon after admission and 15 cubic centimetres of clear fluid with a few whitish floating particles were obtained. In this an organism having the appearance of a streptococcus was found but no growth could be obtained on culture media. The patient was given five minims of liquor strychninæ hydrochloratis every four hours and at a later period hot-air baths were administered. The muscular weakness quickly increased and on Dec. 7th there was evidence that the diaphragm was commencing to be paralysed and chest expansion was reduced to a minimum. Rhonchi appeared in both lungs with marked cyanosis and difficulty in swallowing. There was now complete paralysis of the legs, he could barely move his arms, and there was incontinence of urine and fæces. The outlook now seemed hopeless. The pulse-rate increased, reaching 100, and the cardiac apex passed from a point half an inch internal to the nipple to a quarter of an inch external to it. The strychnine had been stopped on Dec. 4th but it resulted in the condition becoming so much worse that on the 8th it was resumed in doses of seven minims, quickly increased to 10 minims, every four hours, and oxygen was also administered. On the 8th there were signs of improvement, the chest movements increasing and the difficulty in swallowing lessening. From the 8th to the 15th his condition remained stationary, except that some muscular wasting became evident. There were now also some slight, rather indefinite alterations in sensation over his legs, especially the right one, and he complained at times of severe pain in his knees. Sensation for heat and cold was normal. These only lasted a few days and were apparently the only sensory disturbances present during the course of the illness, except the anæsthesia of the palate mentioned above. On the 15th the diaphragm descended during quiet respiration, and from this time onwards he steadily improved. There was never any pyrexia. On Jan. 24th he could walk without assistance, had perfect control over the sphincters, and felt very well. There was no residual paralysis, but muscular wasting of the limbs was still marked and knee-jerks were still absent. The electrical reactions taken during the course of the illness showed no reaction of degeneration, but there were reduced response to faradism and no response to galvanism. Later there was reaction to both, but less than in a normal person. During his recovery galvanism and later faradism were applied daily.

The interest of this case consisted in the recovery from what appeared to be a severe example of Landry's paralysis and which when the diaphragm showed signs of paralysis threatened to be speedily fatal. The diagnosis lay between (1) diphtheritic paralysis, (2) Landry's paralysis, and (3) a toxic paralysis affecting the anterior cornua or nerves. There was, however, no evidence or history either of diphtheria or of any exposure to such toxic influences as syphilis, gonorrhœa, lead, or alcohol, and on the whole the case seemed to correspond better with Landry's acute ascending paralysis than with any other disease. Against this diagnosis there may be urged (1) the anæsthesia of the palate and the slight sensory disturbance of the legs, and (2) the fact that the parts affected were not altogether anatomically in succession from below upwards, but in Landry's own description of the condition diminution in cutaneous sensibility over the distal parts of the limbs is mentioned and the arms and face were affected before the legs were completely paralysed. In the present case strychnine appeared to have a very beneficial effect. I am indebted to Dr. Phillips for permission to publish these notes.

ROYAL INSTITUTION.—At a general monthly meeting of the members of the Royal Institution held on Monday afternoon last it was announced that the managers had appointed Dr. Kenneth Robert Hay as medical officer to the Royal Institution in succession to the late Mr. Woodhouse Braine who had held the appointment for 36 years.

overloaded with descriptions of detail which can only be properly appreciated when they are seen actually performed. But a young nurse who has mastered the contents of such a book as this will be in a position to appreciate her practical instruction more intelligently and so to derive an added advantage from it. That the practical side of the nurse's training has been in the author's mind is apparent from the fact that she prefaces the book with an excellent scheme of demonstrations for adoption by those who are responsible for the practical instruction of probationers, which we commend to the notice of those matrons of the smaller hospitals who are engaged personally in lecturing to their junior staff. We need not discuss the matter of the book, as we have already indicated its range, and the teaching is laid down on the lines of accepted authority. There are one or two words which are strange to English ears. How many of our readers know what is meant by "gastric gavage" (*sic*) or an "alcohol sweat"? But we can forgive much in the case of an American writer who spells "technique" as it ought to be spelt.

The Spectroscope: An Intermediate Text-book for Practical Chemists. By T. THORNE BAKER, F.C.S., F.R.P.S. London: Baillière, Tindall, and Cox. 1907. Pp. viii.-130, with three coloured and 63 plain illustrations. Price 5*s.*—The practical applications of the spectroscope are extremely numerous and it is indispensable in such medico-legal inquiries as involve the identification of blood stains. Our issue of Jan. 4th also contained a reference to its use in determining the nature of the light emitted by photogenic bacteria. The hæmoglobin of blood produces dark absorption bands in the spectrum and the test is usually accomplished by means of a direct-vision spectroscope adapted to a low power of the microscope. In the present volume there is no actual mention of blood but all the apparatus necessary for exhibiting the various spectra of hæmoglobin are so fully described that it deserves the attention of medical readers interested in this subject. The book is divided into nine chapters, of which the first deals mainly with optical principles and the second with the constructional details of various instruments in which equiangular prisms, diffraction gratings, combinations of prisms and gratings, and compound direct-vision prisms are respectively employed. Chapters III., IV., and V. describe the adjustments and practical use of the apparatus and the interpretation of continuous and bright-line spectra obtained from various sources, including phosphorescent bacteria. Chapters VI. and VII. give a satisfactory account of spectrum photography as applied to the determination of the wave-length of unknown lines, to simple methods of analysis in inorganic chemistry, and to the colour-sensitising of photographic plates. Chapters VIII. and IX. are devoted chiefly to the relations which the bands and lines of the spectrum bear to questions of chemistry, chemical physics, and chemical constitution. Students working with the spectroscope in chemical and physiological laboratories will find this a very serviceable book.

The Science Year Book, 1908. London: King, Sell, and Olding, Limited. Price 5*s.* net.—This work of reference and diary will be found useful by workers in all departments of science. In the diary a separate page is devoted to each day of the year and at the top of each page various astronomical facts are given and space is provided for recording the barometer, wind direction and pressure, rainfall, and so forth. The reference portion of the book contains a great deal of information dealing with astronomy, physics, chemistry, meteorology, and other departments of science, and gives facts and formulæ of every-day utility. Among the features of the work is a summary of the progress of science during the year 1907, a glossary of recently introduced scientific terms, names of periodicals, and a list of scientific societies. Brief biographical notes of prominent scientific men are also included. Some new tables have been added to the present issue, among them being a useful table of four place logarithms.

JOURNALS AND MAGAZINES.

The St. Mary's Hospital Gazette for January contains a very interesting paper by Dr. W. H. Willcox on the Medico-legal Importance of Wounds produced by Firearms in which he deals with certain points connected with the laws relating to such wounds, the causes of death resulting from them, and the types of wounds produced by revolver or pistol, rifle, and shot-gun wounds respectively. Illustrative cases are quoted, including the Whiteley, Moat Farm, and Chorley Wood murders. The paper is a useful contribution to medico-legal literature. Much of the remainder of the *Gazette* is devoted to an account of the Christmas doings at St. Mary's, which were wound up by two performances of *The Private Secretary* in the out-patient hall by the residents for the benefit of patients and nurses. The production seems to have been very successful. This number also includes a photographic supplement illustrating the Students' Cot, supported by St. Mary's students.

The Illuminating Engineer.—The first number of this new monthly journal contains an interesting article on Vacuum Tube Electric Lighting by Professor J. A. Fleming, F.R.S., of University College. One of the disadvantages of lighting by the ordinary incandescent filament is the extreme harshness of the shadows, the sharp contrasts being very trying to the eyes. If the shadows are softened by frosting the globes there is naturally great loss of efficiency. Another disadvantage is the great richness of the light in ultra-violet rays which are useless for illumination and are responsible for most of the damage done to the eyes by electric light. There is good reason to believe that both of these drawbacks may be to a very large extent removed by the new form of illumination. The method has been used for some time in America but has received little attention here. It may, however, be seen at work in the courtyard of the Savoy Hotel. It has long been known that light could be obtained by passing a high tension current through rarefied gas. The gas undergoes absorption with diminution of pressure. This practical difficulty has been overcome by the invention of an ingenious valve by Mr. Macfarlane Moore. By Moore's method a tube one and three-quarter inches in diameter and of any length up to 200 feet can be made incandescent. For ordinary purposes nitrogen is the best gas and it can be obtained easily from the air. The light has a rich golden hue, or with carbon dioxide whitish blue. From the hygienic point of view it is desirable that experiments should be made to determine the quality of the rays emitted in different circumstances. Professor Fleming, from experiments carried out at the Savoy Hotel, has shown that the illuminating power is 9·6 candle-power per foot. The intensity of light from such a linear source varies approximately inversely as the distance, not as the square of the distance as with ordinary methods. Hence the illumination three feet above the ground is equivalent to that of about 100 16 candle-power lamps equally distributed over the ceiling at the same height above the ground as the tube. The light intensity is directly proportional to the voltage and is therefore much more constant than with glow lamps. Both initial cost of installation and working expenses are less. With carbon dioxide in the tube tinted surfaces appear as in daylight, so that artistic work can be carried on as by day. The new journal contains articles on illumination and eyesight, with special reference to the eyesight of school children and the effectual lighting of schoolrooms, on the protection of the eyes from ultra-violet rays, and so on. They clearly established that fibroids are particularly liable to undergo degenerative changes during pregnancy; why this is so we do not know. Necrobiosis is generally regarded as the result of vascular lesions, but as to what is the nature of these lesions, or what are the factors which determine their onset we possess no certain knowledge. The process is, as far as we know, neither infective nor thrombotic, and it is difficult to explain why it should occur at a time when the vascular supply of the uterus is richest.

The onset of the symptoms was strikingly sudden. At the time of operation I looked carefully for torsion of either the tumour or the uterus, but I could find none. There was extensive local peritonitis and this may account for the severity of the pain in this case, but a necrobiotic fibroid is often *per se* a painful tumour, and in some instances where the pain has been great no adhesions or other evidences of peritonitis have been found. The constitutional symptoms, the raised temperature, the frequent pulse, the furred tongue, and the loss of flesh are evidences of the profound toxæmia associated with the change. Finally, I would draw attention to the fact that during the involution of the uterus the fibroids in its walls became smaller.

Wimpole-street, W.

ERRATUM.—In the last sentence of an article by Dr. A. Eddowes and Dr. J. G. Hare published in THE LANCET last week (p. 232) an error has occurred. It was Dr. M. K. Hargreaves who was speaking and not Dr. Eddowes or Dr. Hare, and the sentence should run: "In a second case Dr. Hargreaves is indebted to Dr. Alan B. Slater for carrying out the treatment at the patient's own home."

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ACUTE PULMONARY ŒDEMA.

BY J. M. PEARSON, M.D.

IT is somewhat curious that the English-speaking medical profession should have had to wait until the early years of the twentieth century for a clear recognition of such a well-defined dramatic affection as acute pulmonary œdema. A very typical case occurred in my practice in the years 1901–02 and, like Dr. Leonard L. B. Williams, I searched, but searched in vain, through a somewhat limited field, it is true, for any adequate mention of such a condition.

The patient was a woman about 50 years of age, stout, ruddy, and energetic. The most diligent search between attacks, for she had several, failed to reveal anything grossly wrong with either heart or kidneys. The subject of arterial tension had not then risen on my medical horizon. The attacks took place invariably at night—two in a month at one time and then four or five months' freedom. She would retire to bed early in apparently the best of health, to be awakened soon after midnight with shortness of breath. By the time I arrived on the scene she would be sitting up in bed quite unable to speak, with her face livid, beads of perspiration on her forehead, her chest heaving for breath, and a pint or more of frothy, slightly blood-tinged sputum in the basin held in front of her. The family got into the way of applying hot things to her chest and back, and on general principles I used to give strychnine hypodermically. The pulse was small and rapid. In an hour or less the severity of the attack would be over and she would be put back to bed, well propped up with pillows. Next day all would be well and two or three days would see her at her usual occupation, minding a small shop. From first to last the condition went on for 12 months, and I have records of five attacks during that time. Finally the end came, the old lividity was there but the weakened or tired respiratory muscles failed to respond with their accustomed vigour, and after a few sighing breaths she died two or three minutes after I reached her bedside. There was no necropsy and I left the case as mystified at the end as at the beginning. I noted that the serous fluid appeared to be poured into the lungs practically all at once, and that when it was cleared away there was no continued secretion. I also learned that the patient ought to be kept in an upright posture, which is the attitude the patients naturally tend to assume.

Blood-letting might suggest itself but reflection shows that all the mischief is done before the medical man arrives. The bleeding has already been accomplished and certainly the pulse has none of the attributes usually associated with the necessity for the operation.

Vancouver, British Columbia.

THE FREE USE OF AMYL NITRITE IN PULMONARY HÆMORRHAGE.

BY ALEXANDER LUNDIE, M.B., CH.B. EDIN.

IT fell to me three years ago to treat an extremely profuse pulmonary hæmorrhage, and after very much misgiving about taking it in hand at all I determined to use amyl nitrite. The results were such as I never regretted, but I was personally rather sceptical about the rôle of amyl nitrite in their production until I saw articles on the subject in THE LANCET in 1906. My reason for using this agent may therefore be of interest to others. I knew at that time of the lung reflex of Abrams but thought it had no bearing on the subject. I thought, like an ancient Greek historian, that it was entirely a matter of hydrostatics that had to be dealt with. Recollecting the story of a Greek, probably one of the "ten thousand," wounded in battle and bleeding profusely till he fainted and remained long unconscious, his wound becoming staunched meanwhile, so that he eventually recovered, I determined to imitate this condition, seeing my case was just as desperate. I hoped to lower the blood pressure and bring about a condition temporarily like surgical shock, trusting to clotting taking place meanwhile in the wound. I accordingly administered amyl nitrite on a towel like chloroform without regard to official dosage, guiding myself entirely by the pulse and the general condition. It quickly produced slight transient anæsthesia, with an insignificant preliminary stage of excitement. The pressure in the radial artery was very much lowered, the pulse being almost imperceptible, and I stopped at this stage as the respirations became very shallow. The results were good and a satisfactory recovery followed.

Dalmuir, Dumbartonshire.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

The Kinematograph in Medicine.—Pathology and Treatment of Chronic Constipation.

A MEETING of this section was held on Jan. 28th, Dr. S. J. GEE, the President, being in the chair.

Dr. H. CAMPBELL THOMSON gave a demonstration of the Use of the Kinematograph in Medicine. He showed films demonstrating certain gaits in nervous complaints. These will be found described and illustrated in the first number of THE LANCET of this year.[1]

Dr. A. F. HERTZ read a paper on the Pathology and Treatment of Chronic Constipation. He said that the treatment of chronic constipation was experimental. One method was tried and then another until by chance the method suitable to the individual case was discerned. That unsatisfactory state of affairs was due mainly to the fact that it had hitherto been impossible to determine the actual part of the intestines in which the delay causing the constipation occurred. In the case of medicinal treatment the difficulty was made greater by the lack of trustworthy information as to the relative effects exerted by any given purgative on different parts of the alimentary canal. Hence there were no rational guides to indicate what drug, if any, should be employed in a case. It seemed probable that enemata would prove of value in those cases in which the delay occurred somewhere between the splenic flexure and the anus. For that reason it might perhaps be assumed that sherry; they were as follows: alcohol, by volume, 20·24 per cent.; extractives, 5·30 per cent.; mineral matter, 0·49 per cent.; volatile acidity, reckoned as acetic acid, 0·084 per cent.; fixed acidity, reckoned as tartaric acid, 0·33 per cent.; and sugar, 4·06 per cent. The ethers amounted to as much as 0·68 gramme per litre. We have before referred to the fact that the amount of ethers in sherry exceeds that found in other wines. As a stimulant, therefore, sherry must be placed in the front rank. The wine belongs to the description of a Palo Cortado sherry which, although of the Oloroso type, is delicate in flavour. From the point of view of the connoisseur this sherry will be regarded as a really elegant wine, while its satisfactory characters in general commend it for medicinal use when a stimulant is ordered by the medical man.

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[1] THE LANCET, Jan. 4th, 1908, p. 12.

ALKURIS TABLE WATER.

(ALKURIS, LIMITED, 37, SHEEN-ROAD, RICHMOND, S.W.)

We can well believe that this excellent table water is manufactured with care having regard to its purity as shown by our analysis. The water is clear and bright and pleasantly sparkling, while its taste is satisfactory, being very "clean" on the palate. The water is further slightly mineralised and contains the citrates of potassium and lithium and the bicarbonates of sodium and potassium, together with a small quantity of sodium chloride. According to our analysis the total salts present amounted to 1·39 grammes per litre. We found amongst these 0·28 gramme of lithium citrate, 0·40 gramme of alkaline carbonate, and 0·42 gramme of common salt per litre. The water shows an excellent condition of organic purity, as might be expected since it is carefully distilled. The water is obviously useful when a course of alkaline treatment is indicated. Its free administration is calculated to preserve an alkaline state of the blood, and alkaline table waters in general are often valuable in gastric catarrh and favour the excretion of waste toxic products.

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(V.V. BREAD COMPANY, LIMITED, 16 TO 32, BREWERY-ROAD, LONDON, N.)

We are always glad to recognise any attempts to make bread a palatable and nutritious article. Nowadays palatability and nutritive value are too often sacrificed in favour of appearance; the loaf must be spotlessly white without regard at all to its dietetic properties. The V.V. loaf is both palatable and nutritious. It has not that tastelessness which characterises so much of the bread of the present day, while doubtless owing to the use of good flour and of a specially pure barm it keeps fresh for a much longer time than ordinary bread. The flour used is clearly of high quality, since our analysis of the bread shows a maximum proportion of proteins for wheat flour; the mineral matter, too, is present in equally satisfactory proportions. The flavour of bread is an important factor in dietetics and it is much to be deplored that the bulk of the bread offered to the public is practically tasteless. The flavour to which we refer is difficult to describe, as are all flavours, but everyone knows the peculiar attractive nutty flavour of the unsophisticated bread made in the country home. Such bread as a rule is neither colourless nor flavourless, nor should it be. We have examined several varieties of V.V. bread and have found them to be most satisfactory; they are palatable, and largely because they are palatable they are readily digestible, for a good appetising flavour invariably invokes good digestive power.

PETOL PREPARATIONS.

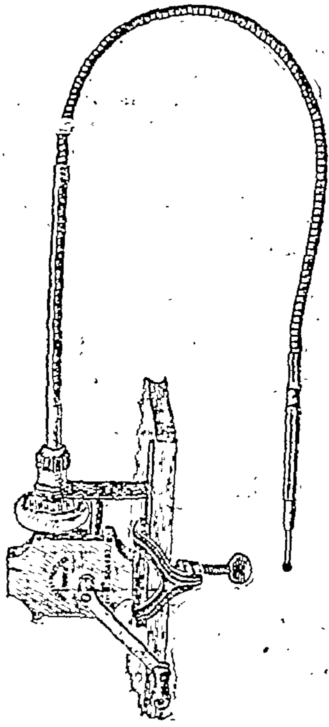
(P. S. SYNDICATE, ST. ANDREW'S WORKS, ST. ANDREW'S-STREET, BETHNAL GREEN, LONDON, E.)

Petol is an interesting oily substance obtained from peat. It does not appear to contain bodies of the phenol type but certain hydrocarbon oils which have a germicidal value. "Petol fluid" is a brown turbid mixture with a characteristic smell. It is alkaline to test paper and on adding hydrochloric acid to the fluid there is a separation of brown oils. Petol appears in a number of preparations intended for the purposes of antiseptic treatment. There are, for instance, petol soap, salve, disinfectant powder and fluid, and suppositories. While there is evidence of petol having marked germicidal power it is non-corrosive and non-poisonous. It has been used, it is said, internally in typhoid fever. It appears also, in the form of ointment, to be an excellent antiseptic and healing application for wounds.

New Inventions.

A PORTABLE SURGICAL ENGINE.

THE accompanying illustration represents a manual and portable surgical engine designed to perform the work of the ordinary surgical motor in a private house. The most attractive feature of this little machine is its portability—the handle, flexible spindle, and fixation clamp are all detachable and can, together with the body of the engine, be most easily accommodated in a hand-bag of the size of the ordinary midwifery bag. The construction is such that it can be clamped to any table or projecting ledge conveniently near the surgeon and the most unskilled person can supply the motive power. Practitioners are mostly agreed as to the value of the burr in the performance of mastoid operations; the difficulty hitherto has been to obtain a mechanism which would be serviceable anywhere and at the same time capable of being carried easily. This instrument, made at my suggestion by Messrs. Mayer & Meltzer, of London, I think supplies the want.



NEIL MACLAY, M.B., C.M. Glasg.,
Honorary Assistant Surgeon, Throat and Ear
Hospital, Newcastle-on-Tyne.
Wallsend-on-Tyne.

THE FIRST AID SNAKE-BITE OUTFIT.

A GREAT many deaths are caused every year in tropical countries by the bites of venomous snakes and more than 30 years ago the late Sir Joseph Fayrer recommended the local application of permanganate of potassium as an antidote. On account of the rapidity with which death follows a bite the treatment to be of any avail must be employed immediately. Sir Lauder Brunton a few years ago accordingly devised a form of lancet set in a wooden handle, one end of at its entrance to the ocular cleft to form the vitreous. The child was six months old and was admitted to hospital under Mr. W. I. Hancock. The mother had noticed that the left eye was very small from birth but the child had no other deformities. There were no signs or history pointing to congenital syphilis. The right eye was normal in size and there was nothing abnormal in the fundus. In the other eye there was a well-marked pupillary membrane. Behind the lens, which was clear, was a yellowish-white reflex with vessels on it similar to that seen in glioma and pseudo-glioma. As diagnosis was doubtful enucleation was performed and the child made a good recovery. The eye was hardened in formol and sections were cut antero-posteriorly. The optic nerve was removed and cut in transverse section. The globe measured 15 millimetres antero-posteriorly, 10 vertically, and 10 horizontally. The sclera showed no change. The angles of the anterior chamber were imperfectly formed owing to incomplete separation of the iris from the back of the cornea. The ciliary body was free from signs of inflammation. Behind, and lying on the pars plana, was a large mass of pigmented and unpigmented cells derived from the ciliary body. Towards the outer part was an attempt at alveolar formation. The retina was detached but did not stop at the ora serrata but passed close behind the ciliary process, where it was continuous with the anterior layers of the epithelial cells and the mass mentioned. The lens was thickened and thrown into folds and consisted principally of neuroglial tissue but possessed no regular structure. The retinal detachment was of earlier date than the hæmorrhage separating it from the choroid. The choroid presented a coloboma below but the blood-vessels were not thickened. The lens showed a condition of posterior lenticonus. The central artery was well developed and showed no changes in its walls. Generally in such cases the distortion of the posterior part of the lens was associated with a persistent hyaloid artery or a gap in the posterior part of the lens capsule, but neither of those conditions was present in this case. There was hypertrophy of pigmented and non-pigmented epithelial cells, the reason of which it was difficult to understand, unless it was due to nutritional disturbance in the line of separation of the two layers in the primary optic vesicle.

Mr. L. J. PATON read a paper on Optic Neuritis in Cerebral Tumours. The paper was based on the records of 252 consecutive cases seen at the National Hospital, Queen-square. In 202 of those the localisation of the intracranial tumour was definite, and 148 were confirmed by operation or post mortem. Of the 202 cases, 38 (or 18·8 per cent.) had no neuritis; 12 had only very slight neuritis, the edges being at no period completely blurred; 27 were in a condition of post-neuritic atrophy when first seen; and the remaining 125 had marked neuritis. Mr. Paton pointed out that the great majority of cases without neuritis occurred in subcortical and pontine tumours. The percentage of cases with no neuritis in tumours of those two areas was respectively 38 and 43·5. He pointed out, further, that when subcortical tumours developed optic neuritis it almost invariably indicated that the growth had involved either the grey matter of the cortex or the grey matter of the base, and that when pontine tumours developed optic neuritis it practically, without exception, indicated very definite involvement of the cerebellum. He showed that in tumours of the cerebral cortex the intensity of the neuritis seemed to vary inversely with the distance of the tumour from the anterior pole of the middle fossa. He adduced evidence to show that the nature of the growth had little, if any, influence on the development of optic neuritis, except in so far as the nature of the growth might influence its position. He stated that the figures showed that very little reliance could be placed on differences in the intensity of the neuritis as indicating on which side the tumour developed and that in the cases of frontal and of cerebellar tumour neuritis was just as frequently most marked in the optic disc of the opposite eye as it was in the eye on the side of the tumour. The neuritis commenced more frequently in the eye on the side of the tumour than in the opposite eye, but even here the preponderance—23 to 13—was not sufficiently marked to make the sign one of much value for localising purposes He described in detail the development of the macular changes seen in intense cases of tumour neuritis, and showed that these changes were most probably produced by an overflow of œdematous fluid from the much swollen disc into the nerve-fibre layer, and that the presence of very well-marked macular fans was compatible with the retention of perfectly good vision. The causation of temporary attacks of blindness, lasting from a few seconds to half an hour, was discussed and it was shown that these were probably not associated with optic neuritis, as they had been observed three times in cases where no optic neuritis developed, and in other cases these fleeting amblyopias had occurred before ophthalmoscopic evidences of disc change were present. It was suggested that these attacks were due to sudden rises in intraventricular tension, causing a bulging of the thin floor of the third ventricle, and to direct pressure on the chiasma. The attacks were invariably accompanied by increased headache and giddiness. He pointed out that there was no evidence in favour of optic neuritis in these cases being due to an inflammation descending from the basal meninges, nor was there evidence in favour of it being due to pressure of fluid in the vaginal space. The clinical evidence against it being a descending inflammation in the nerve trunks was even stronger, nor was there any more evidence in favour of the neuritis being produced locally by the action of toxin or of its being a vaso-motor phenomenon. He regarded their knowledge to be, as yet, insufficient to justify any definite theory as to the causation of optic neuritis, but a general review of the subject in its clinical aspects inclined him to the view that in so-called optic neuritis there was simply a manifestation locally of a general œdema of the cerebral tissues due to the irritation set up by the tumour as an actively growing foreign body.

The following two papers by Mr. SIMEON SNELL were, in his absence, taken as read: 1. Carcinoma of the Orbit originating in a Meibomian Gland. The case occurred in a woman, aged 63 years. In 1904 another surgeon had removed a lump from the right upper eyelid. In July, 1905, there had been a recurrence at the site of that scar reaching back to the orbit, of about the size of a walnut. This was removed with the portion of eyelid, but in June, 1906, there was another recurrence and then the eyeball was removed and the whole orbit cleared out and chloride of zinc paste was applied. Still further recurrence had occurred and the orbit was filled with a large ulcerated growth and the pre-auricular and cervical glands were enlarged. Dr. A. E. Barnes reported that it was a spheroidal-celled carcinoma and was of opinion that it had probably originated in a Meibomian gland. Mr. E. Treacher Collins corroborated this. 2 The second paper was on Coloboma of the Iris in each Eye, occurring in five generations. Mr. —— was the first person seen and he had a large coloboma in each eye, down and out. The defect was known to have existed in his grandmother, in her sister, and in his mother. Mr. —— had six children, three of whom were affected, and of these two had children—one had three children, of whom two were affected, and the other had one child who was affected. Mr. —— was the only child of his father, but his mother had, by a second husband, five children, of whom three were affected. One of these had three children, two of whom were affected. The other had one child who was not affected. In all, of 41 persons 12 were affected—five males and seven females. In the great-great grandchildren the defect was complete aniridia.

The following card specimens were shown:—

Mr. E. E. HENDERSON: Sections from case of Sarcoma developing under Calcareous Plate.

Mr. P. C. BARDSLEY: A New Form of Scotometer.

Mr. S. STEPHENSON: A case of Buphthalmia apparently Cured by the performance of Iridectomy.

Dr. L. G. GUTHRIE and Mr. MAYOU: Right Hemiplegia with Obstruction (? Thrombosis) of the Left Common Carotid and Central Artery of the Retina, with Perception of Light in the Eye.

Mr. G. H. GOLDSMITH: Optic Neuritis.

Mr. J. S. HORSFORD: Essential Shrinking of the Conjunctiva.

Mr. C. WRAY: Sympathetic Iridocyclitis.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 21st, Mr. H. Shackleton, the *President*, being in the chair.—Mr. J. Basil Hall showed: (1) A Fibroid, weighing 15 pounds, from a patient, aged 70 years; (2) two specimens of Intussusception removed by Enterectomy; (3) an Ectopic Gestation producing Torsion of the Fallopian Tube; (4) an Excised Gastric Ulcer which had produced hour-glass contraction;

sherry; they were as follows: alcohol, by volume, 20·24 per cent.; extractives, 5·30 per cent.; mineral matter, 0·49 per cent.; volatile acidity, reckoned as acetic acid, 0·084 per cent.; fixed acidity, reckoned as tartaric acid, 0·33 per cent.; and sugar, 4·06 per cent. The ethers amounted to as much as 0·68 gramme per litre. We have before referred to the fact that the amount of ethers in sherry exceeds that found in other wines. As a stimulant, therefore, sherry must be placed in the front rank. The wine belongs to the description of a *Palo Cortado* sherry which, although of the Oloroso type, is delicate in flavour. From the point of view of the connoisseur this sherry will be regarded as a really elegant wine, while its satisfactory characters in general commend it for medicinal use when a stimulant is ordered by the medical man.

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PETOL PREPARATIONS.

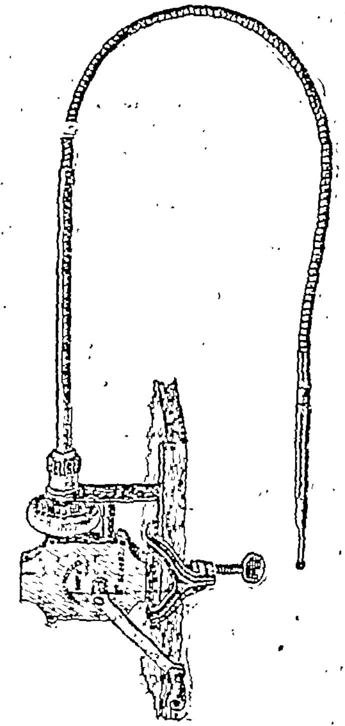
(P. S. SYNDICATE, ST. ANDREW'S WORKS, ST. ANDREW'S-STREET, BETHNAL GREEN, LONDON, E.)

Petol is an interesting oily substance obtained from peat. It does not appear to contain bodies of the phenol type but certain hydrocarbon oils which have a germicidal value. "Petol fluid" is a brown turbid mixture with a characteristic smell. It is alkaline to test paper and on adding hydrochloric acid to the fluid there is a separation of brown oils. Petol appears in a number of preparations intended for the purposes of antiseptic treatment. There are, for instance, petol soap, salve, disinfectant powder and fluid, and suppositories. While there is evidence of petol having marked germicidal power, it is non-corrosive and non-poisonous. It has been used, it is said, internally in typhoid fever. It appears also, in the form of ointment, to be an excellent antiseptic and healing application for wounds.

New Inventions.

A PORTABLE SURGICAL ENGINE.

THE accompanying illustration represents a manual and portable surgical engine designed to perform the work of the ordinary surgical motor in a private house. The most attractive feature of this little machine is its portability—the handle, flexible spindle, and fixation clamp are all detachable and can, together with the body of the engine, be most easily accommodated in a hand-bag of the size of the ordinary midwifery bag. The construction is such that it can be clamped to any table or projecting ledge conveniently near the surgeon and the most unskilled person can supply the motive power. Practitioners are mostly agreed as to the value of the burr in the performance of mastoid operations; the difficulty hitherto has been to obtain a mechanism which would be serviceable anywhere and at the same time capable of being carried easily. This instrument, made at my suggestion by Messrs. Mayer & Meltzer, of London, I think supplies the want.



NEIL MACLAY, M.B., C.M. Glasg.,
Honorary Assistant Surgeon, Throat and Ear Hospital, Newcastle-on-Tyne.
Wallsend-on-Tyne.

THE FIRST AID SNAKE-BITE OUTFIT.

A GREAT many deaths are caused every year in tropical countries by the bites of venomous snakes and more than 30 years ago the late Sir Joseph Fayrer recommended the local application of permanganate of potassium as an antidote. On account of the rapidity with which death follows a bite the treatment to be of any avail must be employed immediately. Sir Lauder Brunton a few years ago accordingly devised a form of lancet set in a wooden handle, one end of

Reviews and Notices of Books.

Arterial Hypertonus, Sclerosis, and Blood Pressure. By WILLIAM RUSSELL, M.D., F.R.C.P. Edin., Physician to, and Lecturer on Clinical Medicine in, the Royal Infirmary, Edinburgh, &c. With 36 illustrations and plates. Edinburgh and London: William Green and Sons. 1907. Pp. 194. Price 7*s.* 6*d.* net.

MUCH attention has been paid in recent years to the subject of disease of the blood-vessels but in spite of this, or perhaps because of the very number of writers setting forth divergent views and using technical terms with different shades of meaning, there is considerable confusion of ideas in this field. Dr. Russell in the book before us makes a praiseworthy attempt to straighten out the tangle. As the outcome of much careful clinical observation he has formed clear ideas of the conditions met with and he appreciates the need not only of clear thinking but of defining the terms in which they are set out.

The author first draws a distinction between two affections which are often confused—atheroma and arteriosclerosis. The former, he holds, is a localised affection produced by irritation combined with degeneration; the latter is a generalised change consisting in permanent thickening of the walls of the vessels which may involve the middle coat alone or the inner and outer coats along with it. Not every vessel, however, which feels thick and rigid to the examining finger is the seat of sclerosis. The arteries are muscular tubes and as such are capable of contraction and relaxation. A contracted artery may feel thick and rigid, just as a degenerate one does. This condition of spasmodic contraction is called by the author "hypertonus," an exaggeration of the normal tone of living vessels. It may be brought about by toxic substances circulating in the blood such as are present in renal disease and if it persist owing to continuance of the cause permanent sclerosis (hypermyotrophy) ensues. Constriction of any part of the arterial system is necessarily followed by increase of blood pressure and this sequence is recognised to occur in renal troubles. Some confusion of thought seems, however, to prevail as to the point at which the raised pressure exists. The author has devised (with the assistance of Dr. Cargill Knott) a model which reproduces some of the features of the circulation and shows that the rise in pressure occurs behind the obstruction, while a fall is met with beyond it. This might, indeed, have been anticipated. The apparatus does not show, and it is the point which most needs proof, whether there is a rise of pressure *within* an artery which is constricted throughout some considerable portion of its length.

Another point on which new light is shed in this volume is the value of hæmomanometer readings in disease as measures of actual blood pressure. It seems satisfactorily demonstrated, as might indeed have been anticipated, that the wall of a thickened artery offers considerable resistance to compression and that this factor has to be taken into consideration as well as the actual pressure of the blood in drawing conclusions from the readings of an instrument which works by obliterating the lumen of an artery. It is a question, however, how far this criticism applies to such an instrument as the Hill-Barnard sphygmometer, in which the principle is the equalisation of the pressures inside and outside the vessel as shown by the degree of oscillation of the column of fluid in the instrument.

In the stage of hypertonic contraction much may be done for the patient by the administration of drugs which relax arterial spasm; the author speaks highly of erythrol tetranitrate. Even sclerotic and degenerated arteries are capable of a considerable degree of spasm and relaxation and must not be looked upon as beyond treatment. Spasm is often brought on by exaggeration of the physiological reflex by which the peripheral vessels contract after a meal coincidently with a relaxation of the splanchnic system. Proteid decomposition products, alcohol, and tobacco are also causes of arterial constriction. In the light of the views just set forth the author discusses various cerebral conditions associated with spasm of arteries and also the condition known as angina pectoris. Incidentally he makes the suggestion that the secretion of the pituitary gland may have the special function of acting on the cerebral arteries. Into these discussions we cannot here follow him.

The views enunciated in this book offer a clear and a consistent account of the phenomena of vascular disease which should give pathologists and clinicians food for thought and discussion. The book may be commended to the attention of all who are interested in one of the most important problems in the theory and practice of medicine. We congratulate Dr. Russell on a valuable piece of work.

Manual of Surgery. By H. ALEXIS THOMSON, F.R.C.S. Edin., Assistant Surgeon, Edinburgh Royal Infirmary; Surgeon to the Deaconess Hospital, Edinburgh; and ALEXANDER MILES, F.R.C.S. Edin., Assistant Surgeon to the Edinburgh Royal Infirmary; Surgeon to the Leith Hospital. Second edition, revised and enlarged, with many illustrations, mostly wood engravings. Vol. I., General Surgery. Pp. 808. Vol. II., Regional Surgery. Pp 816. London and Edinburgh: Young J. Pentland. 1906 and 1907. Price 21*s.* net.

THE student must have a good deal of difficulty in distinguishing between the many manuals of surgery which compete for his notice, but he cannot go far wrong in choosing this excellent text-book. It is always difficult to know how much to put into a book intended for students; on the one hand, the author has to avoid overburdening the student's mind with an excess of facts and particulars, and on the other it is essential that everything should be included that may be reasonably required at the examination. We do not know a more trustworthy work than this. We are inclined to think that it would be better to issue the work in one volume, the page being made larger, for there is certainly on the part of students a preference for a work in one volume. We hope the authors will resist strenuously any inclination to increase unduly the amount of material in the work; we notice that the present issue has 100 pages more than the first, and all books have a natural tendency to grow. We are glad to see that the book has reached a second edition in which it has been brought up to date. We notice a misprint "praritis" for "praritus": we mention it because in some works, especially in America, it appears to be regarded as the correct spelling.

LIBRARY TABLE.

Primary Nursing Technique for First-year Pupil Nurses. By ISABEL MCISAAC, formerly superintendent of the Illinois Training School for Nurses, Associate Director of the *American Journal of Nursing*, &c. New York: The Macmillan Company. 1907. Pp. 197. Price 3*s.* net.—It is a truism that the only way to learn the art of healing is by observation of the patient at the bedside and it is no less certain that the art of nursing can only be acquired in a practical manner. But text-books, intelligently used, may be of as much help to the nurse as to the student of medicine, and the book before us is one that the first-year probationer will find of very valuable assistance in her training. It is written clearly and concisely and is not

THE LANCET.

LONDON: SATURDAY, FEBRUARY 8, 1908.

The Assassinations in Portugal.

For the third time within ten years the ruling house of a European country has had one of its most prominent members struck dead by the weapon of an assassin. On Sept. 10th, 1898, the Empress of Austria was done to death by Luccheni. On July 29th, 1900, King Humbert of Italy, whose life had been twice previously attempted, was shot at Monza by Bresci. And on Feb. 1st, 1908, King Carlos of Portugal and his son the Crown Prince were shot dead in their carriage by sundry assassins armed with repeating carbines. Queen Amélie and the Infante Manuel, now the King, escaped as by a miracle, for the assassination had been most carefully planned, for there are said to have been some 30 men told off to carry out the plot, which apparently included the killing of the whole Royal Family. In the presence of such a tragedy our modern civilisation stands dumb; we can but offer our sympathy to the widowed Queen deprived at one blow of her husband and her son.

All modern political assassinations have one marked feature in common and that is their absolute uselessness from the point of view of the fanatics who plan them. From the murder of President Lincoln in 1865 down to that of King Humbert not one assassination has brought about any change of constitution, and in some instances, instead of obtaining more liberty, the killing of the ruler has very naturally been the means of increasing repressive measures. No common reason has ever governed these crimes. In many instances the slain ruler was the head of a republic, for instance, Lincoln, Garfield, Carnot, and McKinley, while the Empress of Austria was not a ruling monarch. Alexander II., the last Emperor of Russia who met his death by assassination, had already freed the serfs and was on the eve of granting a constitution when he was killed. Humbert of Italy was unsparing in his care for his people and his devotion during the appalling calamities which afflicted his country, such as the earthquakes in Ischia in 1881 and in 1883 and the cholera at Naples in 1884, was as humble and self-sacrificing as any man's action could be. Carlos of Portugal was a popular and (in the words of our Prime Minister) "a manly, friendly, kindly king." His desire to promote the well-being of his subjects was genuine. Our readers, for example, will remember his eloquent speech at the opening of the International Congress of Medicine at Lisbon in 1906, in which he referred to the necessity for organised work against the ravages of tuberculosis, while testifying to the personal efforts in this direction made by Queen Amélie.[1] The Crown Prince was a popular and blameless youth. The brutal murder of father and son leaves the dynasty at least as firmly seated on the throne as it was before, though the principle of the dictatorship has been abolished. The latest crime proves once again that nothing is sacred to the modern political assassin. He has but one ideal—namely, a blind hatred of any authority. It is enough that a man should be the titular head of a State and at once he is a mark for the knife, the bullet, or the bomb. The political assassin—that is to say, the actual murderer—is, as a rule, a man of no education, or of worse than no education, some one who has imbibed washy theories about liberty, which word he translates into license. Behind the actual murderer we find usually a group of badly educated unemployed professional men who disdain a life of honest work and who knowingly or unknowingly are always ready to hound on the worse educated lower classes to deeds of blood which they themselves are too cowardly to perform.

As to the political events which have led up to the present crime it is not our province to discuss them. Given a Latin population, a widespread ignorance, a people quick to feel and quick to resent, and one conscious, or partially so, of the time when Portugal was paramount throughout nearly the whole known world, political unrest is to be looked for; the appointment of a dictator seems to have been the spark which set fire to the powder. To the young king who with his widowed mother will, it seems, have to share between them for some years at least a burden the weight of which might well overcome an experienced ruler the sympathies of all in this country will go out. Portugal has been leagued in friendly relations with the inhabitants of these islands since 1145, and there was a formal alliance between the two Crowns in the reign of Henry V. In many ways our peoples are alike. Both Portugal and these islands have bred hardy warriors, explorers, and navigators. From both lands great geographical discoveries have resulted, while the sovereigns of either country have only recently been received in the other's land with every mark of affection and respect. In no foreign country more than in the United Kingdom will sorrow for the living, regret for the dead, and horror at the crime be more widely spread.

Quack Medicines in Japan.

"Dans l'adversité de nos meilleurs amis," wrote La Rochefoucauld, "nous trouvons toujours quelque chose qui ne nous déplait pas," and we are indebted to the number for last August of the *Journal of the Asiatic Society of Japan* for the information that our very good friends in the island empire of the East are sufferers to almost as great an extent as ourselves from the plague of quack medicines and quack advertisers. There is at least this much which may not be displeasing to us in the intelligence that, assuming, as we may surely do, the supply of quack medicines to be a response to some demand deeply seated in human nature, we are very likely to receive from Japan before long some practical suggestions concerning the way in which this demand may be satisfied with the smallest amount of injury to the community. Our allies are usually both scientific and thorough-going in any reforms which they undertake; and if it were ever shown that quacks and quack medicines were to them the public injury and nuisance which they are to ourselves, we have little doubt that remedial measures from which we might take a lesson would be adopted with regard to them.

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[1] In our issue of April 28th, 1906, we published an interesting picture of the King and Queen of Portugal presiding at the opening ceremony of the International Congress.

afford important evidence that these hygienic matters are receiving greater and more intelligent attention from practical engineers.

Man.—In the January number of *Man* Dr. W. L. H. Duckworth describes a human cranium obtained from a stone cist in the Isle of Man. Its measurements in millimetres were as follows: Maximum length, 180; maximum breadth, 146; and horizontal circumference, 527. The cephalic index was 81·1. It was therefore brachycephalic and probably belonged to a young adult. A noteworthy feature was the persistance of a suture (comparable to a prolonged sagittal suture) between the two halves of the frontal bone.

The Phonographic Record.—With the January number our small contemporary begins its fourteenth annual volume. In his account of the Medical School of Montpellier in the thirteenth century Dr. O. C. Gruner presents many curious facts. At its prime the number of students was not less than 1000. They had the power of regulating the manner of teaching and even the subjects to be taught, and they could suspend altogether an unsatisfactory teacher. Perhaps an explanation of this is to be found in the fact that any unqualified person, as we should say, was at first able to be a teacher; not until 1272 was the possession of a diploma necessary. In an account of the Murmurs of Mitral Constriction Sir William Gowers mentions two phases or stages rarely observed. The first is at the beginning of the diastolic murmur, when a distinct interval intervenes between the end of this and the beginning of the presystolic murmur, because the narrowing of the orifice is only enough to cause the sound at the commencement of the diastolic flow. It is more often noted in an irregular heart, when the diastole is occasionally prolonged. The other stage is terminal; the presystolic murmur ceases and only the diastolic persists. He observed a case in which the cause of this was found to be the formation of a layer of clot over the whole inner surface of the auricle, making its contraction impossible. Dr. R. Hingston Fox contributes a sketch of "Hæmatogenous" Albuminuria, often called "functional," a subject on which it will be long before the last word is said.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

ALEXINE.

(J. CHATELAIN, 15, RUE DE PARIS, PUTEAUX. AGENTS: T. CHRISTY AND CO., OLD SWAN-LANE, LONDON, E.C.)

WE have submitted this preparation to analysis and the results confirm the statement that it contains free phosphoric acid with iron and manganese. The preparation occurs in granular form but is distinctly hygroscopic. It is by no means unpleasant to take and for the most part is soluble in water. The acid phosphates of manganese and iron are regarded as presenting both these metals in an assimilable form. The preparation appears to supply an effective tonic and has been used in nervous diseases, in dyspepsia, in anæmia, and in pulmonary tuberculosis.

IRISH WHISKY.

(DUNVILLE AND CO., LIMITED, BELFAST.)

Two specimens of Irish whisky were submitted to us, one distinguished by the letters V.R. and the other by the title of "Special Liqueur." Analysis readily discriminated the two, the former being a blend of pot-still and patent-still spirit and the latter a pure pot-still spirit. The V.R. whisky, for example, showed a relatively small proportion of secondary products, the ethers amounting to 26, the higher alcohols to 107, and the furfural to 0·3 parts per 100,000 parts of absolute alcohol present. On the other hand, the specimen marked "Special Liqueur" yielded on analysis 1 part of furfural, 65 parts of ethers, and 400 parts of higher alcohols in 100,000 parts of absolute alcohol present. It will be noticed that the amount of furfural is relatively low having regard to the fact that the spirit is distilled in a pot still. Doubtless this is due to careful selection of a particular "running" from the still. Since furfural is held to be a poisonous constituent of whisky this fact may be regarded as satisfactory from a dietetic point of view. Both spirits evidently belong to the class of whisky described as "thoroughly matured." Those who know the peculiar characteristics of genuine Irish whisky will appreciate the flavour in particular of the "Special Liqueur." The specimens were entirely free from acrid flavour and were peculiarly smooth to the palate. They were, moreover, free from excess of extractive matters and exhibited practically no acidity.

FORMAMINT.

(A. WULFING AND CO., 83, UPPER THAMES-STREET, LONDON, E.C.)

Formamint is described as a chemical combination of formaldehyde and milk sugar. Apparently it is a true compound of the two substances, the milk sugar neutralising the irritating effect of the formaldehyde. The result is that the compound may be formed into a lozenge for the treatment of infective throat conditions. When the tablet is dissolved in the mouth the taste of formaldehyde is distinctly observed, though it is not unpleasant. The act of dissolving in the saliva sets free the aldehyde. Under these conditions the bactericidal action of the aldehyde is powerful and immediate. Several clinical notes have been published recording the value of the Formamint lozenge in tonsillitis, diphtheria, thrush, and so forth. We had no difficulty in recognising the presence of formaldehyde, lactose, and some starch.

TABLOID QUININE COMPOUND.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

The formula of this compound will explain the purpose for which it has been designed. Each tabloid contains cinchona alkaloids, 1 grain; acetanilide, $\frac{1}{12}$th grain; camphor monobromate, $\frac{1}{3}$th grain; powdered ipecacuanha, $\frac{1}{8}$th grain; and extract of cascara sagrada, $1\frac{1}{4}$ grains. It is suggested that one tabloid may be taken every hour in the early stages of catarrh of the kind to which many persons are prone during a cold and changeable season.

VARIOUS FOOD PREPARATIONS.

(EUSTACE MILES, 40, 41, AND 42, CHANDOS-STREET, CHARING CROSS, LONDON, W.C.)

These foods in general show, according to analysis, a high nutritive value in regard to all classes of material which minister to the needs of the body. The "Proteid Food," for example, contained as much as 32 per cent. of proteins which are more or less in a soluble state, and the mineral salts amounted to 7·10 per cent. Its addition to other foods is, of course, calculated to raise their nutritive value. The food for infants contains a well-balanced proportion of proteins, fats, carbohydrates, and mineral matter. It is a particularly satisfactory fact that this food showed no deficiency in regard to fat, the amount being 21 per cent. The proteins amounted to 22·75 per cent. and the mineral matter to 4 50 per cent. We have also examined cocoa, biscuits, and soup tablets, which all evidenced a rich proportion of nourishing constituents.

"DRY SACK."

(WILLIAMS AND HUMBERT, 28, MINCING-LANE, LONDON, E.C.)

This is a very fine wine, representing the best that can be produced in the Jerez district. It is said to have been fully matured in wood, which we can well believe from the excellent flavour of the wine. The results of analysis accord with those commonly obtained with a fine old matured colonies supplied with immigrants—is practically in a subordinate position, with a result that considerations as regards health are relegated to a second place in the councils of the nation. So much is clear, but the immediate creation of a Ministry of Public Health does not follow. To detach a small portion of the administrative routine of the Local Government Board and to accord to it the title of a "Ministry of Health" would be to create an additional Government department with no status, no direct voice in the Cabinet, and no power with the Treasury. Such a step would seem to us to put back the public health progress of this country by a quarter of a century, much as we sympathise with many of the arguments of those who desire such an innovation.

The remedy for the present admittedly unsatisfactory state of affairs is, we think, not the division but the aggrandisement of the Local Government Board, the expansion taking the form of creating a Secretary of State for Public Health, upon which would follow the development of that medical department the classical researches and reports of which have carried its fame far beyond these isles but which has not received from the State the encouragement which it unquestionably deserves. A Government department occupying but a very secondary rank in the Cabinet always runs the risk, as events have over and over again shown, of losing by promotion the services of a valuable Minister. We have recently heard rumours of changes which would transfer Mr. BURNS to a higher office and which would fill the Local Government Board with an untried hand who might occupy the next few years in learning the work, only to be removed at the end of that time by promotion. In the name of public health we protest against a condition of things which makes this waste of force possible at a time when the President of the Local Government Board is about to introduce into the legislature measures of the greatest importance as regards health. The subject will be shortly discussed in Parliament by Mr. CHAPLIN, who is to move an amendment to Sir WILLIAM HOLLAND'S amendment to the address, and this, if carried, will express the opinion of the House of Commons that the Local Government Board shall be placed on a par with the office of a Secretary of State. We sincerely hope that this movement will be supported by all municipal and public bodies throughout the country and that powerful deputations will wait upon the PRIME MINISTER urging the emancipation of public health from the disqualification and anachronism of being associated with a secondary position in the State.

HARVEIAN SOCIETY.—At the annual general meeting held at the society's rooms the following officers were elected for the ensuing year. President: Mr. D'Arcy Power. Vice-Presidents: Dr. G. A. Sutherland, Dr. C. Buttar, Dr. H. J. Macevoy, and Dr. W. H. Blenkinsop. Treasurer: Mr. Francis Jaffrey. Honorary secretaries: Mr. T. Crisp English and Dr. W. H. Willcox. A good programme of work has been arranged. The Harveian lecture will be delivered by Sir Almroth Wright upon Some Points in Connexion with Therapeutic Immunisation, and among other papers promised may be mentioned one by Dr. Samuel West on the Treatment of Pneumonia, to be followed by a discussion.

Annotations.

"Ne quid nimis."

TUCKER v. WAKLEY AND ANOTHER: THE SYMPATHY OF THE MEDICAL PROFESSION.

WE are truly grateful to the many members of the medical profession who have written to us in terms of sympathy in regard to the issue of the recent libel action. It is plain to us that the medical profession has perceived fully that the course which we took was dictated to us by every reason there is for our existence and by every tradition of our career. At a meeting of the Council of the British Medical Association held on Jan. 29th, on reference being made to the case, the Chairman of Council, Mr. Edmund Owen, was requested to convey to us the following gratifying resolution which we learn from Mr. Owen was passed by the Council unanimously:—

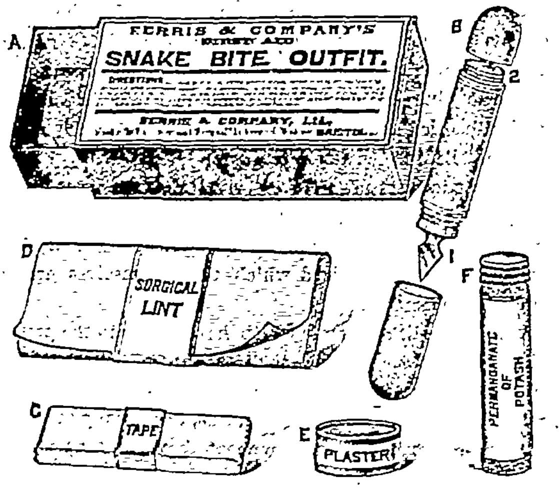
RESOLUTION.

That the Council, recognising the injury done to the public by the uncontrolled sale of secret remedies, desires to place on record its entire sympathy with the proprietors of THE LANCET on the result of the recent action, Tucker v. Wakley and Another.

We desire to thank the Council of the British Medical Association, and the great constituency which they rule, for their valuable support.

DANGER IN GAMES FOR BOYS.

AN action was tried recently in the High Court in which a schoolmaster was the defendant and the plaintiff a schoolboy whose leg had been broken while playing a game under the supervision of the master. It was contended that the defendant was negligent in permitting a dangerous game, consisting in races between boys, each of whom carried another boy on his back, across an asphalted playground. The plaintiff was said to have carried a boy heavier than himself and to have slipped at a gully and fallen, fracturing his thigh. Medical evidence to the effect that the game was dangerous and also that it was not calculated to lead to any desirable physical improvement in the player and so fulfilled no useful object was given by Dr. J. N. McTurk of the Hospital for Sick Children, Great Ormond-street, but Mr. Justice Lawrance appears to have taken the view that to give effect to such an opinion would unduly restrict boys' games, and comparisons were made by him between the accident which occurred and the possible injuries which may be inflicted at cricket by the ball striking a boy's head. The jury eventually found a verdict for the defendant with which none need find fault if allowance is made for the position of a master in an elementary school, who no doubt did his best to organise the amusements of those entrusted to his care in circumstances which render healthy and recreative exercise in which all can join a difficult thing to provide. At the same time, the opinion that the game played is not a desirable one is surely a correct one. It has attractions for boys because it requires no apparatus beyond what they themselves can supply and it lends itself to friendly competitions in strength and endurance. It is, however, very easy for the carrying boy to fall while overweighted by his fellow borne on his back, and when he falls he does so not only with the other on top of him but with no power to save or to protect himself, as his hands are occupied in keeping his rider in his place and he has no time to disengage them. If the plaintiff had come down on the asphalt on his face he would probably have suffered considerable disfigurement, and though he or any of his fellows might have fallen without actually which is hollowed out so as to contain a supply of the permanganate. On the infliction of a bite free incisions are made in the part with the lancet and crystals of the permanganate are rubbed into them. The accompanying illustration shows at B an instrument of this kind, manufactured by Messrs. Ferris & Company, Limited, of Bristol, who have added some useful adjuncts, the whole of which are contained in a cardboard box of a size convenient for the pocket. B is a double-ended case of polished hardwood, having at one end a short spear-pointed lancet protected by a cover and at the other end a receptacle for the crystals. When closed it is three and a half inches long and half an inch in diameter; it may be carried alone if desired but the outfit as shown includes a small stock of dressing materials and an extra supply of crystals in a glass tube marked F. The price is 3*s.* 6*d.* The permanganate treatment of snake-bite has received official approval in Burma and in THE LANCET of Jan. 25th one of our India correspondents gave an abstract of recent regulations on the subject.



ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Jan. 30th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced the following appointments: Dr. L. G. Guthrie to be the FitzPatrick lecturer for 1908, Dr. J. A. Ormerod to be the Harveian orator for 1908, Dr. W. Pasteur to be the Bradshaw lecturer for 1908, and Dr. R. T. Hewlett to be the Milroy lecturer for 1909.

The following gentlemen having passed the required examinations were admitted as Members of the College: Jehangir Cawasjee Balsara, L.R.C.P.; Hector Charles Cameron, M.A., M.B. Cantab., L.R.C.P.; Carey Franklin Coombs, M.D. Lond.; John Gallie Fraser, M.B. Edin.; Charles Edward Iredell, M.D. Lond., L.R.C.P.; John Owen, M.D. Lond.; Herbert Chavasse Squire, M.A., M.B. Oxon., L.R.C.P.; Henry Letheby Tidy, M.B. Oxon.; Godfrey de Bec Turtle, M.D. Durh., L.R.C.P.; Rupert Waterhouse, M.D. Lond., L.R.C.P.; and John William Watson, L.R.C.P.

Licences were granted to 63 gentlemen who had passed the required examinations.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following gentlemen: Robert Cecil Turle Evans, L.S.A.; Ernest Edward Scott Joseph Galbraith, L.R.C.P. & S. Edin., L.F.P. & S. Glasg.; William Henry Hillyer, L.R.C.P. Lond., M.R.C.S. Eng., M.D. Durh.; Wharton Henry Lamplough, L.R.C.P. Lond., M.R.C.S. Eng., M.D., B.S. Durh.; Arthur Riencsett Litteljohn, L.R.C.P. Lond., M.R.C.S. Eng.; James Mair, M.B., C.M. Glasg.; Fairlee Russell Ozzard (Major I.M.S.), L.R.C.P. Lond., M.R.C.S. Eng.; George Elliott Frank Stammers (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; James Batson Stephens, L.R.C.P. Lond., M.R.C.S. Eng., M.B., B.S. Lond.; and John Tate, L.R.C.P. Lond., M.R.C.S. Eng.

The following communications were received:—1. From Mr. Charles Coates of Bath (to the President) presenting the College with the sum of £1000 to be used, invested, or disposed of as the President might deem most desirable. The thanks of the College were ordered to be given to Mr. Coates for his generous gift. 2. From the Secretary of the Royal College of Surgeons reporting proceedings of the Council on Jan. 16th, 1908. 3. From the council of the Geological Society conveying the thanks of the society to the College for its assistance in the recent celebration of the centenary of the society. 4. From the General Medical Council requesting recommendations from the College in reference to the new edition of the British Pharmacopœia. A committee was appointed to consider any alterations or additions which might be deemed advisable. The committee consisted of Dr. F. Taylor, Dr. J. Mitchell Bruce, Dr. N. I. C. Tirard, Dr. W. Hale White, Dr. H. A. Caley, and Dr. J. Calvert. 5. From Dr. Norman Moore, presenting a report on the November meeting of the General Medical Council. The report was received and adopted.

Dr. G. E. Herman, Dr. D. A. Finlay, Dr. N. I. C. Tirard, and Dr. W. P. Herringham were elected councillors.

Dr. T. D. Acland was elected an examiner in medicine in place of Dr. H. M. Murray, deceased.

Dr. F. H. Champneys was re-elected a representative of the College on the Central Midwives Board.

Sir W. S. CHURCH proposed, and Dr. G. A. HERON seconded, that a small standing committee should be elected the business of which would be to keep the College informed of the arrangements and methods of teaching elementary hygiene in training colleges and schools, of the working of Section 13 of the Education Act (medical inspection of the public elementary schools), of the position of the medical officers employed under it, and of any alterations which might be proposed by the Government or others in the education or inspection of children or in the administration of the Act. The motion was adopted. The nomination of the committee was postponed.

The quarterly report of the College finance committee was received and adopted.

After some further formal business the PRESIDENT dissolved the Comitia.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 6th, 1830.

MONSIEUR CHABERT.[1]

THIS person having advertised that he would REPEAT the WHOLE of his "extraordinary performances" on Thursday, the Editor thought it his duty to attend, in order to administer a dose of prussic acid to him. When challenged, however, Monsieur Chabert, in the most peremptory manner, refused to take the poison. Considerable uproar ensued, and Monsieur Chabert, after much prevarication, promised that the money should be returned, and he left the room to give the check-tickets, as he said, to the cashier. He was immediately followed by a large portion of the company—pressed upon rather severely by several gentlemen down the staircase, and at length was fairly got out upon the pavement in Regent Street, where, finding one of the gates of the area open, he bolted from his pursuers down the steps, ran up the entire length of the area towards Oxford Street, and *ultimately concealed himself in a coal-cellar. Attention was* then directed to the proprietor of the rooms, Mr. Welch, who, after much clamour on the part of the assembly, directed that the money should be returned, or tickets be given to the claimants, securing payment on another day. The exhibition-room was crowded to excess, and it was stated, at the doors, that upwards of five hundred persons left who were unable to obtain admission.

As we are just going to press with this part of our Journal, we have neither time nor space to say more on the subject of this disgraceful humbug; but in our next Number we will endeavour to publish a full and accurate report of the proceedings. It is, however, more than probable, that public curiosity will be gratified by an account of them in the daily journals.

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[1] Vide "Looking Back" in THE LANCET of Jan. 18th, p. 178, and Feb. 1st, 1908, 323.

or concert-house within reasonable distance? Moreover, to alter still further the trend of public opinion the universities should themselves encourage research into the many problems involved in the question of alcohol and publish the results with their weight of authority. By the establishment of a sensible and firm public opinion on the matter nearly all the difficulties of politicians and social reformers would disappear. While we are in agreement with Mr. Eccles as to the damage wrought by over-indulgence in alcoholic drinks and with many of his suggestions for dealing with the matter, yet we are not by any means certain that legislation will be of any avail. Education, the provision of places other than public-houses for amusement and light refreshments, combined with honest light beer or some similar drink, will do more to solve the problem than any amount of repression. Within the last 20 years the consumption of alcoholic drinks has diminished enormously and that not owing to legislation but to the development of common sense and the provision of rational amusement for those whose lives are cast among grey and dismal surroundings.

THE CHARRED CEILING.

A SIMPLE test which everyone can try for the presence of free sulphuric acid in a liquid consists in streaking the liquid upon a piece of white paper as with a quill pen and drying the paper before the fire. The track of the sulphuric acid, if any is present, is marked out by a black line appearing as soon as the paper is dry and warm. In short, the acid in this procedure is concentrated until it becomes strong enough to char the paper. The test is quite delicate and is practically demonstrated in the rooms of a house lighted by means of coal gas. Sooner or later the ceiling of a room in which gas-lights are burning is blackened, and if chimneys over the burners are used the blackening is more or less localised in a ring immediately over the burner. The common acceptance of this is that soot is deposited, whereas the discolouration may not be due to soot at all. We had occasion recently to examine the circular patches of discolouration which appeared in just those places on a papered ceiling which were immediately above a gas burner. The apparently charred pieces of paper were very acid and sour to the taste and on soaking them in distilled water a weak solution of sulphuric acid was obtained. Further examination showed that the amount of sulphuric acid in the paper was equivalent to as much as 16 grains of pure acid to the square foot. The charred ceiling, therefore, is the result of the action of sulphuric acid derived from the combustion of the sulphur compounds contained in the gas upon the organic substances in the ceiling or in the paper (if it happens to be papered). It is fairly reasonable to suppose that the action of this sulphuric acid is not limited to one part of the ceiling but in course of time becomes general. The use of a chimney on the gas burner concentrates the mischief on the ceiling and hence the more or less rapid appearance of black circular patches immediately over the burners. In the case of a papered ceiling the paper is sooner or later destroyed, chars, crumbles, and peels off. When there is no chimney the products of combustion are to an extent distributed and then the charring is spread over a greater surface, the ceiling getting seared uniformly throughout, but not so intensely, of course, as when the effects of the gases are localised. This is why the inverted incandescent gas burner appears to blacken the ceilings to a less degree than the upright burner provided with a chimney. The products of combustion in the former case are distributed, while in the latter they are concentrated and directed to a comparatively small part of the ceiling. The worst feature from a health point of view of gas lighting is undoubtedly this production of sulphurous and sulphuric acids, for in comparison with these the other products of combustion—namely, the moisture and carbonic acid gas which are both normal products of human exhalation—may for all practical purposes be neglected unless, of course, no precautions are taken in regard to their removal by ventilation. It is to be regretted, therefore, that the hitherto strict requirements concerning the permissible amount of sulphur components in coal gas are in many cases relaxed. We are quite aware that the complete removal of sulphur from coal gas is a very costly business in its manufacture, but if an economical method of freeing coal gas entirely from sulphur could be devised and put into practice the chief argument which hygienic considerations raise against the use of coal gas for lighting and even heating purposes in some cases would have to be dismissed. As it is, the obvious drawback to coal gas containing sulphur compounds is that the products of its combustion are calculated to do damage to the appurtenances of the dwelling room and add to the atmosphere a constituent or constituents which in the interests of health should not be there.

THE HISTORY OF KEFIR AND ITS MODE OF PREPARATION.

KEFIR has been esteemed as a beverage from time immemorial by the inhabitants of the northern part of the Caucasian mountains. Its history and mode of preparation are well described by Dr. J. V. S. Stanislaus in the January number of the *American Journal of Pharmacy*. Kefir is not an imitation of koumis which is made by the Tartars from mare's milk. It is prepared from cow's milk, by the action of a ferment called "kefir grains." The origin of kefir grains is not definitely known but the tribes of the Caucasus consider them to have a sacred origin. There is an Oriental legend that the first Mohamed conferred this blessing upon his chosen people. Hence the grains are known as the "millet seeds of the Prophet." In Europe they are variously known as "kefir champignons" and "kefir mushrooms." Professor Podwysocki of Riga has explained their origin in the following way. Certain tribes, migrating into the mountains, were obliged to raise more cattle than horses, with the result that there was a shortage of mare's milk. They therefore added the koumis ferment to a mixture of cow's and mare's milk and in the course of time the ferment acquired a different form and composition, constituting what are known as kefir grains. Until recently the tribes dared not offer the grains for sale or even as a gift, because there existed a strong belief that by parting with some of them the remainder would lose their fetichistic power to ferment. At the present time they may be purchased without much difficulty. When kefir grains are added to cow's milk alcoholic and lactic fermentations occur and the albuminous bodies are peptonised. Kefir, when 24 hours old, contains 4·15 per cent. of albuminous substances, as compared with 4·08 per cent. in cow's milk. It contains, in addition, 0·49 per cent. of alcohol, 0·52 per cent. of lactic acid, and 2·05 per cent. of lactose, as compared with 4·92 per cent. in cow's milk. It contains no fat, is whitish in colour, and pleasant to taste. In preparing kefir healthy grains may be recognised by their irregular form and size, their hardness, and yellow to brick-red colour. The first step consists in making the "starter." This is done by macerating the grains in warm water for 24 hours, changing the water at least four times. Two tablespoonfuls of the soaked grains are then strained from the water and added to about 350 cubic centimetres of fresh milk. The vessel is covered with muslin and kept at a temperature of 15° to 18° C. until the grains begin to float upon the surface of the liquid, care being taken to stir the mixture occasionally during the first few hours. The grains can be used again several times. The strained liquid constitutes

In the meanwhile, it is interesting to hear that the public places of Japan are being systematically invaded by the unsightly advertisements which were first introduced in the United States and have spread with lamentable rapidity amongst ourselves; because an outrage to the public sense of beauty and fitness is perhaps more likely to bring about reforms than any probable recognition of the mischiefs done by quacks and their nostrums to the public health. There is, at least, one point in which the Japanese administration contrasts favourably with our own, and it is that although the makers and sellers of quack medicines are taxed, as prostitution and other noxious trades are taxed in many countries, they are not, as with us, taxed in a manner which appears to imply governmental sanction or approval. There is no such a thing as a "government stamp" without which the preparation is not "genuine," and which is accepted by the ignorant as implying that if not Sir HENRY CAMPBELL-BANNERMAN or Mr. BALFOUR at least the Home Secretary is responsible for the "genuineness" in question, and is an accessory to the statements put forth by bold advertisement. Whenever Japanese statesmen realise that the national expenditure on quack medicines is, to say the very least, an entirely wasteful one, that reliance upon these preparations constantly serves to postpone the proper treatment of originally curable maladies until the period of curability has passed away, and that a very large proportion of the so-called remedies are merely combinations of "nips" of alcohol with soothing doses of narcotics, calculated to bring these things into homes to which they would not otherwise have obtained access, we shall no doubt see the prompt adoption of remedial measures against the insidious sale of very dangerous poisons. If that time should come we may at least hope that some among our own politicians will be able to discover a chance of popularity in following the Japanese example.

It appears from the articles by Mr. ROYDS and Mr. CLEMENT in the journal to which we have referred, that while the sale of quack medicines in Japan is effected by an organisation of pedlars rather than in shops, the representations put forth by the makers do not differ in any material degree from those with which we are only too familiar. Among the things sold are "brain-healing pills," "poison-expelling pills," "spirit-cheering pills," "heal-everything powders," "one-dose-healing powders," "life-supporting powders," and "touch-the-spot pastiles." Our "pills worth a guinea a box" are fairly surpassed by the "thousand dollar pills" of Japan, pills the selling price of which is, we believe, expressed in fractions of a penny. In other respects, too, there are many points of resemblance; and the chief differences between the English *quack* and his Japanese brother appear to depend on the fact that the popular superstitions to which both appeal are somewhat different in the two countries. But for this the methods and the pretensions are the same in both, and scarcely depart from those which prevailed among ourselves 150 years ago and were described by GOLDSMITH in his "Letters from a Citizen of the World." Then, as now, our quacks received their knowledge of medicine by immediate inspiration from heaven and often spent a great part of their lives in unconsciousness of any latent excellence until a bankruptcy or a residence in jail called their miraculous powers into exertion. Then, as now, notwithstanding the existence of infallible remedies for every disease which it is possible to mention, there were many who thought it proper to be sick and even sometimes to die. "Yes, by the head of CONFUCIUS, they die, though they might have purchased the health-restoring specific for half-a-crown at every corner."

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A Ministry of Public Health: Is it Practicable?

THE people of this country are at last awakening to the fact that if the nation is to hold its own in the constant struggle for survival which is part and parcel of nature's method of improving the world's stock, the physical fitness of the individual must receive more attention than heretofore. It is true that the death-rate is steadily declining and that the toll levied by that disease which has been erroneously termed the "white man's plague" is slowly but surely becoming less, but it is equally true that the birth-rate has reached a dangerously low figure, that our infantile mortality is still appalling, and that the aggregation of the bulk of our population into towns may be, and not improbably is, interfering steadily with the stamina and physique of the people. The appeal to a declining death-rate is liable to delude us, seeing that it is possible by shielding weakly persons against all those conditions which are likely to determine life by accidents or to cause a fatal issue through disease to rear a race which under untoward conditions, such as war or famine, would melt away into death or incapacity with amazing celerity. We fully admit that much of this may be mere speculation; but the fear that the speculation may be true and that we may ere many years be past have, like France, a birth-rate only equal to our death-rate is bringing home to all seriously minded persons the need for every effort to be made to improve the public health. Discontent with existing conditions of affairs is finding expression in a demand that the central health department, the Local Government Board, shall be given a better position amongst Government departments and in the Cabinet than it at present possesses, and everyone who speaks upon the subject is expected either in his prologue or his peroration to call for the creation of a "Ministry of Health."

We are afraid that most of those who make this demand have but little knowledge of what they really mean in a creative sense; but it is assumed that they are expressing dissatisfaction at the circumstance that while foreign, colonial, Indian, and military affairs are presided over by a Secretary of State, the health of the nation is consigned to a Minister who has multifarious and heterogeneous duties and who, although in the Cabinet, occupies an altogether inferior position, and who receives as an emolument a sum less than half that accorded to a Secretary of State. In other words, Mr. BURNS—who is, or should be, responsible for the physique of those who man our ships and form our territorial forces, and who should be doing *something* to insure that there may still be a margin of population which may help to keep out

Brussels, 30·5°, being exceptionally low. Both at home and abroad the period was dry. On the French Riviera, as represented by Nice, there was no measurable quantity of rain, while at almost all the other foreign resorts, as well as those on our own south coast, the number of days with rain was very small. As a rule, the month was very sunny in Italy, the Riviera, and the Mediterranean region generally, and there was also much more sunshine than usual on the south and south-west coasts of this country. The figures from the foreign resorts were not available and those for the home resorts are not given in the above table, but the number of hours registered at many places in the south and south-west of England was between 80 and about 100. At some spots the figure was about twice as high as usual. Over the more inland parts of the country the sun was frequently obscured by fog and mist. In London (Westminster) there were only 22 hours of sunshine, while at Manchester there were no more than about ten hours. It would not be fair to compare the duration of sunshine in London with that at places on the south coast, but as the sun shone brightly for 64 hours at Bath, an inland spot practically in the same latitude as the metropolis, it may be assumed that the smoke and dust robbed the more central parts of London of at least 40 hours of health-giving sunshine. At Manchester there were 25 sunless days, at Westminster 14, and at Nottingham, where the aggregate number of hours of sunshine was 38, there were also 14 sunless days.

ALCOHOL IN THE TREATMENT OF PNEUMONIA AND ENTERIC FEVER.

THE International Union of Medical Abstainers, founded at Stockholm in 1907, has resolved as part of its operations to attempt the solution of the question as to the value of alcohol in the treatment of lobar pneumonia and enteric fever. A statistical inquiry is to be instituted and "all hospital and infirmary physicians, medical superintendents, or registrars are earnestly requested to assist in this work, both in the interests of medical science and of the sick." Whilst agreeing that trustworthy information on this point is desirable we cannot give unqualified approval to the methods which it is proposed to adopt. The proposed lines of the inquiry are as follows. There are two distinct plans which may be adopted by those wishing to help in the accumulation of statistics: "Plan A. 1. Every participator declares himself prepared to treat all cases of lobar pneumonia and enteric fever over 15 years of age which he may have to treat in hospital or otherwise between January 1st and December 31st, 1908, alternately—i.e., the first with, the second without, alcohol, and so on. 2. The administration of alcohol is to be as usually given by the reporter both as to form, quantity, and duration. It is desirable that a mixture of alcohol and water should be used of definite strength as the commercial wines and spirits vary considerably. 3. The other treatment will be on the usual lines according to circumstances. 4. Departure from the treatment in turn is especially deprecated, but if for some reason (such as intolerance of alcohol) it occurs it should be noted on the form with the reason for such occurrence. Plan B. 5. If the alternate treatment of cases with and without alcohol is objected to it is hoped that the alternative proposal will be adopted—viz., a simple return of the treatment as regards alcohol and the result on the same form. 6. Every case is to be reported on a form which will be supplied on request. These forms should be returned to Dr. J. J. Ridge, Carlton House, Enfield, not later than January, 1909." We imagine that few physicians, who have been accustomed to give alcohol in cases of lobar pneumonia and enteric fever, would consent to have their treatment dictated in this manner, so that their patients should be treated alternately, with or without alcohol, although they might be perfectly willing to give the statistics of the results of cases that have come under their care. Plan B commends itself to us more favourably than Plan A, but whether any trustworthy conclusions will be arrived at from this inquiry remains to be seen. The personal equation in such an investigation is difficult to eliminate but nevertheless we have no wish to discourage any attempt to arrive at the value of alcohol as a drug and we shall watch the result of this endeavour with interest.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE lectures of the Royal College of Physicians of London for the present year will be delivered at the College, Pall-mall East, on the following Tuesdays and Thursdays at 5 o'clock: The Milroy lectures on Melitensis Septicæmia (Malta or Mediterranean Fever) will be delivered by Dr. J. W. H. Eyre on March 5th, 10th, and 12th; the Goulstonian lectures on the Influence of Pregnancy on certain Medical Diseases, and the Influence of Certain Medical Diseases on Pregnancy, will be delivered by Dr. Herbert French on March 17th, 19th, and 24th; the Lumleian lectures on Points of Practice in Maladies of the Heart will be delivered by Sir James Sawyer on March 26th and 31st and April 2nd; and the Oliver-Sharpey lectures on the Present Position of our Knowledge regarding the Suprarenal Capsules will be delivered by Professor A. E. Schäfer, F.R.S., on April 7th and 9th.

WATERSHEDS AND RAINFALL.

AT the annual meeting of the Royal Meteorological Society, which was held at the Institution of Civil Engineers on Jan. 15th, Dr. H. R. Mill, the President, delivered a most interesting address upon "Map Studies of Rainfall." Dr. Mill is the director of the British Rainfall Organisation, so that he dealt with a subject of which he possesses special knowledge. After describing the method of preparing annual, monthly, and daily maps of rainfall, he went on to draw attention to the extreme importance of accurate knowledge of the rainfall of a county, for the problem of the rivers is becoming acute. He added that the increasing strenuousness of the struggle for the possession of large water-supplies is producing in England, and especially in Wales, a great amount of local jealousy and strife, for the boundaries of parishes and counties coincide but rarely with water partings and the argument has been brought forward again and again that the rainfall of one county should not be diverted for the use of the inhabitants of another. But, continued Dr. Mill, "I think that the study of rainfall can do something to suggest the lines on which such disputes should be settled. ...... Most of the rain is borne to our islands from the Atlantic; ...... it is of the air, and no boundary checks it; the largest annual falls come down on and near the watersheds because there the land produces its maximum influence as a rain compeller." Therefore, concluded Dr. Mill, care for the water-supply of the country is by no means a parochial but in the fullest sense a national matter and should be dealt with in the interests of the nation as a whole, the units of subdivision when such are required being the natural units of river basins. We congratulate Dr. Mill upon his address which deals with a matter of the first importance. He shows that physical geography may be taken to afford as good an argument for the precipitation of the West being used to supply the great towns of the East of these islands as political geography may be taken to afford an opposite argument. London and the busy Welsh towns of Cardiff and Swansea are already arming for the fight for the possession of the Welsh watersheds. Liverpool has annexed the Vyrnwy district and Manchester the waters from Thirlmere. Unless that *congeries* of cities called London becomes injuring himself it was not likely that a fall would prove painless. The question how to provide exercise and amusement for a large number of pupils in the small space available in metropolitan and urban schools is not an easy one to answer. Games as understood in "public schools" are out of the question, and the suggestion made by Dr. McTurk in reply to a question of Mr. Justice Lawrance, who asked if he would recommend diabolo as a safe form of recreation, was to the effect that dumb-bell and bar-bell exercises would be suitable. The difficulty, however, of introducing exercises tending directly to physical development lies in the danger of their becoming merely an irksome and so an unpopular and a useless form of drill. Much, however, might be learned from the methods of training and of exciting emulation in such matters practised in Switzerland and elsewhere on the continent, and it may be suggested that competitions between the various schools in the London County Council's district held in the public parks might arouse sufficient spirit of rivalry to make physical training generally popular and so generally beneficial. In order to produce this result the competitions probably would have to be not between picked teams but between large bodies of the pupils consisting of all who had attained to a given degree of proficiency. The performance of such exercises is as least as manly a form of amusement as races "pick-a-back," and it may be pointed out that such combined displays of this nature as are seen annually at the Military Tournament are always a popular item in the programme.

CALMETTE'S OPHTHALMO-TUBERCULIN REACTION.

IN our issue of Feb. 1st we published a short note from our Paris correspondent dealing with the ophthalmo-tuberculin reaction described by M. Calmette and we now lay before our readers a fuller *résumé* of the paper read by M. Calmette, referred to by our Paris correspondent. M. Calmette said that in the short time which has elapsed since he communicated his discovery to the Academie des Sciences (June 17th, 1907), the almost absolute accuracy with which the reaction reveals the existence of tuberculous lesions *in evolution*, although manifested by no clinical signs, has been confirmed by numerous observers. Many observations have shown that the newly born children of tuberculous mothers do not give the reaction. On the other hand, infants at the age of from 1 to 2 years react in the proportion of 3·42 per cent. and the percentage increases rapidly with age. It is 5·26 at the ages of from 2 to 5 years, 13·5 at the ages of from 6 to 10 years, and 14·9 at the ages of from 11 to 15 years. These results are in accordance with the observations of Bang and Nocard that in cattle tuberculosis is scarcely ever congenital. By repeating the test sufficiently often M. Calmette suggests that the exact time at which tuberculosis attacks a child may be ascertained. By studying at the same time the conditions of the family and the food supply he thinks that the part played by family contagion (*contagion familiale*) and by the milk of tuberculous cows may be ascertained. By applying the test periodically to a family, or at least to those members in whom tuberculosis is feared, the infection may be detected at an early period, before even any clinical sign is perceptible. The patient may thus be isolated from his family and sent to a sanatorium and treated at the most favourable time. At the anti-tuberculosis dispensary of Emile Roux at Lille the test was applied to the children of families the members of which were under treatment. Thus children apparently healthy were ascertained to be tuberculous and were sent to the country and placed in the best hygienic conditions. At the same time they continued their school studies until the instillation of tuberculin into the eye, repeated every two or three months, no longer gave a reaction. They were then sent back to their families. M. Calmette thinks, with Marfan, that experiments on animals and the observations on patients discharged several years from sanatoriums show that the complete cure of chronic tuberculous glands confers immunity against tuberculosis. He therefore hopes that a great number of these children will remain immune. The reaction would be equally useful in the examination of pupils who seek admission to schools and are suspected to be tuberculous. Tuberculous pupils could thus be arrested "on the threshold"; in the army and navy the test could be put to a similar use. Professor Simonin of the military hospital of Val-de-Grâce has recently stated that the reaction reveals latent or insidious tuberculosis not evident clinically which provokes distant functional troubles of unknown causation. It thus enables patients suffering from dyspepsia, palpitation, neurasthenia, "atonic rheumatism," and so on, to be discharged from the military hospitals which they encumber. M. Calmette finally claimed that thanks to its fidelity and harmlessness, attested by more than 10,000 observations published in all countries, his reaction merited the confidence of clinicians and could play a great part in the social struggle against tuberculosis. By its use in families, in schools, in the army, in hospitals, and in all collections of persons those who were bearers of active tuberculous lesions could be detected.

THE LEES AND RAPER MEMORIAL LECTURE.

THE eighth Lees and Raper Memorial Lecture was delivered in the town-hall, Oxford, on Feb. 4th, by Mr. W. *McAdam Eccles*, under the presidency of the Regius Professor of Medicine, Dr. William Osler. The subject of the lecture was the Relation of Alcohol to Physical Deterioration and National Inefficiency. Mr. Eccles began by alluding to the action of alcohol upon living tissues, and then went on to quote figures from life assurance societies showing that total abstainers and their children were far better "lives" than those who took alcohol. Mr. Eccles went on to point out that alcoholic stimulants led to physical degeneracy and this in turn to inefficiency. Inefficiency of individuals led to inefficiency of the nation, and this in turn to loss of supremacy. He put forward the following suggestions to stem alcoholic indulgence: education of mothers and fathers, prohibition of the entrance of children into public-houses, feeding and teaching of the children of the land, limitation of the opportunities for adults to obtain liquor, the provision of sound recreation, and the promotion of research with the publication of its results. The numerous borough and parochial health societies springing into existence could do much to increase the knowledge of mothers. Municipal posters concerning the effects of the abuse of alcohol placarded on the hoardings were very valuable. The recent disclosures as to the results on child life of the entrance of children into public-houses called for immediate and adequate legislation. But it was folly if, when the child was kept free from alcohol, he or she were allowed to become stunted in growth from a want of sufficient and proper food. Some means must be devised whereby hungry school children should be fed. The instruction of the child in the elementary school was of the utmost importance. The elements of hygiene and temperance were vital, and they could be made very attractive to even the very young, if inculcated by a teacher of experience and ability. When a child had been taught these principles and had reached an age of discretion he or she should not be unduly tempted to fall from right paths by the continuance of a public-house at every street corner. If the public-house went something should take its place. What could be better than a happy home with a cheerful hearth, and a decent "winter garden" enabled to understand why adenoids are so frequently found in association with these deformities; for it is well known that individuals with leptoprosopic heads are more liable to give evidence of the effects of nasal obstruction on account of the narrowness of the nasal and naso-pharyngeal cavities than persons with chamæprosopic heads. Moreover, adenoids and other forms of nasal obstruction are, for some reason, far more common in leptoprosopes than in chamæprosopes. These facts therefore will help to explain how it is that the salient symptom of nasal obstruction (mouth-breathing) is noticed so frequently in conjunction with contracted alveolar arches. It is not, of course, that individuals with chamæprosopic heads enjoy an immunity from adenoids, but the symptoms do not develop in these subjects unless the collection of adenoid tissue in the naso-pharynx (which is indeed present in practically all children) has hypertrophied to a considerable extent."

THE METROPOLITAN STREET AMBULANCE SERVICE.

AMONGST the Parliamentary business connected with the public health and carried forward from last year the consideration of the street ambulance provision for London by a Departmental Committee holds a prominent place. As that body will shortly make public the result of its deliberations we will again remind our readers of the importance of providing easy and speedy means of transporting persons injured in the streets to the nearest general hospital and of the admirable model which the City police-force has given the metropolis by the institution of its motor ambulance service. In our issue of Nov. 23rd, 1907, p. 1474, we summarised in a leading article the history of the ambulance service for London, and on that occasion as on many others we pointed out the great measure in which the Metropolitan Street Ambulance Association has helped its development. The financial aspect, of course, must not be lost sight of in these days of municipal retrenchment, but a correspondent points out that the amount expended on ambulance work by the metropolitan police is very small in proportion to the sum paid to that body by the ratepayers. The official accounts show that in the financial year 1906–07 the metropolitan police received for all purposes £1,097,495 from the rates and expended on "medical attendance, medicines, &c., for prisoners and poor persons injured in public thoroughfares" £8098 13*s.* 5*d.* We are not in a position to state to what extent this connotes expenditure on street ambulance work, but in any case the sum can only be a small fraction of the total police expenses, and if the urgent need of a more efficient and better organised ambulance service than at present prevails were more widely understood we think that few ratepayers would object to the appropriation of a larger share of their police-rate to so humane a purpose. It is to be hoped that before the end of the year the motor ambulance van will be a familiar object outside the boundaries of the City of London.

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WE regret to announce the death on Tuesday morning, Feb. 4th, of Mr. William Allingham, F.R.C.S. Eng. Mr. Allingham, who was formerly surgeon to the Great Northern Central Hospital and St. Mark's Hospital, had a great the "starter," and the grains can be covered with milk and set in a cool place until the next day. The "starter" is then mixed with 188 cubic centimetres of boiled milk in a bottle which should not be completely filled. The bottle is corked immediately and kept at a temperature of 20° to 23° C. until the liquid begins to thicken. This process requires from 18 to 25 hours in winter and from 14 to 20 hours in summer. The thickened liquid is then agitated vigorously and kept in a cellar at 9° to 12·5° C., the agitation being repeated every two hours. Kefir is known as "day old," "two day old," and "three day old," according to the time allowed for fermentation. The longer the grains are used the better is the quality of the product. Kefir so prepared possesses a pleasant, refreshing, and slightly acid taste. By prolonging the period of fermentation the alcohol and carbon dioxide are increased and a more thorough peptonisation is secured. Kefir may be combined with ferric lactate or pepsin for administration in anæmia and dyspepsia.

MEDICAL FEES AT CORONERS' INQUESTS.

THE Lancashire county council has come to the decision to pay in the future only 1 guinea per inquest to medical practitioners attending to give evidence, even if several days are required for the completion of the inquiry. In support of this decision the clerk of the council refers to Section 22 of the Coroners Act, 1887, which governs the question of fees to medical witnesses, making reference, we presume, only to the giving of evidence and not to the making of post-mortem examinations. This is a momentous decision of the council and we are not surprised to find our esteemed contemporary the *Liverpool Courier* asking "if the county financiers are right in their reading of the Coroners Act, how is it the discovery has been so long delayed?" and adding: "perhaps the committee has reached an interpretation which the legislature never contemplated?" Looking carefully at the wording of the Act we are compelled to agree that the interpretation of the finance committee of the Lancashire county council may be literally correct, for we cannot find anything definite in the Act as to additional medical fees for protracted work. Doubtless the legislature had in mind that an inquest seldom occupies more than one day and that the coroner could easily make arrangements for additional medical assistance. At the same time the attitude of the Lancashire county council may eventually lead to a result which they hoped to avoid—viz., the undue swelling of expenses. Supposing, for instance, that a medical practitioner has obeyed the coroner's summons—if he does not he renders himself liable to a fine of £5, attends on the first day and gives evidence, and then is re-summoned by the coroner on a subsequent day we are inclined to think that he would be entitled to demand an extra guinea. Of course, the coroner, the servant of the county council, might have to pay the fee out of his own pocket or fight a pretty point on behalf of the medical profession, and we are not so unreasonable as to expect that he should be invited to do anything of the sort. But it is certainly ridiculous that should a prisoner be tried at the assizes on a coroner's inquisition alone the medical witness would be entitled to the ordinary fees allowed for attendances in criminal courts, while according to the recent decree of the Lancashire county council he would only receive 1 guinea for employing an equal or a greater amount of valuable time while attending the preliminary proceedings before the coroner. It is pleasant to read the forcible opinion of Mr. Coroner Brighouse, who is a solicitor, and his condemnation of the slight on the medical profession. The subject is worthy of the attention of all our readers, for the precedent may be followed by other county councils to the detriment of a profession already burdened with many inadequately paid duties. We are grateful to the *Liverpool Courier* for its evidently sympathetic attitude towards the medical profession, for we have to remember that a certain section of the press owes an appreciable portion of its revenue to the misrepresentation of our calling.

JANUARY AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean range of temperature.	Days with rain.*	Total fall in month.
	°	°	°	°	°	°		ins.
Scilly	54	33	49	42	45·3	7	11	1·17
Jersey	52	24	45	36	40·5	9	6	0·88
Torquay...	55	24	46	36	41·0	10	9	1·26
Weymouth	53	23	44	35	39·4	9	6	0·92
Bournemouth ...	53	19	43	33	38·0	10	5	0·76
Sandown, Isle of Wight	53	25	46	35	40·7	11	6	1·38
Brighton	48	20	42	33	37·5	9	3	1·45
Bath	53	17	43	32	37·5	11	6	1·27
Harrogate	56	17	41	29	35·0	12	7	1·60
Manchester... ...	57	21	42	33	37·3	9	7	2·04
Nottingham... ...	55	16	42	30	35·7	12	7	1·07
London...	54	29	43	32	37·4	11	4	1·50
Paris	53	12	39	26	32·2	13	6	0·52
Berlin	50	12	37	25	31·5	11	11	1·52
Brussels	43	8	37	24	30·5	13	11	1·13
Nice	57	28	51	37	44·3	14	No rain.	
Genoa	55	32	49	42	45·5	7	3	1·65
Florence	64	25	45	33	39·0	12	6	1·25
Rome	57	29	51	37	43·6	14	7	1·71
Naples	64	30	53	45	49·0	10	9	3·40
Palermo	68	36	60	43	51·4	17	6	1·09
Malta	65	45	60	52	55·7	8	5	1·05
Algiers	72	43	64	51	57·6	13	9	5·05
Biarritz...	64	32	55	41	48·4	15	7	1·74
Lisbon	64	39	56	47	51·6	9	10	3·42

* A day with at least 0·04 in.

The rather prolonged spells of frosty weather which prevailed over the United Kingdom during last month paid only transitory visits to Southern Europe, while Palmero, Malta, Algiers, and Lisbon escaped the frost altogether. The Scilly Islands experienced a like exemption, but over this country generally, and throughout Central Europe, the Low Countries, and the north and east of France the cold was often very severe. Although over the northern half of Italy the wintry rigour was reduced by the proximity of the Mediterranean, the sheltered thermometer descended to the freezing point or below it on nine different nights at Rome and on 16 at Florence. In comparing the temperature at places in the south of these islands with that in Southern Europe it will be observed that the figures at Scilly were almost identical with those at Genoa, while the nights at Scilly (as shown by the mean minimum temperature) were no less than five degrees warmer than those at Nice and Rome, nine degrees warmer than those at Florence, one degree warmer than those at Biarritz, and only just one degree cooler than those at Naples and Palermo. The warmth of the days was, however, far greater at nearly all the resorts on the shores of the Mediterranean, especially at Palermo, Malta, and Algiers. At this last-mentioned place the nights were as mild as the afternoons were at Bournemouth, Bath, and in London, and the days were as warm as the average day in the south of England towards the end of May. Paris, Berlin, and Brussels were all much colder than London and the English Midlands, the mean temperature of the month at enabled to understand why adenoids are so frequently found in association with these deformities; for it is well known that individuals with leptoprosopic heads are more liable to give evidence of the effects of nasal obstruction on account of the narrowness of the nasal and naso-pharyngeal cavities than persons with chamæprosopic heads. Moreover, adenoids and other forms of nasal obstruction are, for some reason, far more common in leptoprosopes than in chamæprosopes. These facts therefore will help to explain how it is that the salient symptom of nasal obstruction (mouth-breathing) is noticed so frequently in conjunction with contracted alveolar arches. It is not, of course, that individuals with chamæprosopic heads enjoy an immunity from adenoids, but the symptoms do not develop in these subjects unless the collection of adenoid tissue in the naso-pharynx (which is indeed present in practically all children) has hypertrophied to a considerable extent."

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> ἄνω ποταμῶν ἱερῶν χωροῦσι παγαί,
> καὶ δίκα καὶ πάντα πάλιν στρέφεται.

We must not be taken to imply that the Welsh scheme which has been put forward is the only solution of the problem but it is certain that the river water-supply at present available will not suffice for the population of 50 years hence. Our views on the matter were set forth at large in a leading article which appeared in THE LANCET of Dec. 14th, 1907.

INFANT MORTALITY IN HUDDERSFIELD.

A STRIKING report by Dr. S. G. Moore, medical officer of health of the borough of Huddersfield, has been published by the borough council. The report shows the result of the systematic work which has been done in Huddersfield with the intention of lowering infant mortality, and the figures for the year 1907 show the conspicuous success which has attended the efforts of Dr. Moore and his authority. During 1907, 2189 births occurred in the borough, and 212 infants less than 12 months old died, giving an infant mortality figure of 97. The records of the department extend back for 31 years, and how very successful the work has been will be perceived when we say that the present figure 97 is not only the lowest on record—the figure for the first time having fallen below 100—but the mean for the *ten preceding* years, 1897 to 1906 inclusive, was 135. *Thus there has been* effected a reduction of 28 per cent. The mean for the three years 1905-06-07 during which the work has been in *progress* is 117, and for the ten years preceding this, 1895 to 1904 inclusive, it was 142. The figures are shown on a chart which accompanies the report and are further summarised as below:—

—	Births registered.	Deaths under one year of age.	Infant mortality figure.	—
1907	2,189	212	97	Reduction 28 per cent.
Preceding 10 years 1897-1906	22,931	3104	135	—
The three years during which special work against infant mortality has been in progress, 1905-06-07	6,746	792	117	Reduction 18 per cent.
Preceding 10 years, 1895-1904	22,681	3215	142	—

Huddersfield, as Dr. Moore points out, is an industrial centre with not less than 25 per cent. of the *female population* at child-bearing ages working in textile factories. It is therefore the more surprising to find the infant mortality figure reduced to a rate comparable with that of the healthiest counties and rural districts. We congratulate all concerned on the result of their labours and hope that other authorities may be stimulated to similar exertions.

HÆMO-PERICARDIUM FROM RUPTURE OF A CORONARY ARTERY.

APART from those cases which are due to injury, nearly all *instances of fatal* hæmo-pericardium are due to the bursting of an aneurysm arising from the heart itself. Very much more rarely is a hæmo-pericardium produced by an aneurysm of the coronary artery. In the present issue of THE LANCET Mr. J. Lougheed Baskin records a case in which a fatal hæmorrhage into the cavity of the pericardium resulted from a gummatous deposit in the wall of the heart involving the left coronary artery about one and a half inches from its origin; the artery had given way but no obvious aneurysmal dilatation was seen. Death in these cases of hæmo-pericardium always results from direct pressure of the effused blood on the heart. As the blood poured out from the left ventricle or *from a coronary* artery will exert almost the same hydrostatic pressure as that present in the left ventricle the pressure in the pericardium will be much greater than that in the intrapericardial portions of the venæ cavæ; so that these are compressed and no blood can enter the heart and syncope follows. The quantity of blood lost has practically nothing to do with the fatal result, for the total amount of blood which can be poured out into a normal pericardium is but small.

THE DEATH OF MR. W. A. SHENSTONE, F.R.S.

THE death of Mr. W. A. Shenstone, F.R.S., will be very widely regretted by chemists and physicists alike. He will be remembered most perhaps for his consummate skill at glass-blowing, which ultimately led the way to the use of pure silica or quartz for purposes of chemical research. Silica vessels are now a commercial quantity, and since this beautiful material resists the action of extreme changes of temperature and is also unaffected by acids it threatens to replace the use of expensive platinum apparatus in many chemical operations. Mr. Shenstone was an able investigator of chemical science and contributed a number of valuable papers to the scientific societies. He was senior science master to Clifton College, Bristol, for 27 years, a post which he held up to the time of his death which took place in Cornwall on Feb. 3rd. He possessed a charming personality which contributed no little to his power as a teacher of principles and practice. His attitude *towards* science is well summed up in a very able *series of essays on* the new physics and chemistry which were published in the *Cornhill Magazine* a year or so ago. "Though science," he wrote, "reveals herself to most of us chiefly through her more obviously useful discoveries and inventions, those who look for them will still find amongst us not a few men and women as ready as any of their predecessors to devote days and nights to hard labour for no other fee than the hope of discovering a new truth, overthrowing an ancient error, or extending in some other way the boundaries of knowledge." Mr. Shenstone was amongst the great labourers of science.

THE RELATION OF ADENOIDS TO PALATAL DEFORMITIES.

IN the course of a suggestive paper in the *Dental Record* for January, Dr. Eugene S. Yonge refers at some length to the interesting question of the relation of adenoids to palatal deformities. The more important theories that have been advanced are briefly recounted, but in his opinion not one of them offers a satisfactory explanation. Some stress is laid on the fact that a large number of patients show deformed arches who are not, and never have been, mouth-breathers, while on the *other* hand such deformities are often entirely absent in those the subjects of well-marked nasal *obstruction. Reference is* made to the frequent association of high arched and contracted palate and associated anomalies in people with *long narrow* faces and to the view held by some that *this* type of face is a departure from the normal and may be hereditary. Dr. Yonge is of the opinion that the *adenoids* and deformed palates are not in causal relationship but are rather due to a common cause, and as an explanation of this frequent association he suggests "that if we assume that the deformities of the palate are principally due to an abnormality, which is of a hereditary or constitutional or even racial character, affecting the structure of the facial bones, we are enabled to understand why these defects may occur *independently* of mouth-breathing and why mouth-breathing of itself does not *tend to* them. We are also quotation here. He says: "The acceptance of the view that under conditions which exist in urban populations, the susceptibility of the individual, and not the exposure to, known cases of phthisis, govern the probability of attack does not of itself negative the theory of the infectivity of tuberculous phthisis. It does, however, raise serious question as to the practicability of reducing the rate of phthisis mortality by efforts to segregate persons suffering from this disease, even if the theory of infection from person to person is accepted as the common way in which susceptible persons are infected. However this may be, it may undoubtedly be stated that our knowledge of the subject at the present time is insufficient to justify the introduction into London of a system of compulsory segregation."

The London statistics of mortality from cancer or malignant disease agree generally with those of other parts of the United Kingdom in that they indicate a continuously increasing fatality from this terrible malady, from the earliest recorded dates to the present time. From a table in the report it appears that whilst in 1851–60 the average loss of life in the metropolis from malignant diseases was equal to 42 in each 100,000 of the population at all ages and of both sexes, in the year 1906 the proportion had risen to 98 in the same number living.

In order to obtain precise information concerning the local incidence of cancer factors have been calculated for correcting as far as possible the rates of mortality for the several sanitary areas of the metropolis; but owing to changes in these areas caused by the London Government Act of 1899 the death-rates since 1900 are alone available for comparative purposes. The average death-rates from cancer in the years 1901–05 are presented in another table which shows that the highest mortality (1·10 per 1000) occurred in the City of London, the lowest rates obtaining in Finsbury and in Greenwich, where they were 0·84 per 1000. In yet another table an attempt is made to ascertain the relation of overcrowding to cancer incidence in various districts of London, the object being to compare the death-rates of sections of the people differently circumstanced socially. But although the numbers dealt with are considerable the differences in the local death-rates, compared according to this method, are less pronounced than might have been expected.

Puerperal fever, under which name are included the deaths from pyæmia and septicæmia occurring in connexion with the puerperal state, was fatal to 187 women in the course of the year 1906, the number notified as suffering from affections of this nature being 298. The subject of puerperal sepsis has come to assume additional interest because of the steps that are now practicable under the Midwives Act of 1902 for diminishing the perils of childbirth. From data in the report it appears that in the year 1906 the number of midwives on the London registers was 2350, less than 8 per cent. of whom are returned as "uncertified." The actual proportion, however, must be greater than this, for the majority of enrolled midwives are not practising. Many of them are engaged as monthly nurses and many more are on the staffs of hospitals. Interesting details are given in the report as to the number of female medical inspectors appointed under the Midwives Act and also as to the duties which they perform. In the administration of this Act in London the authorities appear to have been assiduous.

All cases of puerperal fever where a midwife is known to have been in attendance are investigated. For this purpose early intimation of all cases of puerperal fever is received by telephone from the Metropolitan Asylums Board and weekly lists of deaths from puerperal sepsis are obtained from the Registrar-General. Of the 187 deaths registered as from puerperal fever 68 referred to cases that had not been notified as suffering from that disease; it would therefore appear probable that in spite of the compulsory nature of the Notification Act many cases of puerperal fever, in its wider sense, which do not prove fatal, are never officially notified. Incidentally the investigations under the Act have served to ascertain the proportion of stillbirths to total children born. For the metropolis this is seen to average from 3 to 4 per cent.

(*To be continued.*)

DEATH OF A CENTENARIAN.—Mrs. Honor Coleman, who died recently at Yatton, Somersetshire, celebrated the 106th anniversary of her birth on Feb. 22nd, 1907. The old lady's mother and grandmother were also centenarians.

NOTES UPON HEALTH RESORTS.

ALGECIRAS AND ITS CLIMATE.

By A. W. W. DOWDING, M.D. DURH., M.R.C.P. EDIN.

THE Algeciras-Gibraltar Railway, which has its sea terminus at the quaint old town of Algeciras, Spain, right opposite Gibraltar, and its capital entirely English, has been the means of opening up the neighbouring district not only by its railway and steamer communications but also by means of the new Hotel Reina Cristina, Algeciras, which was built in 1901 and has since been enlarged. The district itself for its climate, scenery, and objects of archæological interest is difficult to surpass, and within three hours by rail is the inland town of Ronda, situated on a lofty plateau about 2400 feet above the sea level and practically surrounded at a distance with a panorama of high mountains. Here the air is very dry and bracing. And the company is building another hotel in conjunction with the Reina Cristina which will be opened shortly.

As regards the climate of Algeciras—the most southerly health resort in Europe—it is milder, warmer, and more equable than that of the Riviera, Algiers, and Morocco. In north latitude 36° 6′ 20″ and in west longitude 5° 20′ 53″ it is practically in the line of latitude with Algiers and Malta and is about 4° north of Madeira and further south than the Riviera. Beautifully situated on the Bay of Gibraltar, the surrounding country is undulating and the soil is light and porous so that the roads soon dry up after rain. Being located near the junction of the Mediterranean and the
Atlantic Ocean at a point where two great continents m
it naturally follows that its climate must be influenced m
or less by each of these elements. The water-supp
excellent, and Algeciras has the reputation of bein
the most healthy towns in Spain.

The following are certain observations taken at
of about 52 feet above the sea level and for an a
years:—

Mean annual barometric pressure ... ...
Mean pressure for the six months (October to Apr
Mean annual temperature in the shade... ...
Mean shade temperature for the six month
to April) ... ...
Absolute minimum temperature ... ...
Mean annual daily range of temperature
Mean relative humidity of the air ...
Annual average rainfall ... ...
Average number of days when fog
Average number of days when ra

Both snow and frost
immediate neighbourhood
along the coast for many
is a thing unknown a
visitors who have tried t
on the Mediterranean t
equable of the lot. East
with slight variations. Fr
range of beautiful hills
Mountains." The E.S.E.
Mediterranean from Gibraltar
summer. During the winter
from the W.S.W. or W.N.W.
year, chiefly in summer and an
winds predominate. Gales a
taking the whole year through t
can be counted on one's fingers. In
the winds are always light and warm.

The rainfall for a warm climate i
generally occurs at intervals bet
September and April inclusive, so that
to August the weather is perfectly dry.
throughout the year is 32 inches, but as
inches fall in 24 hours it will be understood
anything but continuous, and, another thing
proportion descends in the night time the
clear and bright. The consequence is that
commonly called the wet season the sun
the day and the sky generally is cloud
seldom, therefore, that the weather keep
Indeed, for the last few years the
has been the great drawback. This fact

reputation as author and practitioner in his special line of surgery.

A TELEGRAM from the Acting Governor of the Gold Coast, received at the Colonial Office on Jan. 31st, states that on Jan. 30th there were 2 deaths from plague, 14 natives were in hospital, and 19 were isolated.

ANNUAL REPORT FOR 1906 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.[1]

II.

CONTINUING our review of this report, we observe that Sir Shirley Murphy devotes particular attention to the behaviour of the mortality from pulmonary tuberculosis in recent years, especial regard being paid first to the relative prevalence of the disease in different sections of the community; next, to the effect of overcrowding on it fatality; and lastly, to an examination of some current theories concerning the mode of infection by pulmonary tuberculosis and of the several methods suggested for the prevention or suppression of the malady.

In the year 1906 the mortality caused by pulmonary tuberculosis in the metropolis was equal to a rate of 1·44 per 1000 persons living, without reference to age or sex; it was therefore higher than the average rate for England and Wales by 0·29 per 1000. A table in the report shows that in the year under notice pulmonary tuberculosis was not more than half as fatal in London as it had been in the decade 1851–60, the earliest period for which trustworthy records exist. From an interesting diagram we learn that the male death-rate from pulmonary tuberculosis during the last half century has averaged 2·90 per 1000, or almost exactly 1 per 1000 above the female rate. Since the year 1880, however, the rate in both sexes has been constantly below the average, the female rate having apparently declined faster than the male.

Very interesting is the table showing the distribution of fatal pulmonary tuberculosis in the several metropolitan boroughs; it is unquestionably trustworthy, for in its construction care has been taken not only to refer institution deaths to the districts from which the patients originally came but to correct the death-rate of each borough for differences in the age and sex constitution of the living. From the last two columns in the table which show the mortality in the several boroughs as compared with that of the county of London, taken as 1000, we learn that 11 of the 29 boroughs had in 1901–05 an average mortality in excess of the county rate. In the year 1906 this was again the case, the rates in certain boroughs being above the county rates in some instances by from 20 to 70 per cent. In the years 1901–05 pulmonary tuberculosis was most fatal in Holborn, where the corrected rate was 2·58 per 1000, in Southwark 2·40, and in Bethnal Green 2·28 per 1000. As in previous years, Hampstead appears most favourably in the list, the rate there being only 0·82 per 1000, as compared with 1·57 in the county of London.

With respect to the influence of overcrowding in determining the relative fatality from pulmonary tuberculosis, there is a highly instructive table in the present volume, the like of which we should like to see included in the reports of medical officers of health outside the metropolis. This table shows that after making due allowance for age differences among the living, the mortality from pulmonary tuberculosis varies from a rate of 1·1 per 1000 in the least overcrowded sanitary areas to precisely double that rate in the areas where the overcrowding exceeds 27·5 per cent.

Elsewhere in the report comparison is instituted between the death-rate from pulmonary tuberculosis in the new model dwellings built by the County Council and that in London generally. In these dwellings at any rate, it may be presumed that the Council has taken adequate precautions against overcrowding. The figures now available are for one year only and relate to the mortality among not more than 21,000 tenants. Still, as far as they go, they are encouraging, for they indicate a reduction in the mortality from pulmonary tuberculosis of 14 per cent. as compared with that of other dwellers in the metropolis.

As regards statistics of mortality in different social strata of the population we have before commented on the advantage possessed by portions of Ireland over other parts of the United Kingdom. Sir Robert Matheson, the Registrar-General for Ireland, has, for many past years, published rates of mortality among different grades of the Irish people, and, as might be expected, these rates show remarkable disparity. Sir Shirley Murphy evidently appreciates the need for similar means of distinguishing between class and class in London; for, in the present report he presents a table showing the degree in which the dwellers in common lodging houses suffer from pulmonary tuberculosis, in contrast with other inhabitants of the metropolis. Since the year 1902 the administrative control of London common lodging houses has devolved on the County Council; and the medical officer of health has taken pains to inform himself as nearly as practicable concerning the effect of residence in such dwellings on the health of the lodgers. But in this attempt he is met by the difficulty that the mortality from separate diseases cannot satisfactorily be presented in terms of population, because of the extreme variations in the numbers living, from time to time; he therefore prefers to rely on the deaths from specified diseases in proportion to the deaths from all causes. From a table in which this alternative has been adopted we learn that of the total deaths of inmates of common lodging-houses, at ages 25–35 years, 54 per cent. were attributed to pulmonary tuberculosis, as against 40 per cent. in London generally; at ages 35–45 the percentages were 53 and 31 respectively; at ages 45–55 they were 48 and 23; and at ages 55–65 they were 31 and 12; whilst at ages above 65 the proportions were 11 per cent. in common lodging-houses as against 3 per cent. elsewhere in London.

As regards measures either in operation or in contemplation for limiting the prevalence of tuberculous disease, this report contains a section that will amply repay perusal. Abundant evidence is produced to show that there is a growing demand for really effectual methods of dealing with the disease over and above the ordinary expedients of isolation and disinfection usually adopted for the suppression of the acute infectious disorders. A system of voluntary notification of pulmonary tuberculosis obtains in many of the sanitary districts and this is generally followed by disinfection and by visits to the house, with advice as to precautions to be taken by the sufferer. In a few instances compulsory notification, with compulsory removal of advanced cases, has been advocated by medical officers of health. But on this point Sir Shirley Murphy insists, in our opinion, most justly, that the "latter view is more advanced than that which is actually held. It becomes therefore very necessary to examine the grounds for such a demand, which, if fully acted upon, would deprive of their liberty many thousands of persons in London." The current theories concerning infection on the one hand and heredity on the other which have been advanced to account for the incidence of pulmonary tuberculosis are ably discussed in the report. Reference is made to the opinions of Professor Karl Pearson who has specially studied this subject, utilising for this purpose the facts relating to 384 families in which cases of pulmonary tuberculosis had occurred. Professor Pearson found that the number of tuberculous married *persons* who had a tuberculous mate was not sufficiently great to require an appeal to infection in order to account for this number; but what he did find was that the condition which governed the liability to attack was heredity of the diathesis of pulmonary tuberculosis. "A theory of infection," he writes, "does not account for the facts. I am inclined to think that the risks run, especially under urban conditions, are, for tuberculosis as for a number of other infectious diseases, so great that the constitution or diathesis means almost everything for the individual whose life cannot be spent in self-protection; I feel fairly certain that for the artizan class the inheritance factor is far more important than the infection factor, because in a very large proportion of cases it does not lie in the power of the individual to maintain, in the stress of urban life, a wholly safe environment."

The passage in which Sir Shirley Murphy summarises his own conclusions on this important subject is worthy of on such railway, and the railway company are not therefore liable to the surgeon for services rendered to such passenger under a contract so entered into (Cox *v.* The Midland Railway Co., 18 L J. Ex., 65). Nor does the new Workmen's Compensation Act make the master liable for medical attendance on a servant in case of accident. Of course, some masters insure their servants in such a way as to cover medical expenses up to £5 but the law does not impose any obligation on them to do so. Suppose a caretaker of a country house falls downstairs in the absence of the family and is laid up for some weeks with concussion of the brain. A medical man is called in by one of the servants to attend her. Is the master liable? The answer is "No." There is no doubt that as time goes on the provisions of the Workmen's Compensation Act will be extended to cover medical expenses. If the principle of compensation for injuries is once admitted it seems absurd to limit the compensation to particular employments, as was the case before 1906, and if compensation has now to be paid to all servants for accidents it seems anomalous not to make the master liable for medical expenses. In the above case supposed the caretaker might have become unconscious and seriously ill for four or five days, but if she recovered and was able to do her work again by the thirteenth day she would only be entitled to recover compensation for one week which in no case can exceed £1 a week and yet the medical expenses she had to pay may have far exceeded that amount.

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[1] The first notice of this report appeared in THE LANCET of Jan. 25th, 1908, p. 250.

The Health and Safety of Young Children.

Several cases affecting the health and the lives of little children have recently been reported in the newspapers showing a strong intention on the part of those administering the law to protect this helpless section of the community from the various dangers always threatening it. In the recent bitterly cold weather Mr. Denman had before him at Marlborough-street a man, 30 years of age, who was charged with exposing his son, aged four and a half years, in a way likely to cause injury to his health. The child was placed on an organ which his father and another man were wheeling about for the purpose of obtaining money. Mr. Denman called attention to the number of children thus made use of in severe weather for the iniquitous purpose of extracting alms from kind-hearted but mistaken persons and to the law which enabled him to punish the conduct of adults who so subjected them to danger and suffering. He expressed his determination to make the case an example and a warning to parents and others and sent the defendant to prison for a month with hard labour. A street organ formed the means by which the male defendant in another case "earned" his living. He and his wife were charged with neglecting four children whose ages ranged from six years to 14 months. Their plan was not to take them out in the streets but to leave them locked up without food, fire, or sufficient clothing. A story was told apparently involving conjugal infidelity on the part of both parents, and there was an allegation of fear of her husband on the part of the wife, but the learned magistrate looked on the cruelty proved as sufficiently serious to warrant the infliction of sentences of six months' imprisonment on the man and of four months on the woman. At Bradford James Taylor, a labourer in the employment of the corporation, had beaten with shocking brutality his little girl, seven years of age, and his son, 13 years of age, besides nearly strangling the latter. He received sentences amounting to 12 months' hard labour, accompanied by the expression of the opinion of the chairman of the bench that he was a dastardly blackguard. In the first case mentioned above the police are to be congratulated upon the vigilance of a constable; in the second and third the National Society for the Prevention of Cruelty to Children conducted the prosecution and obtained well-deserved success. Among recent inquests showing the dangers which beset children may be noted one at St. Pancras at which it was proved that Daisy Bell, six years of age, owed her death to her flannelette nightdress catching fire at a grate not protected by any fireguard. Mr. W. Schröder, the coroner, called attention to the Bill which proposes to make the omission to provide a fireguard punishable as criminal neglect where a child has died in consequence and expressed a hope that the measure might be reintroduced with success during the coming session. At another inquest held at Kingston it was proved that a little girl, aged eight weeks, had been fed on boiled bread when her mother found that the child would not take the breast. The body of the infant thus starved to death weighed 5½ pounds and the coroner, Mr. Michael H. Taylor, after referring to the number of deaths of children from malnutrition as "appalling," expressed the wish that girls might be taught at school more that would be useful to them in domestic life, even if they learnt less about other subjects of a more strictly scholastic character. While the sympathy of all is rightly invoked for children wantonly neglected and ill-treated allusion may be made to the observations of Sir Horatio Davies uttered recently at the Guildhall police court in connexion with the generous efforts of strangers to aid children and others whose cases are made prominent through the evidence of their destitution given in the law courts. In thanking the press and the public on behalf of a case of genuine poverty and suffering, he pointed out with reference to it and to that of several children then before him who had been found wandering in the City that there was a risk of encouraging evilly disposed parents to send out their children to beg with a view to their being brought to the police court and so exciting sympathy. Two other recent cases serve to illustrate the difficulties against which the National Society for the Prevention of Cruelty to Children and those who sympathise with its efforts have to contend where deliberate cruelty can hardly be attributed to the parents but rather physical and mental incapacity to fulfil their duties. In the first instance the mother of two children of the respective ages of six and three years was said to be blind and quite incapable of cleansing or taking care of them. She spent her days sitting about in the streets, presumably in order to excite sympathy and to collect alms, and it was further stated that her husband, a man 62 years of age, ill-treated her and refused to look after his offspring. Summoned at the North London police court he was sentenced to three months' hard labour for his neglect. In the other case an inquest was held upon an infant, three months old, one of twins, who, according to the evidence of Dr. Henry S. Souttar, house physician at the London Hospital, had been starved to death by the mother's neglect. The other child present at the inquest in his mother's arms was shown to the coroner, Mr. Wynne Baxter, who expressed horror at his condition, and finding the mother's answers to his questions unsatisfactory, pursued his inquiries with regard to her until he discovered that she had recently been an inmate of Claybury Asylum. He expressed the opinion that she was on the borderland between sanity and insanity and expressed his intention of communicating with the National Society for the Prevention of Cruelty to Children.

FIVE YEARS' EXPERIENCE OF A RECEPTION HOUSE FOR RECENT CASES OF INSANITY.

BY HAMILTON C. MARR, M.D. GLASG., F.F.P.S. GLASG.,
MEDICAL SUPERINTENDENT, GLASGOW DISTRICT ASYLUM, WOODILEE, LENZIE; MACKINTOSH LECTURER ON INSANITY, ST. MUNGO'S COLLEGE, GLASGOW.

THE question of the provision of increased accommodation at Woodilee Asylum was brought before the Glasgow District Lunacy Board in the latter part of the year 1900. In a report submitted to the board it was urged, among other considerations, that the required accommodation should embrace (1) a reception house; (2) a sanatorium for the consumptive insane; and (3) a nurses' home. This accommodation the board decided to provide. The reception house and sanatorium, which are similar in design, were opened for the admission of patients on Dec. 25th, 1902 and the nurses' home for 110 nurses was opened on Sept. 15th, 1904. Of the two former buildings I confine my description to the reception house as my main object in writing this paper is to give an account of the work that has been and is being done in it.

The reception house is situated about a quarter of a mile from the main administrative centre and is about 200 feet above sea level. It is, in some respects, unique, and has been the object of much interest during the five years in which it has been in operation. It presents those special features: (1) its construction is that of an ordinary hospital; (2) the provision of verandahs permits of the advantages of the open-air treatment; (3) all newly admitted patients are received into it; (4) patients whose illness is of short duration are allowed to remain and thus avoid the necessity of their being sent to the main asylum; and (5) the nursing is mainly done by women. The building consists of three reputation as author and practitioner in his special line of surgery.

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The passage in which Sir Shirley Murphy summarises his own conclusions on this important subject is worthy of blocks connected to an administrative building by open corridors. The blocks are one storey in height. The administrative department has a second storey containing bedrooms for nurses. The structure of the building is of corrugated iron and wood with a brick foundation; the inner walls are lined with "compo" boarding and are painted in distemper. The buildings are arranged one on each side and one behind the administrative block. All the wards face the south. The block behind the administrative department consists of two wards, each containing 12 beds. The total number of beds in the reception house is 62, and the cubic space allowed for each is 1500 cubic feet. The two other buildings have each one ward of 12 beds, one ward of six beds, and three single rooms. All the wards and rooms are provided with French windows and round the sides of each block there are verandahs. The beds can be wheeled from the wards to the verandahs with the greatest ease. Special provision has been made against fire. There are no fires in any of the wards and the heating is by water under a low pressure. Each ward has attached to it a bathroom and the necessary lavatory and water-closet accommodation. All the baths are so arranged that they can be used for the electrical treatment of the patients.

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[1] The first notice of this report appeared in THE LANCET of Jan. 25th, 1908, p. 250.

Reference has been made to the upper storey of the administrative block in which nurses' rooms are situated. The lower storey consists of a reception room, bathroom, and examination room for newly admitted cases, a room well furnished with the latest electric therapeutic apparatus, medical officers' quarters, kitchen, scullery, and dining hall for the staff. The verandahs, which are on the south, east, and west sides of the wards, were purposely introduced. For several years previous to the erection of the reception house and sanatorium newly admitted and phthisical cases were kept as much as possible in the open air with manifest advantage. It was thought that the extensive use of verandahs would, in the prevalent climatic conditions, afford the greatest facility for carrying out the open-air treatment. In practice this has actually occurred. Since the opening of the reception house the freest use of open-air treatment has been employed, not only for the consumptive but for all the newly admitted cases.

1425 patients (737 males and 688 females) have been admitted since the reception house was opened. It has not been necessary, on account of inability to deal with them, to admit any of the patients to the main asylum or remove them shortly after admission from the reception house to the asylum. This is more remarkable in view of the fact that the reception house does not possess the means of restraint or seclusion. No day nurse has keys, and the ward doors are open all day. The windows are open night and day. All patients on admission are bathed and subsequently examined by the medical officer and by medical clerks who are senior students of medicine. The patients are kept in bed until their condition has been diagnosed. As a rule they are then removed to the respective buildings in the asylum which are most suited for their condition; thus, an infirm or senile case is sent to the infirmary of the main asylum; the phthisical patient is sent to the sanatorium; chronic cases with fairly good physical health are, in the first place, admitted to the wards of the main asylum where they are placed at occupations suited for their condition both of body and mind, and from there they are drafted to the farms where, if they do well, they may ultimately be boarded out in the country. In this way, from the point of classification, the reception house has many advantages. From the points of diagnosis and treatment the conditions are, in my mind, ideal. No patient is removed until a complete report of the physical and mental characteristics of his case is detailed in the case-books of the asylum and the course of care and treatment decided. Those patients who have a likelihood of early recovery are detained in the reception house until convalescence has been established. The number of patients who have been discharged recovered in this way is 216 (108 males and 108 females). There are three bedrooms in each of the southern blocks which are used in several ways. Any patient who is very excited and restless is placed in one of them with a nurse. The beneficial effects of this treatment have often been noticed. The rooms are also used for the moribund, and when available one is given as a privilege to a convalescent. These rooms are bright and attractive and so situated as to give the maximum amount of peace and quietness.

The nursing of the patients is mainly done by women. I have seen nothing to prevent the whole of the nursing being done by women, but I think this would be objectionable because we have not yet reached, nor shall we probably reach, the stage when all the patients in asylums will be nursed by women. I think it only fair to give male attendants, who have charge of working parties of patients, all facilities in the early stages of their asylum career for acquiring a sound knowledge of their profession, and adapting this knowledge to the advantage of the patients of whom they may ultimately be in charge at outdoor work. In the reception house I have followed the practice I have been accustomed to in the asylum hospitals for men. Two male attendants are regularly on day duty and two on night duty. The object I have in mind is thus acquired. Many objections to women nursing male patients, especially newly admitted male patients, have been urged. None of these will be found in practice, though experience has taught me to exercise the greatest care in the selection of nurses to male patients. This has reference solely to matters of staff discipline and does not affect primarily the welfare of the patients.

The following are some extracts from reports by His Majesty's Commissioners in Lunacy :—

By Dr. JOHN FRASER. *5th May, 1903.*—The reception house produced a most favourable impression. Its arrangements are devoid of any asylum features, being identical in every respect with those of a small general hospital. It is staffed by nurses and is under the charge of a trained hospital nurse. Every patient on admission is treated in this house and the length of residence there depends on the mental condition. The comfort, rest, skilful treatment, and good nursing which newly admitted patients receive in this house are most favourable to the early recovery of the curable and to the well-being of those who are incurable.

14th April, 1904.—The reception house and convalescent wards constitute a valuable and important advance in the treatment and classification of the patients.

By Dr. JOHN MACPHERSON. *15th Nov., 1904.*—The arrangements for the reception, nursing, and medical treatment of newly admitted cases in this asylum are now probably unsurpassed by those in any institution in this country. The facilities for the clinical investigation and the medical treatment of nervous diseases have been provided by the district board with unstinted liberality. It is right to add that Dr. Marr and his large staff of assistants are sedulously observing facts and carefully recording them, and that a mass of clinical material of great value is being gradually accumulated in the medical records of the asylum.

Woodilee Asylum, Lenzie.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8781 births and 5680 deaths were registered during the week ending Feb. 1st. The mean annual rate of mortality in these towns, which had been equal to 20·0 and 18·5 in the two preceding weeks, further declined to 18·2 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns averaged 18·6 per 1000; the rate during the same period in London did not exceed 18·0. The lowest annual death-rates in the 76 towns last week were 7·3 in Hornsey, 7·6 in Smethwick, 8·7 in Northampton, and 9·7 in Burton-on-Trent; the rates in the other towns ranged upwards to 26·4 in Newport, 26·7 in Liverpool, 27·7 in Merthyr Tydfil, and 29·3 in Warrington. The rate in London last week did not exceed 17·2. The 5680 deaths registered in the 76 towns during the week under notice showed a further decline of 69 from the numbers returned in the two preceding weeks, and included 441 which were referred to the principal epidemic diseases, against 501 and 409 in the two previous weeks; of these, 190 resulted from whooping-cough, 83 from measles, 66 from diphtheria, 46 from diarrhœa, 35 from scarlet fever, 21 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·4 per 1000, the rate from the same diseases in London being 1·3. No death from any of these epidemic diseases was registered last week in Wolverhampton, Huddersfield, Wigan, Hornsey, or in six other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 3·1 in Bootle, in Bolton, and in Aston Manor, and 7·3 in Warrington. The fatal cases of whooping-cough in the 76 towns, which had been 164 and 154 in the two preceding weeks, further rose last week to 190; they caused annual death-rates equal to 2·3 per 1000 in Bootle and in South Shields, 2·5 in Aston Manor and in Bolton, and 5·1 in Warrington. The 83 deaths from measles showed a further decline from the numbers in the three previous the uncommonly large amount of sunshine which is one of the outstanding features of the climate of Algeciras and its neighbourhood. Taking the number of hours of sunshine per annum it averages 3000, or fully 1000 more than can be practically had at the very best English health resorts. All this is very important to visitors who have to leave their own countries to escape the rigours of the winter and who seek after warmth and sunshine. The best months for invalids are from October to June. The mean winter temperature is 55° F. in the shade. The air is dry and bracing and there are no sudden changes of temperature.

The English Hotel Reina Cristina, with its 22 acres of beautiful grounds outside the town, is an ideal winter place for delicate people and invalids able to move about. There are also the Hotel Anglo Hispano and smaller Spanish hotels and a few furnished houses and flats to be had for the season, but there is a lack of good accommodation for people of moderate means. All kinds of outdoor sports and amusements can be obtained in the neighbourhood, but except at Gibraltar one has to be satisfied with a quiet country life free from excitement.

From my experience of Algeciras since 1904 I am convinced that in many respects its climate is unequalled in Europe. I have noted marked improvement in cases of neuritis, insomnia, and other nerve troubles. Also gouty, cardiac, bronchial, and kidney cases as a rule are greatly benefited by residence in Algeciras. It is excellent also simply for a rest cure. Algeciras is not only a health resort but it is a convenient centre for visiting the most important and interesting places in Andalusia and Morocco, such as Ronda, Granada, Seville, and Cordoba on the one hand, and Tangier and Ceuta on the other. A splendid service of passenger steamers ply between it and Gibraltar daily (six miles). Gibraltar as a sea port if nothing more is one of the most convenient in Europe for visitors, as the liners of the P. and O., Orient, Norddeutscher Lloyd, White Star, Dominion, Cunard, and other great shipping companies call weekly, both on their outward and inward cruises, so that passengers can get to or from England and America on the one hand, and from and to Algiers, Marseilles, Genoa, Naples, and Egypt on the other, with the greatest ease and comfort. Visitors can either find their way to Algeciras overland by the express trains or by the P. and O. and other steamers in about four days from London and three days from Southampton.

Algeciras.

MEDICINE AND THE LAW.

Kissing the Book.

IN a recent appeal to the Divisional Court against a judgment delivered in the Brompton county court a new and curious point was raised with regard to the taking of the oath in the usual form by kissing a Testament. For this reason we refer again to a topic which has been so much discussed already in our columns and elsewhere. A medical man called as a witness had refused on sanitary grounds to kiss the Testament provided and had also objected to taking the oath in the Scottish form on the ground that he was a member of the Church of England. He had, however, produced a Testament on which he was willing to be sworn but the county-court judge had refused to allow him to avail himself of it, saying that he would not permit the oath to be taken upon any book except the one in ordinary use in the court. As a result the witness was not sworn and his evidence was lost to the party on whose behalf he had been called. Argument took place on the question whether the judge had decided wrongly in this matter and it was urged on behalf of the appellant that there was no suggestion that the Testament produced was not a perfect copy. This was in reply to a suggestion by Mr. Justice Phillimore that there were persons who would consider an oath less binding if it was taken upon a Testament not complete in every respect or in some other irregular manner. It was further argued by counsel that all that was necessary was that the judge should be satisfied that the Testament was one regarded by the witness as imparting a binding nature to his oath and that there was no legal obligation to use a volume provided by the court for the purpose and no other. Mr. Justice Phillimore is reported as having said that there could not be a new trial "because of a silly wrangle on the part of the doctor." It was his view that the question involved a matter of the discipline of the court, although the county court judge might have been wiser to admit the evidence, and the appeal was eventually dismissed. The objection raised to the Scottish form, which is to be administered without question to any who may prefer it, is not very easy to follow, but at the same time it seems highly unreasonable that a witness in the position of a medical practitioner who chooses to provide his own Testament should not be allowed to be sworn upon it. To suggest that he would be likely to commit perjury, solacing his conscience with the knowledge that the volume was defective and so was not a Testament, is little short of absurd.

Is a Master Liable for Medical Attendance on Servants?

The question of the liability of a master for medical attendance on his servants is one of considerable importance to the medical profession. A master is not bound to provide medical assistance for his servant but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof, nor because the illness of the servant has arisen from an accident met with in the master's service. Thus where a servant who had been hired at the yearly wages of £3 10*s.* and victuals had his arm broken while driving his master's team, and was carried to his mother's house and attended by his master's surgeon, who was accidentally passing such mother's house at the time and was called in, it was held in Wennall *v.* Adney (3 B. & P. 247) that the surgeon could recover nothing from the master on an implied promise to pay for the attendance. Where such accidents take place the parish officers are bound to assist and the law will so far raise an implied contract against them as to enable any person who affords that immediate assistance which the necessity of the case usually requires to recover against them the amount of money expended. So in all cases where a servant falls ill and is unable to pay for necessary medical assistance the parish is bound to supply such assistance, although the servant may not have previously to his illness received or stood in need of parish relief. In Newly *v.* Wiltshire (2 Esp. 739) the defendant, a farmer, sent his wagon to Cambridge, and in returning a boy who had been sent with it fell from the shafts and broke his leg. The boy could not be removed out of the parish where the accident happened on account of the danger which it might occasion. The plaintiff was overseer of the parish where the accident happened and took the charge of getting the boy cured upon himself. It was necessary to amputate the leg and the overseer expended in and about the cure £32. Afterwards the boy served the remainder of the year with his master and the action was brought to recover from the defendant the expenses of the boy's cure. Lord Mansfield, Chief Justice, said: "I do not applaud the humanity of the master in this case; he does not inquire after his servant for six weeks after the accident; and when he does he passes on the other side. I think, in general, a master ought to maintain his servants and take care of them in sickness; but the question now is, What is the law? There is, in point of law, no action against the master to compel him to repay the parish for the cure of his servant; no authority whatsoever has been cited; and it seems to me that it cannot be. The parish is bound to take care of accidents." And Mr. Justice Heath, in Wennall *v.* Adney, said: "I am perfectly sure it is more for the advantage of servants that the legal claim for such assistances should be against the parish officers rather than against their masters, for the situation of many masters who are obliged to keep servants is not such as to enable them to afford sufficient assistance in cases of serious illness." Where, however, a father left his children under the care of servants, in a house at some distance from his own, and one of such servants was attacked by illness, which was caused by suckling one of the children, and called in a medical man who was not known to her master to attend her, and where the master's wife knew of such attendance and expressed no disapprobation, and, after this, the master sent his own surgeon to see such servant, it was held in Cooper *v.* Phillips (4 C. & P. 584) that the surgeon who had been originally called in by the servant could recover the amount of his bill from the master. A master is, however, bound to provide an apprentice with proper medicines and medical attendance (R. *v.* Smith, 8 C. & P. 153). It is not incident to the employment of a guard or the superintendent of a station of a railway to enter into a contract with a surgeon to attend a passenger injured by an accident

Indian Medical Service.

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The Royal Navy List.[1]

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Correspondence.

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Sir,—Sir James Barr affects to think that in agreeing to accept the term "pulmonary traction" and to substitute for my hypothetical case of fibroid phthisis with non-adherent pleuræ an actual one with adherent pleuræ I have made important admissions. This is a little ungallant of him, as these concessions were for the purpose of humouring Sir James Barr and with the full knowledge that they did not affect one way or the other the main issue between us, which is whether it is, or is not, necessary for the student of pulmonary physics to keep separate in his mind the conception of pulmonary tautness and that of pulmonary elasticity. I may at once say that after doing my best to get at Sir James Barr's meaning I do not find that he advances in his last letter a single valid argument against any of the statements made in my two previous letters. I shall once more endeavour to convince him that my contentions are as easy of proof as they are simple.

I, of course, recognise that the factor of resistance is an essential ingredient in our conception of pulmonary elasticity, that the lungs cannot be made to manifest their elasticity as regards a stretching force without being stretched, and that when they are stretched they pull on the visceral pleura and so exert traction on the circum-pulmonary structures; but it is not by virtue of their elasticity that the lungs exert this traction but by virtue of their tautness. It is quite true, as Sir James Barr insists, that the elasticity of the lungs enables them to retain their tautness and thus to exercise a continuous traction during the entire respiratory cycle, and I am ready to admit that this is a prime function of pulmonary elasticity, but we have no more right to say that the elasticity causes the traction than we have to say that the elasticity in the hangman's rope causes the death of the condemned man, or that the elasticity of the traces attached to a waggon causes the waggon to be pulled along.

Even Dr. D. W. Samways, for whose support, though qualified, I am grateful, fails, eminent physicist though he is, to make the necessary distinction between tautness and elasticity. "Consider," he writes, "the thorax and the respiratory muscles at rest. The lungs remain stretched; they support by their elastic recoil a certain fraction of atmospheric pressure to which the intrapleural space (if space it may be called) is not subjected in consequence. In that sense, as Sir James Barr states, 'there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs.'" I submit that the negative pressure at this moment when the chest is kept fixed and when we may assume the intrapulmonary pressure to equal the extra-corporeal pressure is due to the tautness of the pulmonary tissue pure and simple and that the factor of "elasticity" or "elastic recoil" has nothing to do with it. Let us for argument's sake suppose the lungs in the case in question suddenly to be rendered perfectly non-elastic, their tautness, however, remaining unaltered. In such a case the negative pressure in the pleuræ produced by pulmonary traction would undergo no change. Is it not therefore evident that we must keep the idea of pulmonary tautness and that of pulmonary elasticity distinct? I shall presently show that this is not merely theoretically necessary but that in actual life it is possible to get a great increase in pulmonary tautness and a corresponding augmentation of pulmonary traction though pulmonary elasticity be considerably subnormal.

But first a word as to the factors which determine "pulmonary traction." They are two—pulmonary tautness and intrapulmonary air pressure. Pulmonary traction varies directly with the one and indirectly with the other. These two factors are not only distinct but may at one and the same time work in opposite directions. Thus if at the end of a deep inspiration when pulmonary tautness is at the maximum a powerful expiratory effort be made with closed glottis, the increment in intrapulmonary pressure thus produced more than obliterates the traction effect of pulmonary tautness, and consequently the lungs no longer exert traction upon, but actually press against, the surrounding parts. Contrariwise, if at the end of a deep expiration, when the pulmonary tissue is relaxed and the lungs cease to exercise traction, a powerful inspiratory effort be made with closed glottis, the greatly lowered intra-pulmonary pressure thus effected will give rise to considerable pulmonary traction.

Pulmonary tautness then plays an important part in determining pulmonary traction, the two tending to rise and fall together. Pulmonary tautness, however, bears no constant relation to pulmonary elasticity. I shall prove this proposition by reference to two diseases—hypertrophous emphysema and fibroid phthisis. Dr. Samways remarks on the fact that the elastic tissue of the lung "strangely chooses from birth onwards never to assume the unstretched conditions." This stretched condition of the pulmonary tissue is effected by the inspiratory muscles. As I have elsewhere pointed out, the inspiratory muscles are throughout life ever on the watch to maintain pulmonary tautness at a certain mean level, with the object of maintaining a constant suction or (as Sir James Barr prefers to call it) "traction" on the heart, and thus facilitating diastole; the inspiratory muscles, in fact, play a considerable part in effecting cardiac diastole—constitute, in fact, an important diastolic force. Now let us take a simple uncomplicated case of hypertrophous emphysema insidiously coming on, as it so frequently does, without any bronchitis or cough about middle life. The lungs gradually lose their elasticity much in the same way as the skin loses its elasticity. Suppose, now, the mean size of the chest to remain the same; it is obvious that the tautness of the lungs will fall below the normal and that there will be a corresponding fall in pulmonary traction. But the mean size of the chest does not remain the same. The ever-watchful inspiratory muscles, in obedience to the physiological necessity just referred to, cause an increase in mean thoracic capacity and thus tighten the pulmonary tissue up to the normal, much as the violinist is compelled from time to time to tighten up the strings of his instrument. And thus, as the pulmonary tissue loses in elasticity with every advancing month and year, the thorax is made to increase in size and for a long time *the tautness of the pulmonary tissue, in spite of steadily diminishing elasticity, is kept at the normal and with it the resulting pulmonary traction* until at length a point is reached at which the increase in the size of the thorax can no longer keep pace

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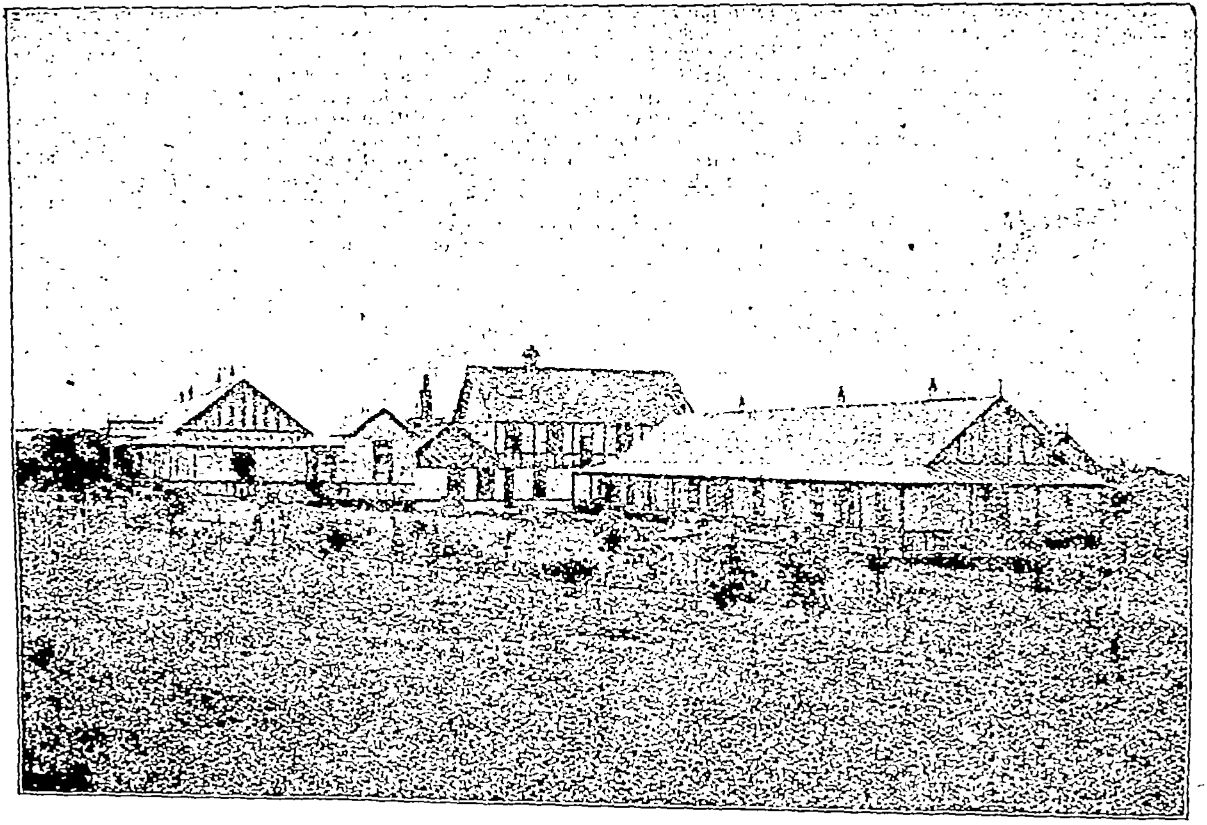

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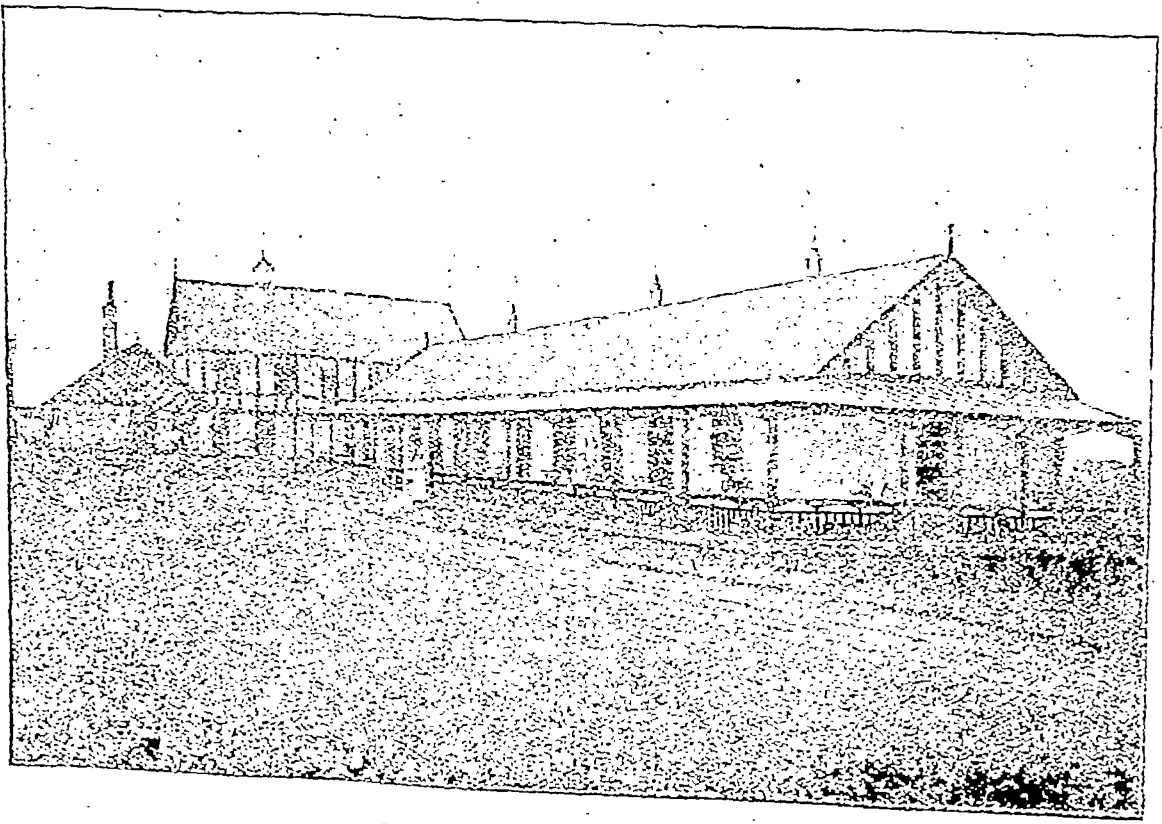

FIG. 2.—Open-air treatment of recent admissions.

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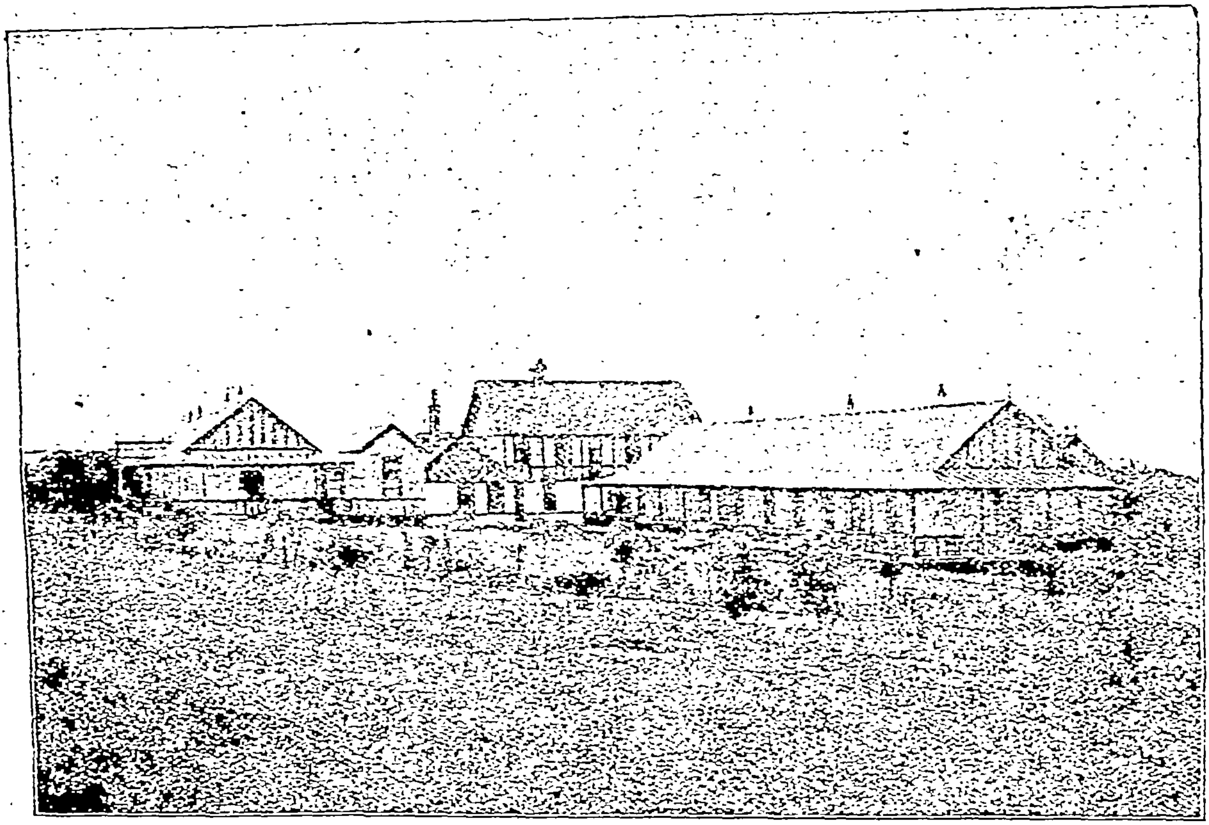

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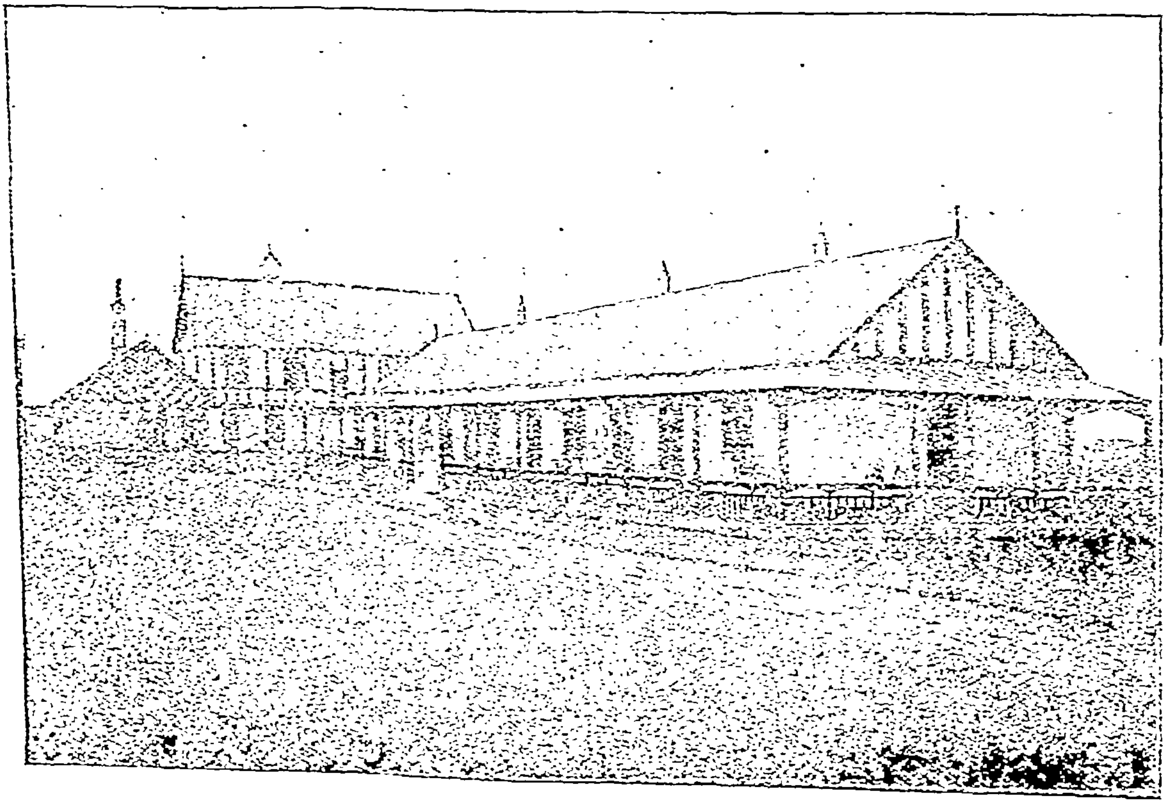

FIG. 2.—Open-air treatment of recent admissions.

INDIAN MEDICAL SERVICE.

The result of the January examination was announced on Feb. 1st. There were 58 candidates, of whom 51 ultimately entered for the examination; of these, 48 qualified, the first 16 being admitted as lieutenants-on-probation, while one withdrew during the examination. The names of the successful candidates, with the marks obtained by each out of a possible maximum of 5100, are given below:—

Name.	Marks.	Name.	Marks.
W. E. Brierley	3988	F. R. Coppinger	3610
R. Knowles	3962	A. de C. C. Charles	3575
J. B. Lapsley	3796	J. W. Barnett...	3574
J. A. Shorten	3722	F. Stevenson	3554
R. B. S. Sewell	3680	S. H. West	3534
W. L. Watson	3652	Madan Lal Puri	3506
C. H. Fielding	3627	Satya Charan Pal	3501
W. J. Simpson	3621	R. S. Townsend	3483

THE ROYAL NAVY LIST.[1]

This most excellent handbook has now been before the public for more than 30 years and each year demonstrates the care with which the book is compiled while everything is done to facilitate ready reference. Over 200 pages are devoted to the record of the war and meritorious service of officers both active and retired, and there is a complete list of ships of the Royal Navy with details relating to each ship. Under the heading of the "Naval Recorder" are an article on the current history of the Royal Navy, a list of the commissions and services of first- and second-class ships on the active list, a list of the fleets and squadrons in commission since 1878, and a chronological table of notable events from the year 1219 to the present time. A valuable feature of the Navy List is a bibliography of naval literature. The book should find a place in the library of everyone who is interested in our first line of defence.

Correspondence.

"Audi alteram partem."

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—Sir James Barr affects to think that in agreeing to accept the term "pulmonary traction" and to substitute for my hypothetical case of fibroid phthisis with non-adherent pleuræ an actual one with adherent pleuræ *I have made* important admissions. This is a little ungallant of him, as these concessions were for the purpose of humouring Sir James Barr and with the full knowledge that they did not affect one way or the other the main issue between us, which is whether it is, or is not, necessary for the student of pulmonary physics to keep separate in his mind the conception of pulmonary tautness and that of pulmonary elasticity. I may at once say that after doing my best to get at Sir James Barr's meaning I do not find that he advances in his last letter a single valid argument *against* any of the statements made in my two previous letters. I shall once more endeavour to convince him that my contentions are as easy of proof as they are simple.

I, of course, recognise that the factor of resistance is an essential ingredient *in our conception of* pulmonary elasticity, that the lungs cannot be made to manifest their elasticity as regards a stretching force without being *stretched*, and that when they are stretched they pull on the visceral pleura and so exert traction on the circum-pulmonary structures; but *it is not* by virtue of their elasticity that the lungs exert this traction but by virtue of their tautness. It is quite true, as Sir James Barr insists, that the elasticity of the lungs enables them to retain their tautness and thus to exercise a continuous traction during the entire respiratory cycle, and I am ready to admit that this is a prime function of pulmonary elasticity, but we have no more right to say that the elasticity causes the *traction* than we have to say that the elasticity in the hangman's rope causes the death of the condemned man, or that the elasticity of the traces attached to a waggon causes the waggon to be pulled along.

Even Dr. D. W. Samways, for whose support, though qualified, I am grateful, fails, eminent physicist though he is, to make the necessary distinction between tautness and elasticity. "Consider," he writes, "the thorax and the respiratory muscles at rest. The lungs remain stretched; they support by their elastic recoil a certain fraction of atmospheric pressure to which the intrapleural *space* (if *space* it *may* be called) is not subjected in consequence. In that sense, as Sir James Barr states, 'there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs.'" I submit that the negative pressure at this moment when the chest is kept fixed and when we may assume the intrapulmonary pressure to equal the extra-corporeal pressure is due to the tautness of the pulmonary tissue pure and simple and that the factor of "elasticity" or "elastic recoil" has nothing to do with it. Let us for argument's sake *suppose the lungs in the case* in question suddenly to be rendered perfectly non-elastic, their tautness, however, remaining unaltered. In such a case the negative pressure in the pleuræ produced by pulmonary traction would undergo no change. Is it not therefore evident that we must keep the idea of pulmonary tautness and that of pulmonary elasticity distinct? I shall presently show that this is not merely theoretically necessary but that in actual life it is possible to get a great increase in pulmonary tautness and a corresponding augmentation of pulmonary *traction though* pulmonary *elasticity* be considerably subnormal.

But first a word as to the factors which determine "pulmonary traction." They are two—pulmonary tautness and intrapulmonary air pressure. Pulmonary traction varies directly with the one and indirectly with the other. These two factors are not only distinct but may at one and the same time work in opposite directions. Thus if at the *end of* a deep inspiration when pulmonary tautness is at the maximum a powerful expiratory effort be made with closed *glottis, the increment* in *intrapulmonary* pressure thus produced more than obliterates the traction effect of pulmonary tautness, and consequently the lungs no longer exert traction upon, but actually press against, the surrounding parts. Contrariwise, if at the end of a deep expiration, when the pulmonary tissue is relaxed and the lungs cease to exercise traction, a powerful inspiratory effort be made with closed glottis, the *greatly lowered intra-pulmonary pressure* thus effected will give rise to considerable pulmonary traction.

Pulmonary tautness then plays an important part in determining pulmonary traction, the two tending to rise and fall together. Pulmonary tautness, however, bears no constant relation to pulmonary elasticity. I shall prove this proposition by reference to two diseases—hypertrophous emphysema and fibroid phthisis. Dr. Samways remarks *on* the fact that the elastic tissue of the lung "strangely chooses from birth onwards never to assume the unstretched *conditions.*" *This stretched condition of* the pulmonary tissue is effected by the inspiratory muscles. As I have elsewhere pointed out, the inspiratory muscles are throughout life ever on the watch to maintain pulmonary tautness at a certain mean level, with the object of maintaining a constant suction or (as Sir James Barr prefers to call it) "traction" on the heart, and thus facilitating diastole; the *inspiratory muscles, in fact, play* a considerable part in effecting cardiac diastole—constitute, in fact, an important diastolic force. Now let us take a simple uncomplicated case of hypertrophous emphysema insidiously coming on, as it so frequently does, without any bronchitis *or cough about middle life.* The lungs gradually lose their elasticity much in the same way as the skin loses its elasticity. Suppose, now, the *mean size of the* chest to remain the same; it is obvious that the tautness of the lungs will fall below the normal and that there will be a corresponding fall in pulmonary traction. But the mean size of the chest does not remain the same. The ever-watchful inspiratory muscles, in obedience to the physiological necessity just referred *to*, cause an increase in mean thoracic capacity and *thus tighten* the pulmonary tissue up to the normal, much as the violinist is compelled from time to time to tighten up the strings of his instrument. And thus, as the pulmonary tissue loses in elasticity with every advancing month and year, the *thorax* is *made to* increase in size and for a long time *the tautness of the pulmonary tissue, in spite of steadily diminishing elasticity, is kept at the normal and with it the resulting pulmonary traction* until at length a point is reached at which the increase in the size of the thorax can no longer keep pace weeks; this disease, however, caused a death-rate of 1·3 in Southampton, 1·7 in Barrow-in-Furness, 1·8 in York, and 2·0 in Willesden. The 66 deaths referred to diphtheria, on the other hand, showed an increase upon recent weekly numbers, and included 24 in London, three in Liverpool, three in Manchester, three in Reading, and two in Bury; these deaths in the two last mentioned were equal to an annual rate of 1·9 and 1·8 per 1000 respectively. The 46 deaths attributed to diarrhœa showed a slight increase, whereas the fatal cases of scarlet fever had slightly declined; the highest rates from scarlet fever last week were 1·1 in St. Helens and 1·5 in Warrington. The 21 deaths referred to "fever" were fewer than in any recent week; four, however, occurred in Birmingham, four in Manchester, and two in Portsmouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the eight preceding weeks from 5581 to 4044, had further fallen to 3913 on Feb. 1st; during the week ending on that day 405 new cases were admitted to these hospitals, against 469 and 360 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 499 and 455 in the two preceding weeks, further declined to 432 in the week under notice, but exceeded by 35 the corrected average number in the corresponding week of the five years 1903–07. The causes of 54, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Manchester, Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 45 smaller towns; and the causes of all but one of the 1584 deaths in London were duly certified. No fewer than ten of the causes of death in Birmingham, eight in Liverpool, four in South Shields, and three in Warrington were uncertified.

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[1] The Royal Navy List and Naval Recorder, No. 121, January, 1908. Whitherby and Co., 326, High Holborn, London, W.C., and 4, Newman's-court, Cornhill, London, E.C.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 24·3 and 22·2 per 1000 in the two preceding weeks, was 22·3 in the week ending Feb. 1st, and exceeded by 4·1 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 17·6 and 17·9 in Dundee and Aberdeen to 23·9 in Glasgow and 25·4 in Greenock. The 785 deaths in these eight towns exceeded by three the number in the previous week, and included 123 which were referred to the principal epidemic diseases, against 158 and 142 in the two preceding weeks; of these, 64 resulted from measles, 26 from whooping-cough, 11 from diarrhœa, eight from "fever," seven from scarlet fever, six from diphtheria, and one from small-pox. These 123 deaths were equal to an annual rate of 3·6 per 1000, which exceeded by no less than 2·1 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles, which had been 92 and 81 in the two preceding weeks, further declined last week to 64, of which 54 occurred in Glasgow, three in Edinburgh, three in Aberdeen, and two in Greenock. The 26 deaths from whooping-cough exceeded the number in the previous week by one, and included 12 in Glasgow, six in Leith, three in Edinburgh, three in Greenock, and two in Perth. The 11 deaths attributed to diarrhœa, of which seven were returned in Glasgow, were fewer than in any recent week. Five of the seven fatal cases of scarlet fever occurred in Glasgow. The eight deaths referred to "fever" included six certified as cerebro-spinal meningitis, and two as enteric fever; four were returned in Glasgow, and three in Edinburgh. The six fatal cases of diphtheria included two in Glasgow and two in Dundee. The death from small-pox was registered in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 205, 199, and 178 in the three preceding weeks, were 179 in the week under notice, and exceeded by 53 the number from the same diseases in the corresponding week of last year. The causes of 22, or 2·8 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 31·2 and 29·5, per 1000 in the two preceding weeks, further declined to 25·5 in the week ending Feb. 1st. During the first five weeks of the current quarter the death-rate in the city averaged 27·5 per 1000; the rate during the same period did not exceed 18·0 in London and 19·1 in Edinburgh. The 193 deaths of Dublin residents registered last week showed a further decline of 30 from the high numbers in the two previous weeks, and included six which were referred to the principal epidemic diseases, against three and nine in the two preceding weeks; these six deaths included two from measles, two from whooping-cough, two from diarrhœa, but not one either from scarlet fever, diphtheria, "fever," or small-pox. These six deaths from epidemic diseases were equal to an annual rate of 0·8 per 1000, the death-rate from the same diseases last week being 1·3 in London and 1·9 in Edinburgh. The 193 deaths in the city last week from all causes included 34 of infants under one year of age and 70 of persons aged upwards of 60 years; the deaths of elderly persons were again exceptionally numerous. Five inquest cases and three deaths from violence were registered during the week, and 75, or 38·8 per cent., of the deaths occurred in public institutions. The causes of 12, or no less than 6·2 per cent., of the deaths in the city last week were not certified; in London the causes of all but one of the 1584 deaths were duly certified, while in Edinburgh 3·3 per cent. of the causes were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. R. Center to the *President*, additional, for three months' course at West London Hospital; W. H. Pope to the *Philomel*, on commissioning; H. P. Jones to the *Topaze*; M. P. Jones to the *Attentive*; E. S. Tuck to the *Foresight*, on recommissioning; C. C. Macmillan, D.S.O., to Malta Hospital; and R. F. Clark to the *Victory*. Surgeons: G. M. Eastment to the *Wildfire*; and C. J. O'Connell to the *Magnificent*.

Surgeon J. H. Lightfoot has been promoted to the rank of Staff Surgeon, with seniority of May 15th, 1907.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel George Coutts retires on retired pay (dated Feb. 5th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Devonshire: George Douglas Kettlewell to be Surgeon-Lieutenant (dated Jan. 1st, 1908). 1st Glamorganshire: Surgeon-Lieutenant F. G. Thomas to be Surgeon-Captain (dated Jan. 9th, 1908).

Rifle: 1st Volunteer Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Captain A. B. Chambers resigns his commission (dated Dec. 20th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Western Command: Manchester Companies: Honorary Lieutenant in the Army John William Smith (late Captain, Royal Army Medical Corps (Volunteers)), to be Captain (dated Nov. 21st, 1907). John O'Sullivan to be Lieutenant (dated Dec. 19th, 1907). Captain A. T. Lakin resigns his commission (dated Jan. 9th, 1908). Lieutenant W. E. Rothwell resigns his commission (dated Jan. 9th, 1908). Argyll and Sutherland Bearer Company: Lieutenant W. O. Murray to be Captain (dated Dec. 25th, 1907). Lancaster and Border Bearer Company: Surgeon-Captain Henry Dodgson, from the 3rd (Cumberland) Volunteer Battalion, The Border Regiment, to be Captain (dated Jan. 1st, 1908). Sussex and Kent Bearer Company: Lieutenant-Colonel and Honorary Colonel J. Turton is borne as supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Sussex and Kent Volunteer Infantry Brigade (dated Dec. 17th, 1907). Henry Arthur Clifton Harris to be Lieutenant (dated Dec. 17th, 1907).

DEATHS IN THE SERVICES.

On Jan. 25th, at the Royal Naval Hospital, Chatham, Staff Surgeon Harold Edgar Fryer, R.N. He joined the Royal Navy in 1897 as surgeon and was promoted to Staff Surgeon in 1905. The deceased, who was only 34 years of age, had been suffering from pulmonary tuberculosis.

and leave a vacuum between the two, and not only would the inspiratory muscles be incompetent to do this, but no force which can be imagined, not even one equal to 15,000,000 pounds or 15,000,000 tons to the square inch of chest surface, would be competent to do this, for in the process of expansion the thoracic walls or the lungs would rupture long before such a vacuum could be brought about. As a matter of fact, the inspiratory muscles are competent to expand the chest to its potential maximum, as may be observed in advanced cases of hypertrophous emphysema.

May I, Sir, in concluding this long letter venture to express the hope that this time the energy expended may not be entirely lost on Sir James Barr. Certain it is that I shall be more than content if it proves as profitable to him or to others as are the respiratory struggles of the unfortunate asthmatic profitable to the latter, convinced as I am that those struggles, blind and purposeless as they may appear to the casual observer, are yet wisely directed towards a useful end, and that but for them no patient could battle through a severe asthmatic paroxysm. Nature is not always such a fool as some seem to think.

I am, Sir, yours faithfully,

Wimpole-street, Feb. 2nd, 1908. Harry Campbell.

THE CAUSE OF THE PREVALENCE OF ADENOIDS.

To the Editor of The Lancet.

Sir,—I am glad Dr. J. Sim Wallace does not "put any importance on" his figures, for even more startling deductions might be made from them. As his five shut-window families have 26 children and his five open-window families but 19 he might have argued that closed windows at night increased the number of children born, and closed windows might be recommended to the President of the United States as a cure for race-suicide! But joking apart, I do not think Dr. Wallace will find that his theory is supported by facts. I think the explanation of his numbers, if one is needed, is that adenoid families see a lot of the doctor and where the doctor rules the windows are open at night. If adenoids are on the increase it cannot be due to open windows, for windows that really shut are of quite recent introduction. The old leaded glass always leaked and it is only since it was superseded that the bed-curtains and night-caps of our parents have been done away with. I am, Sir, yours faithfully,

O. Clayton Jones, M.B. Oxon.

Silverton, Exeter, Jan. 29th, 1908.

THE RESPONSIBILITY FOR THE ANÆSTHETIC.

To the Editor of The Lancet.

Sir,—It is to be hoped that Dr. Dudley W. Buxton's paper in The Lancet of Jan. 18th, p. 151, and your leading article thereon have been very carefully read not only by surgeons and anæsthetists but also by general practitioners. It happens far too commonly that a practitioner who calls in a surgeon to perform an operation—whatever the nature of this may be—suggests, and even requests, that he or his partner or assistant may give the anæsthetic, although there may be no adequate reason for not engaging a skilled anæsthetist. When such a request is made to a surgeon it is, of course, not easy for him to refuse, although he may have grave misgivings as to the result of his consent and although he may be well aware that the operator who permits a person of small experience to give an anæsthetic accepts a very serious responsibility.

I have no doubt such an arrangement is usually suggested in all good faith, for the majority of practitioners whom I have met do not seem to realise that for the proper conduction of a large proportion of the operations done at the present time special skill and experience are as needful in the anæsthetist as in the surgeon, and that the average practitioner cannot expect to be any more capable of replacing the one than the other. It is necessary not only to know the kind of anæsthetic best suited to the patient and to the operation but also to be well acquainted with the surgical procedure in order that pitfalls may be avoided. This is especially the case with operations on internal organs and above all with those (even "trivial" ones) on the upper air-passages, where safety and success can only be attained by a knowledge of the operator's methods and a perfect coöperation between him and the anæsthetist. So many instances have come to my knowledge where want of special experience in a self-constituted anæsthetist has led to inconvenience and even disaster that I venture to trouble you with this letter. I am, Sir, yours faithfully,

Jan. 25th, 1908. F.R.C.S.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of The Lancet.

Sir,—The remarks of "Inspector-General" in your issue of Jan. 25th are worthy of the very greatest consideration, and call for more than ordinary passing comments in your correspondence columns. Indeed, a change of government in the whole attitude and conduct of modern professional manners is sadly needed. Everything is moving too quickly nowadays and this is not foreign to ourselves. There is a rush, a congestion, and a competition in our ranks which is decidedly tending to disorganise the enthusiasm and high aims of those who formerly filled the ranks of the profession. There is, in fact, disorder. That this is the outcome of education and general social changes is clear. But to stave off this wave of socialism in medicine needs a stronger bulwark than the lean-to wall of your valuable professional journal or any other medical publication of your standard.

Thus, Sir, my fragmentary remarks in The Lancet in support of "Inspector-General" may possibly only react proportionately as a grain of sand. But medicine is full of hope and, although slow in results, nevertheless a number of grains of sand may affect the whole problem before us—viz., the present, nay probably the future, prospects of the medical profession. We are apt to throw stones at glass windows and to blame others for a great deal that befalls the profession when, if we weighed the matter thoughtfully, perhaps we ourselves are sore. There are hundreds of men in the profession striving to aim at good deeds but they are baffled by those whose methods and practice are not pleasant to behold. If we despise the lay advertiser why should this not apply to ourselves, may I ask? Is not personal advertisement contrary to the ethics of the profession of medicine? Why, then, do gentlemen send open postcards and the like through the post seeking patients? Are there no censors in the profession? And, what is worse, how few of us have the courage of their opinions and perhaps are too shy to utter condemnation on personal advertisement? But is not the canker worm of self-advertisement a sign of stress—an ominous warning for the future of the profession for which some drastic measures will have to be devised sooner or later? It is impossible for a whole body of men to travel along a corduroy road for a length of time without several falling out of the ranks.

Again I will draw attention to another lapse in medicine among the present generation—namely, the using of proprietary drugs and other medicaments foreign to the order of the British Pharmacopœia. What has become of the good old pill may I ask? And if we do not actually practise empiricism do not we sail very close to the wind and encourage that class of the laity who deal in such things? Altogether, from the drug point of view, are we not getting very muddled?

As concerns our practice, there is no definite ruling as to what constitutes the exact duties of the general practitioner, because his need to earn a living wage encourages him to be Jack of all branches of the profession. Hence arises specialism, but truly there is more dabbling in the specialties of the profession by its members than is justified. And it is questionable whether this dabbling by the recently qualified is not indirectly an explanation of the oft-repeated public censure which the profession as a whole has to endure. In the army we see things are differently managed, for there is a stage of probation, then successive periods, including an examination, before the young man reaches the title of a colonel. And in general civil practice we ought to see something similar, so that a junior should not rank as high as his senior who has practised for many years. The licensing bodies might renew by fresh reception, at varying periods, an extension to practise, gradually weeding out those who by age, incompetency, or irregular practice rightly cease as practising members. Above all, before a candidate qualified to practise leaves the threshold of the licensing body, be it the Royal College of Physicians or the Royal College of Surgeons, there should not be the slightest doubt as to with the decrease in the elasticity of the lungs, with the result that pulmonary tautness and pulmonary traction sink below the normal. What better instance can I give of the need to distinguish between tautness and elasticity?

I now come to the case of fibroid phthisis. It is quite easy to prove that in this disease—in which all will admit there is an enormous diminution of elasticity—there may be a great increase in pulmonary tautness with a corresponding increase of pulmonary traction. Sir James Barr denies that the lungs are taut in fibroid phthisis. "Try and you will find that the fish does displace the water and the lungs are not taut and the intrathoracic pressure is not lowered." If the lungs are not taut, and if pulmonary traction is not increased, how are we to account for the "sinking in" of the upper part of the chest not infrequently met with in chronic phthisis as well as in the more acute forms of the disease? Instead, i.e., of the lungs exercising moderate traction on the upper part of the chest so that the inspiratory muscles have no difficulty in keeping that portion normally expanded, the lungs exercise a traction so great that the inspiratory muscles, strive how they may, are powerless to contend against it and the chest flattens in consequence.

It is needful to remember that pulmonary tautness is not necessarily equal throughout the entire extent of the lung. Under normal conditions, with non-adherent pleuræ and normal pulmonary texture, it tends to be. Thus when a purely abdominal breath is taken the lower part of the lungs expand first, but owing to the mobility of the lungs, rendered possible by the pleuræ, and owing to the uniform elasticity of the pulmonary tissue, the augmented tautness tends rapidly to diffuse itself throughout the entire lungs. When, however, the pleuræ are adherent, or when the structure of the lungs is profoundly modified as by the abundant deposit of fibrous tissue, one portion of the lung may be supernormally stretched while another part is only moderately taut. Suppose, for instance, that in its upper part the lung is highly fibrotic and the pleura is adherent, while in the lower parts there is emphysema, pulmonary tautness might be supernormal in the one part and subnormal in the other.

"Try and you will find that the intrathoracic pressure is not lowered." It is not clear whether Sir James Barr here means intrapulmonary or intrathoracic extrapulmonary pressure—two very different things. In another passage he refers to intrathoracic *or* intrapleural pressure, and presumably Sir James Barr is here referring to intrapleural pressure. Sir James Barr appears to assume that it is possible to measure pulmonary tautness and pulmonary traction by means of intrapulmonary pressure, but we have already seen that the two factors which determine pulmonary traction—pulmonary tautness and intrapulmonary pressure—may simultaneously operate in opposite directions. Sir James Barr not only denies that the lungs may be supernormally taut in fibroid phthisis but actually argues, or appears to argue, that pulmonary traction is necessarily lowered in this disease because the intrapulmonary pressure cannot in Müller's experiment be reduced to anything like the normal extent, say, only – 8 Hg mm., as against – 80 Hg mm. I freely admit that it may be possible to produce a higher degree of pulmonary traction in the normal individual by Müller's experiment than in the case of a patient suffering from fibroid phthisis. But people do not spend their lives in making Müller's experiment. Further, if Sir James insists upon dwelling upon the difference just referred to, I may point with equal force to the fact that in the contrary experiment of expiring with closed mouth and nares, the normal individual is capable of producing a very much higher intrapulmonary pressure than the patient with fibroid phthisis, and that therefore pulmonary traction is much more effectually obliterated and converted into pulmonary pressure in the former case than in the latter. Sir James's argument here cuts, in fact, both ways. What we have to do with, however, is not a temporary condition, voluntarily induced, but with habitual conditions, and, as a matter of fact, there is very little difference between the habitual mean intrapulmonary pressure of the normal individual and of the patient with fibroid phthisis. If, therefore, the average degree of pulmonary tautness is greater in the latter case than in the former the average degree of pulmonary traction must be greater.

Regarding my assertion that in cases of phthisis the mean size of the thorax may be increased, Sir James Barr says: "I always thought that fibroid tissue occupied less space than the portion of the lung which it replaced. I am afraid there is some confusion in Dr. Campbell's mind between fibroid tissue and the accompanying emphysema." Of course, fibroid tissue tends to occupy less space than the portion of lung which it replaces. For this reason, if the atrophied fibroid lungs are to increase in size and thus adapt themselves to the thoracic cavity, the mean size of which is constantly tending to be increased by the powerfully acting inspiratory muscles, something must give, and this giving involves not only the alveoli with the production of the emphysema to which Sir James refers, but also (what Sir James neglects to mention) the bronchi (causing bronchiectasis) and often also the tubercular cavities which tend to be pulled out by the taut lung tissue into spheroidal form; these yieldings manifestly all result from supernormal pulmonary tautness.

Sir James Barr asks why in fibroid phthisis my "heightened tautness of the lungs should allow the fingers to become bulbous"? the inference being (I presume) that by augmenting pulmonary traction it should facilitate, not impede, the circulation. The answer is surely obvious: in so far as the bulbous condition of the fingers in fibroid phthisis is due to obstructed circulation it results from the widespread destruction of the pulmonary blood-vessels. No amount of augmented traction on the heart could adequately compensate for this.

Commenting on my assertion that "comparatively non-elastic lungs, such as those seamed with scar-tissue, are capable of being rendered more taut, and thus of exerting more traction on circumjacent parts than normal, highly elastic lungs." Sir James Barr says: "This reasoning is that of the academician in his study and not that of the clinician who views facts and reasons therefrom. I shall now," he continues, "proceed to prick the bubble." This is his *modus operandi*: "Non-elastic fibroid lungs cannot be taut both in inspiration and expiration and therefore a constant negative pressure cannot thus be maintained." Quite true. Lungs wholly non-elastic could only become taut at the extreme limit of inspiration, and this to all intents and purposes means that with such lungs there would be no pulmonary traction, but, on the contrary, a positive pressure on the heart, and this would so interfere with the circulation, already sorely embarrassed by the block in the pulmonary circuit, that death would soon ensue. I admit that Sir James has pricked the bubble, but please note, Sir, that I am in no way responsible for the blowing of that poor bubble. Sir James himself is responsible for that, for it will be observed that in the passage he quotes from me I refer not to "non-elastic" but to "*comparatively* non-elastic" lungs—two very different things. While I believe it is possible for certain portions of the lung in fibroid phthisis (the apex, for instance) to be at one and the same time practically non-elastic, supernormally taut, and immobile, yet other portions must, if life is to continue, retain sufficient elasticity to remain taut during the ordinary respiratory movements.

To my contention that the enlargement in the mean size of the chest which may occur in fibroid phthisis is brought about by the inspiratory muscles, Sir James replied in his first letter that any stretching of the lungs that might occur was caused by the pressure of air within them and not by the inspiratory muscles. Referring to this I said in my last letter: "What has the average intrapulmonary air pressure got to do with the stretching of the lungs when the pleuræ are adherent? Manifestly nothing whatever," seeing that the pressure of the intrapulmonary air is counterbalanced by the extracorporeal air pressure. Dr. James Barr thus comments on this passage: "The question and answer coming from a physicist are really very funny. Does he not know that whether the lungs are adherent or not the thoracic parietes intervene between the external atmosphere and the lungs, and any force which expands the thorax beyond the expansile power of the lungs must exercise a force of 15 pounds to the square inch, and this the inspiratory muscles could not do over such a large surface as the chest though they tugged and pulled like Dr. Campbell at Cleopatra's Needle. The inspiratory muscles, like Dr. Campbell, often expend a lot of useless energy. How often do we grieve at the struggles of a poor asthmatic doing nothing?" Surely these remarks are beside the question. I nowhere made any mention of an "expansion of the thorax beyond the expansile power of the lungs," but simply referred to the moderate increase in the mean size of the chest which may sometimes be observed in cases of fibroid phthisis. Sir James's objections apply to such an expansion of the thorax as should separate the chest walls from the lungs with the steady accumulation of pilgrims as the fêtes approached. The telegram of Jan. 5th states that the rise in the number of deaths on that day was due to the arrival of infected caravans from Medina and Jeddah. On the 12th, the eve of the first day of Kurban Bairam, the pilgrims were *flocking out to Arafat* and *Mina*; the town of Mecca would be largely deserted, and the number of deaths from cholera there underwent a corresponding diminution. Then, after the fêtes, the pilgrims flowed back to the city, and there was an explosive rise in the curve of the outbreak, followed by a slight but steady fall. It is almost certain that the returns were very incomplete during the days that the fêtes lasted, when the pilgrims were in more or less constant movement, and distributed over a relatively large area. It may, therefore, be assumed that the true figures, could they have been ascertained, would have considerably exceeded those here given. The total number of cases reported from Mecca has been 4373, and that of deaths 3992 down to Jan. 20th.

In Medina the numbers have been less, as was to be anticipated, for, whereas all the pilgrims visit Mecca, only a certain proportion of them go to Medina; and, of these, perhaps the majority go there after, rather than before, the fêtes. It is unnecessary to quote the daily returns from Medina. They may be summarised as follows:—

Between Dec. 18th and Dec. 24th .... 78 cases ... 74 deaths.
" " 25th " Jan. 3rd ... 133 " ...113 "
" Jan. 4th " " 7th ... 73 " ... 32 "
" " 8th " " 15th ... 46 " ... 41 "

The returns from Medina have, however, been very incomplete; on many days the bulletin has been altogether missing.

In Yanbo 107 cases of cholera, with 69 deaths, were recorded between Dec. 20th and 24th; and 148 cases, with 91 deaths, between Dec. 25th and Jan. 3rd. Since the last-named date no news has been received of the course of the outbreak in Yanbo.

In Jeddah it will be recalled that two cases of the disease, both fatal, occurred on Dec. 26th and 29th respectively. Then, between Dec. 30th and Jan. 4th, there were 20 cases and 19 deaths; between Jan. 5th and 9th, 8 cases and 8 deaths; and between Jan. 10th and 19th, 4 cases with 3 deaths. Finally, the latest telegrams from Jeddah show that the pilgrims are now flowing back there from Mecca and bringing the infection with them. Thus, on the 19th it was reported that one case of cholera had occurred in a caravan arriving from Mecca; on the 20th 8 deaths from the disease were recorded there; and on the 21st there were 26 deaths and 3 cases isolated.

In the meantime the outbreak of cholera in the Abu-Saad lazaret (Jeddah) has diminished but has not come wholly to an end. It will be recalled that several ships arrived there from Yanbo with large numbers of hajjis suffering from the disease. Between Dec. 21st and 29th as many as 128 cases with 53 deaths occurred among these pilgrims. Between Dec. 30th and Jan. 4th there were 46 fresh cases and 36 deaths; between Jan. 5th and 9th 12 cases and 9 deaths; and between Jan. 10th and 18th 4 cases and 4 deaths. In addition, the French pilgrim ship from Sinope and Constantinople which was mentioned in my last letter arrived at the Abu-Saad lazaret on Jan. 3rd and reported that 19 deaths from cholera had occurred on board during the voyage. Possibly all these deaths were not due to cholera, as of three fatal cases from her landed at the Wells of Moses and originally reported as cases of cholera it has now been shown that only in 1 was death due to that disease, the others having died from pneumonia and pneumonia with dysentery respectively. However this may be, it appears that a further death from cholera occurred on Jan. 4th among this ship's pilgrims at Abu-Saad, and 7 more cases were landed from her on the 5th.

A pilgrimage so seriously contaminated with cholera as the present one offers an obvious and very real danger for the rest of the world; and for the next few weeks and months the sanitary defences of countries in close proximity to Arabia—and later possibly those of countries farther removed—will be put to a serious strain. On the present occasion a new factor, which did not exist during former epidemics, has to be taken into consideration by those responsible for the sanitary control of the dispersing pilgrims. This is the Hedjaz railway. A detailed scheme of measures for the sanitary defence of the line during the present Haj has been drawn up; and some, if not all, of these measures are already being executed. I hope to recur to this subject in greater detail in a later letter. The measures imposed by the Constantinople Board of Health on pilgrims returning from the Hedjaz by sea may be summarised as follows. Pilgrim ships coming to the Mediterranean will, after undergoing the measures prescribed by the Egyptian regulations at the lazaret of Tor, be subject to a further five days' quarantine and disinfection in one of the Turkish lazarets of Clazomene (Smyrna), Beirût, or Tripoli (Africa). In addition, those destined for Constantinople will be subject to a medical visit on passing the Dardanelles and again on arriving at Constantinople. Russian pilgrims are to be carried on ships exclusively reserved for their direct transport to Russian ports. Such ships will first do the regulation quarantine at Tor and will then be allowed to transit the Dardanelles and Bosphorus in quarantine. They will, however, be permitted to provision, under strict sanitary surveillance, at the Clazomene lazaret. Should cases of cholera occur on any of these ships they will be sent to the Clazomene lazaret for the necessary measures of quarantine and disinfection, after which they will still have to pass the Straits in quarantine.

As will have been gathered from earlier letters, the city of Constantinople has been menaced with a possible invasion of cholera from Russia through the latter part of the year just closed. Down to the last day of the year it was hoped, apparently with reason, that it would escape, in spite of the constant passage of pilgrim ships past its shores and in spite of the actual occurrence of one case among pilgrims in Stamboul in November.[2] This hope has now, unfortunately, been falsified. On Jan. 1st a case of disease presenting all the symptoms of cholera occurred in the Yenishehir quarter of the town. This is really a suburb of Pera. The patient died and the bacteriological evidence showed that death had in fact been due to cholera. This case has been followed at intervals by eight others, making nine in all; and eight out of the nine cases have ended in death. In every case the diagnosis of cholera based on the clinical history and appearances after death has been confirmed by the results of a bacteriological inquiry. The cases have been scattered over a large area, extending from the northern Bosphorus to the Marmora and including Pera, Stamboul, and both shores of the Bosphorus. Thus, in addition to the first case mentioned above, there have been two cases at Beicos, near the northern end of the Bosphorus on the Asiatic side; one at Rumeli Hissar, about half way up the Strait on the European side; two of boatmen in the Golden Horn; one in the Balata quarter of Stamboul (near the Golden Horn); one in a boatman at Haidar Pasha, opposite Stamboul, on the Asiatic shore of the Bosphorus and the terminus of the Bagdad-Railway; and, finally, one at Zeitun Bournou, on the Marmora shores of Stamboul. It is not known how these persons contracted the infection, nor has any connexion between the successive cases been traced. Passengers leaving Constantinople by sea or land are now subjected to a medical visit and disinfection on departure, and to a medical visit on arrival in another Turkish port. The weather in this city is at present cold, the thermometer varying between 0° and + 5° C. This may possibly explain the sporadic character of the outbreak up to the present and may countenance the hope that the infection will die out before the spring.

In Russia the epidemic has apparently completely come to an end. Since Dec. 18th (31st) no cases of the disease have been returned from any part of the Empire. The following figures complete those published in former letters:—

—	From Nov. 28th to *Dec. 4th.**		From Dec. 5th to 11th *		From Dec. 12th to 18th.*	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Penza (government) ...	17	8	13	6	13	4
Samara (town)...	—	—	1	1	—	—
Samara (government) ...	—	—	3	1	—	—
Yaroslavl (town)	2	1	1	1	—	—
Kief (town)	9	—	5	1	—	—
Kursk (government) ...	7	1	6	2	2	—
Orenburg (government)	2	—	3	3	—	—
Rostof on Don	4	—	—	—	—	—
Kuban Territory	3	1	3	6	1	—
Tomsk (government)	—	—	3	10	1	1
Akmolinsk Territory ...	1	—	5	—	—	—

* The dates in the above table are according to the Old Style.

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[2] THE LANCET, Jan. 4th, 1903, p. 52.

with the *decrease* in the elasticity of the lungs, with the result that pulmonary tautness and pulmonary traction sink below the normal. What better instance can I give of the *need to distinguish between tautness and elasticity?*

I now come to the case of fibroid phthisis. It is quite easy to prove that in this disease—in which all will admit there is an enormous diminution of elasticity—there may be a great increase in pulmonary tautness with a corresponding increase of pulmonary traction. Sir James Barr denies that the lungs are taut in fibroid phthisis. "Try and you will find that the fish does displace the water and the lungs are not taut and the intrathoracic pressure is not lowered." If the lungs are not taut, and if pulmonary traction is not increased, how are we to account for the "sinking in" of the upper part of the chest not infrequently met with in chronic phthisis as well as in the more acute forms of the disease? Instead, i.e., of the lungs exercising moderate traction on the upper part of the chest so that the inspiratory muscles have no difficulty in keeping that portion normally expanded, the lungs exercise a traction so great that the inspiratory muscles, strive how they may, are powerless to contend against it and the chest flattens in consequence.

It is needful to remember that pulmonary tautness is not necessarily equal throughout the entire extent of the lung. Under normal conditions, with non-adherent pleuræ and normal pulmonary texture, it tends to be. Thus when a purely abdominal breath is taken the lower part of the lungs expand first, but owing to the mobility of the lungs, rendered possible by the pleuræ, and owing to the uniform elasticity of the pulmonary tissue, the *augmented tautness* tends rapidly to diffuse itself throughout the entire lungs. When, however, the pleuræ are adherent, or when the structure of the lungs is profoundly modified as by the abundant deposit of fibrous tissue, one portion of the lung may be supernormally stretched while another part is only moderately taut. Suppose, for instance, that in its upper part the lung is highly fibrotic and the pleura is adherent, while in the lower parts there is emphysema, pulmonary tautness might be supernormal in the one part and subnormal in the other.

"Try and you will find that the intrathoracic pressure is not lowered." It is not clear whether Sir James Barr here means intrapulmonary or intrathoracic extrapulmonary pressure—two very different things. In another passage he refers to intrathoracic *or* intrapleural pressure, and presumably Sir James Barr is here referring to intrapleural pressure. Sir James Barr appears to assume that it is possible to measure pulmonary tautness and pulmonary traction by means of intrapulmonary pressure, but we have already seen that the two factors which determine pulmonary traction—pulmonary tautness *and* intrapulmonary pressure—may simultaneously operate *in opposite directions*. Sir James Barr not only denies that the lungs may be supernormally taut in fibroid phthisis but actually argues, or appears to argue, that pulmonary *traction* is necessarily lowered in this disease because the intrapulmonary pressure cannot in Müller's experiment be reduced to anything like the normal extent, say, only – 8 Hg mm., as against – 80 Hg mm. I freely admit that it may be possible to *produce* a higher degree of pulmonary traction in the normal individual by Müller's experiment than in the case of a patient suffering from fibroid phthisis. But people do not spend their lives in making Müller's experiment. Further, if Sir James insists upon dwelling upon the difference just referred to, I may point with equal force to the fact that in the contrary experiment of expiring with closed mouth and nares, the normal individual is capable of *producing* a very much higher intrapulmonary pressure than the patient with fibroid phthisis, and that therefore pulmonary traction is much more effectually obliterated and converted into pulmonary pressure in the former case than in the latter. Sir James's argument here cuts, in fact, both ways. What we have to do with, however, is not a temporary condition, voluntarily induced, but with habitual conditions, and, as a matter of fact, there is very little difference between the habitual mean intrapulmonary pressure of the normal individual and of the patient with fibroid phthisis. If, therefore, the average degree of pulmonary tautness is greater in the latter case than in the former the average degree of pulmonary traction must be greater.

Regarding my assertion that in cases of phthisis the mean size of the thorax may be increased, Sir James Barr says: "I always thought that fibroid tissue occupied less space than the portion of the lung which it replaced. I am afraid there is some confusion in Dr. Campbell's mind between fibroid tissue and the accompanying emphysema." Of course, fibroid tissue tends to occupy less space than the portion of lung which it replaces. For this reason, if the atrophied fibroid lungs are to increase in size and thus adapt themselves to the thoracic cavity, the mean size of which is constantly tending to be increased by the powerfully acting inspiratory muscles, something must give, and this giving involves not only the alveoli with the production of the emphysema to which Sir James refers, but also (what Sir James neglects to mention) the bronchi (causing bronchiectasis) and often also the tubercular cavities which tend to be pulled out by the taut lung tissue into spheroidal form; these yieldings manifestly all result from supernormal pulmonary tautness.

Sir James Barr asks why in fibroid phthisis my "heightened tautness of the lungs should allow the fingers to become bulbous"? the inference being (I presume) that by augmenting pulmonary traction it should facilitate, not impede, the circulation. The answer is surely obvious: in so far as the bulbous condition of the fingers in fibroid phthisis is due to obstructed circulation it results from the widespread destruction of the pulmonary blood-vessels. No amount of augmented traction on the heart could adequately compensate for this.

Commenting on my assertion that "comparatively non-elastic lungs, such as those seamed with scar-tissue, are capable of being rendered more taut, and thus of exerting more traction on circumjacent parts than normal, highly elastic lungs," Sir James Barr says: "This reasoning is that of the academician in his study and not that of the clinician who views facts and reasons therefrom. I shall now," he continues, "proceed to prick the bubble." This is his *modus operandi*: "Non-elastic fibroid lungs cannot be taut both in inspiration and expiration and therefore a constant negative pressure cannot thus be maintained." Quite true. Lungs wholly *non-elastic* could only become taut at the extreme limit of inspiration, and this to all intents and purposes means that with *such* lungs there would be no pulmonary traction, but, on the contrary, a positive pressure on the heart, and this would so interfere with the circulation, already sorely *embarrassed by* the block in the pulmonary circuit, that death would soon ensue. I admit that Sir James has pricked the bubble, but please note, Sir, that I am in no way *responsible for the* blowing of that poor bubble. Sir James himself is responsible for that, for it will be observed that in the passage he quotes from me I refer not to "non-elastic" but to "*comparatively* non-elastic" lungs—two very different things. While I believe it is possible for certain portions of the lung in fibroid phthisis (the apex, for instance) to be at one and the same time practically non-elastic, supernormally taut, and immobile, yet other portions must, if life is to continue, retain sufficient elasticity to remain taut *during* the ordinary respiratory movements.

To my contention that the enlargement in the mean size of the chest which may occur in *fibroid phthisis* is brought about by the inspiratory muscles, Sir James replied in his first letter that any stretching of the lungs that might occur was caused by the pressure of air within them and not by the inspiratory muscles. Referring to this I said in my last letter: "What has the average intrapulmonary air pressure got to do with the stretching of the lungs when the pleuræ are adherent? Manifestly nothing whatever," seeing that the pressure of the intrapulmonary air is counterbalanced by the extracorporeal air pressure. Dr. James Barr thus comments on this passage: "The question and answer coming from a physicist are really very funny. Does he *not know that* whether the lungs are adherent or not the thoracic parietes intervene between the external atmosphere and the lungs, and any force which expands the thorax beyond the expansile power of the lungs must exercise a force of 15 pounds to the square inch, and this the inspiratory muscles could not do over such a large surface as the chest though they tugged and pulled like Dr. Campbell at Cleopatra's Needle. The inspiratory muscles, like Dr. Campbell, often expend a lot of useless energy. How often do we grieve at the struggles of a poor asthmatic doing nothing?" Surely these remarks are beside the question. I nowhere made any mention of an "expansion of the thorax beyond the expansile power of the lungs," but simply referred to the moderate increase in the mean size of the chest which may sometimes be observed in cases of fibroid phthisis. Sir James's objections *apply to such* an expansion of the thorax as should separate the chest walls from the lungs preserve this drain in case the place where these cattle-men now sleep should on some occasion be required for cattle. Then the drain would be useful. In the meanwhile the only concession made is the introduction of a few planks so that manure still continues to pass to and fro inside the men's cabin but it is boarded over. There are steam-pipes all round and these are much needed in the winter for heating the cabins but they also help to increase the odour of the manure. Obviously the manure from the cattle should not be allowed to penetrate the cabin where men sleep. The quarters for the cattle-men are more extensive than the seamen's quarters and there are many bunks, but if anything there is even less provision for ventilation. The seamen occupy a cabin where there is no order, no principle, no sign of any scientific effort whatsoever to procure ventilation, though there are several pipes leading down to their cabin. One of the pipe ventilators had evidently been closed up. This will inevitably happen, for it does not suffice that there should be a pipe to admit the air; there must also be means so to regulate this inlet that it shall not cause an injurious or unpleasant draught. Then in the seamen's quarters there was the chain pipe down which the anchor chain rattles and makes a great noise, rendering sleep difficult. It is true that all hands are generally on deck when the anchor is weighed.

Some of the closets were locked and it is curious how often the keys are mislaid when a ship is unexpectedly visited. However, I succeeded in seeing a trough closet, with three seats and no privacy. A pipe communicating with the donkey-engine discharges water that would clear out the bottom of the trough, but the splashings on the side of the trough would not be effected by this occasional flush. They are supposed to be scrubbed away by a brush, but it is doubtful if this is done, and then if it is done what becomes of the brush? This brush, impregnated with fæcal matter, might be a source of danger if any of the persons using the closet were carriers of typhoid or cholera bacilli. That the clearing out of a closet with three seats should depend on hand labour and a brush properly and frequently applied to the sides of a trough is a most rudimentary and dangerous arrangement. To find such an insanitary closet on a ship shows how little attention is given to these matters. The washing accommodation also was absolutely insufficient. In "the glory hole," a term which derisively designates the stewards' quarters, I found near the entrance a small wooden shelf. In this a round hole had been cut just the right size to hold a wooden bucket. This receptacle was half full of water in which, to judge from appearances, more than one person had already washed. It was necessary to go out on deck to pour the dirty water away and to get a clean supply. The stewards are crowded together in a very small space and are left to do the best that they can. If they wash at all it is greatly to their credit considering the few facilities afforded. Nevertheless, some passengers are carried on this ship, and it is high time that the travelling public should insist that those who wait upon them must have all the necessary convenience to keep themselves clean.

On another and smaller ship which does not carry cattle but only cargo and passengers I likewise found very miserable conditions among the firemen and sailors. Over one bunk in a very small and unventilated cabin there passed the soil-pipe from a closet which was on the deck above. The pipe came across the angle from the deck just above this upper berth and the side of the ship. During the last voyage this pipe burst and the soil fell on the fireman's bed. Never before have I seen a soil-pipe above and within a few inches of a bed. Instead of removing this or at least putting in a new and sound pipe, it had only been roughly mended with soldering and a patch. The same accident may therefore occur again. Though I found no ventilator in the firemen's quarters there was an air-pipe coming down into the seamen's quarters. The cabin was loftier than usual but very crowded and there was not floor room enough for two or three sailors to dress at one and the same time. Another ship of the same type offered somewhat similar disadvantages. The firemen's quarters had just been scrubbed and washed out and still did not smell sweet. I noticed here that the doors of the small food lockers had in many instances been wrenched off. These food lockers are a source of trouble and of danger especially in respect to the rats which they attract. In any case they ought not to be in the sleeping compartment. If there is a mess room there might be food lockers but these should not be allowed in the overcrowded sleeping cabins. Now that the law insists on 120 instead of 72 cubic feet per head this will be more easily managed; but a ship was pointed out to me which, though built quite recently, had only allowed 72 cubic feet for the crew and therefore there was no room for washing, yet the men have to eat and to sleep in their small cabins. As for washing, an iron bucket was provided and it was used either on deck or in the stoke-hole. This, however, was a Channel boat, whereas the other ships I have described are all engaged for ocean traffic and make prolonged journeys.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Quarterly Report of the Medical Officer of Health.

THE medical officer's report upon the last quarter of 1907 may on the whole be looked upon as indicating a fairly satisfactory condition of the health of the city during the latter part of last year. The death-rate was 16·1 per 1000, a little worse than in the corresponding quarter of 1906, and the birth-rate unfortunately was extremely low—26·6 per 1000, which is a slightly lower rate than in the last quarter of the previous year. The most unsatisfactory features of the quarter were the continued prevalence of scarlet fever and measles. The cases of scarlet fever reported numbered 904, or almost double the number recorded in the same period of 1906, and the deaths caused by the disease were more than double those of the same period last year—that is, 39, as contrasted with 18; yet even this unsatisfactory condition is better than that which has prevailed in some of the past years. The cases of diphtheria, although far too prevalent, were not so numerous as in the last quarter of 1906, and the deaths which resulted from it were comparatively few, the death-rate being only 9·1 per cent. There were only 70 cases of typhoid fever, a new record for the quarter, and the history of some of the cases pointed so strongly to infection by means of mussels that an inquiry into the matter has been commenced but as yet no results have been published.

The Cost of Medical Inspection of School Children.

There is a growing sense of irritation in this district against the expense which the new Act is going to throw on the ratepayers, more particularly in densely populated areas where the cost will fall most heavily. It is pointed out that increased administrative expenditure will be necessitated, but the increased administrative expenditure does not strengthen a claim for a special grant for educational purposes, for the Board of Education has decided not to allow special grants for expenditure on administrative purposes which exceed the produce of a penny rate. It is becoming more and more obvious that administrative expenses must increase if the new rules and laws are to be carried out, and in these circumstances the opinion is becoming more and more plainly expressed that if Parliament and Government departments make rules and regulations which must cause increased expenditure and if that expenditure is to be incurred for national purposes then the ruling authorities should at the same time make arrangements to provide a considerable proportion of the necessary money.

The Milk-supply of the City and the Midland Farmers' Association.

At the recent annual meeting of the Midland Farmers' Association attention was directed to Dr. J. Robertson's report that 14 per cent. of the milk sent into Birmingham was contaminated with tubercle bacilli. The association recommended all its members to exercise great care in the examination of their cows, particularly as regards the udders, and advised them to take steps at once to remedy any abnormal conditions. The executive committee expressed its willingness to coöperate with the health committee of the city in every possible way. In moving the adoption of the report Lord Harrowby expressed the belief that the Bill dealing with the question of milk-supply which is to be brought before the House of Commons contains no provision for the payment of compensation for animals slaughtered for the public good, and a motion was carried stating the conviction of the association that legislation requiring the compulsory slaughtering of infected cattle should be associated with provision for proper compensation.

what are his duties to himself and his professional brethren. This should be empanelled in a thoroughly bound document with the stamp of the College detailing their methods and manners of practice and all matters likely to lead to controversial dispute in the future of the recipient.

We have no regular scale of fees, but the most important point for all thoughtful men is the spirit of trade-unionism which has been discussed so much in the medical journals. Once and for all let us at once knock such nonsense on the head. Until there is a revolution or a break up of the empire no such practice can be adopted in the care of the sick and wounded. How can we regulate hours of labour in war, and the practice of medicine is war against disease. There is also another spirit which is equally increasing in the rising generation which affects the nobility of our calling. As is the case of the servants of the Church, poverty to a great extent must befall the rank and file of medicine. There is only room for a certain number of bishops and of physicians and surgeons in ordinary and the rest must be satisfied with their lot and be content with a life of love for their fellow creatures. I do not know of any calling in life in which a love of medicine with a private income could be better fulfilled and do at the same time much signal service to the medical profession. Parents of the well-to-do might well consider this and put their sons into the profession of medicine instead of other callings. How cowardly seems the way in which we sometimes neglect our right when we stoop to the power of money.

I would remark that the rise and fall of our profession or of a nation will always be dependent upon its leaders, and I would emphasise the great importance of this leadership and example from those who are officers in the great army of medicine and surgery. I mean our teachers and professors at the schools for medicine and surgery, the authorities at the Royal Colleges, and all to whom the student of physic looks for his education and guidance. If I have confined myself to a particular groove of thought perhaps some other members of the profession will take a different line and give assistance in this difficult question of the present prospects of the medical profession. Perhaps he will confine himself more strictly to what may seem to be the text, but I hope he will at least remind the great leaders of medicine and surgery of their enormous ethical responsibilities. For such leaders may stave off the effects of the wave of discontent in the medical profession.

I am, Sir, yours faithfully,
VIRTUTEM SEQUOR.

Jan. 25th, 1908.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 25th "Inspector-General" mentions several reasons for the alleged present serious financial condition of many of the general practitioners of this country. "Inspector-General," however, gives no remedy. I do not think we have far to seek to find the cause and therefore the cure. The cause, to my mind, is the ignorance or lethargy, or both, of a large number of the general practitioners. On H.R.H. the Prince of Wales's return from his colonial tour, when speaking at the Guildhall, his message to Great Britain was to "wake up." The same message, to my mind, might with advantage be taken to heart *and acted upon* by a vast number of the general practitioners scattered through our land.

"Inspector-General" mentions "quackery" as one cause—granted; and undoubtedly legislation ought to come to our aid in this respect, not mainly to protect us, however, but to protect the public. Your correspondent mentions "preventive medicine," but not as a cause; it certainly is not a cause, for, granted a proper knowledge of preventive medicine, our incomes would be quite as large from the exercise of that humane branch as from the treatment of disease, and certainly with greater satisfaction to ourselves. "Inspector-General" gives two other reasons for the present serious financial condition of many members of our profession—viz., (1) that railways have brought the rural districts "into touch with towns where patients can consult some medical man renowned for special knowledge of their ailments"; and (2) "the abuse of medical charities." The first of these causes he says is "entirely non-medical"—I disagree. The second cause undoubtedly exists. I maintain that both are the fault of the general practitioners to a very large extent. If the mass of general practitioners of this country knew their work well they would treat the cases themselves and not send them to "specialists," nor would their patients go to "specialists."

The medical student before he leaves his hospital ought to hold at least one appointment in every branch of his profession, so that when he goes into practice he is able to remove tonsils, adenoids, turbinates, polypi, and other nasal obstructions; to treat diseases of the throat, nose, ear, &c.; to correct errors of refraction and deal with astigmatism; to properly treat displacements of the uterus, be able to curette the uterine cavity, amputate the cervix, &c., and so on through all the thousand-and-one minor operations. His knowledge, however, should not cease there, but nowadays with surgery so simplified by aseptic methods he ought to be able to do abdominal surgery and other major operations.

Where does the "specialist" come in? In his proper place, to diagnose really obscure cases, to operate on those cases which this or that general practitioner is not justified in doing because he is unable to get sufficient practice in this or that particular operation. If the general practitioner knew his work, as I maintain he ought to know it, the wealth of the "specialists" would to a large extent be distributed over the medical community, the number of "specialists" would be reduced, and the medical profession would once more be flourishing. It is, I think, forgotten by many that each patient sent by them to a "specialist" means the loss to them, only too frequently, not only of that patient but of all that patient's friends who have, or think they have, any disease affecting that particular region of the body.

I say again, let the general practitioners of this country "wake up"; let those who do not know their work properly, learn it; and those who do, awake from their lethargy and do the work themselves. Personally, I have been in general practice many years and now am half a general practitioner and half a consultant, although not being on the staff of a hospital I am aware that some would deny me the right of calling myself a consultant at all—but in that case they must call me a general practitioner who is consulted frequently by his fellow practitioners. How have I acted in the past? Whenever necessary to consult a "specialist" I have gone with my patient, have kept my eyes open, and any operations I did not know how to do I very soon learnt the way and in the future did them myself as long as I felt justified by my knowledge to do so. To my mind *there* lies the principal remedy, and if the general practitioners will only exercise it we should soon hear less of these financial difficulties.

I am, Sir, yours faithfully,
HALF-AND-HALF.

London, Jan. 25th, 1908.

THE SPREAD OF CHOLERA IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

As reported in my last letter[1] this year's pilgrimage to Mecca and Medina is very seriously infected with cholera. From Mecca the following daily returns have been received since the beginning of January (these figures are in continuation of those published in the letter just referred to):—

Jan.	1st	52	deaths	15	cases isolated.
,,	2nd	52	,,	4	,,
,,	3rd	56	,,	14	,,
,,	4th	67	,,	17	,,
,,	5th	86	,,	12	,,
,,	6th	98	,,	20	,,
,,	7th	127	,,	46	,,
,,	8th	185	,,	48	,,
,,	9th	177	,,	42	,,
,,	10th	241	,,	27	,,
,,	11th	257	,,	6	,,
,,	12th*	121	,,	—	
,,	13th	62	,,	—	
,,	14th	16†	,,	—	
,,	15th	31‡	,,	—	
,,	16th	143§	,,	—	
,,	17th	486	,,	18‖	cases isolated.
,,	18th	394	,,	—	
,,	19th	350	,,	—	
,,	20th	246	,,	—	

* On this day the pilgrims left Mecca for Arafat and Mina. † At Mina 82 deaths. ‡ At Mina 201 deaths. § At Mina 195 deaths. ‖ The pilgrims had now returned to Mecca.

The above figures are interesting. Up to Jan. 11th there was a steady rise in the number of deaths, corresponding considerably more value than any two courses of lectures they were likely to get in one week" is a matter which need not be considered here. The voting showed pretty clearly the feeling of the meeting, 19 votes being for the motion and 4 against. A certain amount of satisfaction at this result in favour of preparation for defence may perhaps be allowed, even in these days of cosmopolitanism.

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[1] THE LANCET, Jan. 18th, 1908, p. 189.

Feb. 4th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Health Report of Cardiganshire.

Although the insanitary conditions which prevail in certain parts of Cardiganshire have been the subject of investigation by the medical inspectors of the Local Government Board upon various occasions the county council has never taken any steps in the direction of remedying those conditions. It is possible that individual members of the council may excuse this inaction on the plea of ignorance of the circumstances; such excuse will, however, no longer avail, for there has recently been issued a summary of the annual reports for 1906 of the district medical officers of health which has been compiled by Mr. Evan Evans, D.P.H. The very forcible manner in which attention is drawn in the summary to the prevalence of pulmonary tuberculosis in the county ought to awaken the council to a sense of its responsibilities. During 1906 the death-rate from this disease in the whole county was 2·6 per 1000, compared with 1·6 in Merionethshire and 0·8 in Monmouthshire. In Aberystwith rural district the death-rate was as high as 4·3 per 1000 and in the Cardigan rural district it was 3·2 per 1000. Mr. Evans considers that the migration of the healthiest and most vigorous individuals to other districts and the return home of those infected elsewhere is a considerable factor in this high death-rate. Other causes are insanitary dwellings and an insufficient dietary, for from nearly all districts comes the same tale—closed windows at night and staple dietary of bread and butter. There does not appear to be any form of disinfection of the dwellings of patients suffering from pulmonary tuberculosis either before or after a death. Now that the attention of the county council has been drawn to the very unenviable position occupied by Cardiganshire with regard to the prevalence of this disease the claims of the Allt-y-mynydd Sanatorium ought to be responded to generously. It is difficult to believe that the chief administrative body, which includes among its members four medical practitioners, will remain inactive after the disclosures which have now been made public.

Medical Inspection of Schools in Cardiff.

Upon the recommendation of the medical officer of health, Dr. E. Walford, a subcommittee has advised the Cardiff education committee to appoint two medical assistants, each at a salary of £250 per annum, to devote the whole of their time to the services of the committee, acting under the direction of the medical officer of health who, as chief medical officer to the education authority, will organise, supervise, and assist in the work of medical inspection, report upon the results of the inspections, and be generally responsible to the committee for all the medical and sanitary matters connected with the public elementary schools in the town. Two women inspectors, each of whom is a trained nurse and a certificated inspector of nuisances, have been employed for some time past in the health department of the Cardiff corporation and Dr. Walford suggests that they could assist in filling in the schedules connected with each medical examination and without attempting anything like medical treatment could be most useful in visiting the houses of defective children and bringing home to the parents a full sense of their responsibilities with regard to their children. Dr. Walford thinks that in most cases tactful advice and useful counsel are most urgently required and that generally the parents of defective children would be ready and willing to take steps themselves to bring about the physical improvement of their children if they only knew what steps were necessary. He further pointed out to the committee that without any direct medical treatment on the part of the education authority much physical improvement might be effected by a greater attention to the sanitation of the school buildings and by the improvement in the environment of the scholar which would result from the more frequent visits of a medical man.

Tuberculosis in Herefordshire.

For several years past a branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis has been doing good work in Herefordshire. Popular lectures have been given in different parts of the county and in other ways there has been disseminated information as to the means by which tuberculous disease may be prevented. The death-rate from pulmonary tuberculosis in the county, as a whole, is not high, for many years past having averaged 1·0 per 1000, but in some parishes the rate is as high as 2·5 per 1000, and it has been estimated that there are at the present time about 500 persons suffering from this disease in the county. At the last meeting of the county council the general purposes committee was instructed to report as to the practicability of establishing a sanatorium for incipient cases of tuberculosis. The suggestion appears to be that a sanatorium should be established by the various boards of guardians in the county and that they should pay to a central fund the cost of maintaining pauper patients in the sanatorium.

Breathing Apparatus in Coal Mines.

The colliery owners of Monmouthshire and South Wales have recently been considering a scheme for establishing central rescue stations in various parts of these coalfields. It has been suggested that there should be 13 such stations in the Rhondda valleys, the Merthyr and Aberdare valleys, Garw and Ogmore valleys in Glamorgan and in the eastern and western valleys in Monmouthshire. The estimated cost of each station is £2000 and £500 for the equipment together with £500 annually for the maintenance. The particular apparatus to be used has not been decided upon, for it is hoped that inventors of different forms will demonstrate their usefulness to a committee of the coalowners which has been formed for the purpose of giving practical effect to the project.

Typhus Fever in Monmouthshire.

When reporting upon a fatal case of typhus fever which had occurred in the urban district of Ebbw Vale in Monmouthshire, Mr. J. W. Davies, the medical officer of health, stated that in his opinion it was due to overcrowding and filthy surroundings. There was only one bedroom in the house occupied by the patient, the other occupants being a man and his wife and three children. It appears that the house concerned, together with those adjoining, had already been condemned as uninhabitable and the tenants were living in them rent free until other dwellings could be found.

Feb. 4th.

SCOTLAND.

(From our own Correspondents.)

Friction at Ruchill Fever Hospital, Glasgow.

Considerable disquietude has been aroused in the public mind in Glasgow owing to the evidences of serious friction which have become apparent recently among the staff at Ruchill Hospital. 14 months ago a new matron was appointed to the hospital and it seems that subsequently to that the nurses, of whom there are about 150 employed in the institution, made complaints, alleging that the hospital was understaffed and that the nurses were overworked. These complaints were embodied in a letter addressed on Sept. 30th by the five assistants forming the resident medical staff to the physician-superintendent of the hospital. The main allegations put forward in the letter were: (1) an insufficient number of nurses in certain wards; (2) an insufficient number of sisters, or charge nurses: (3) inexperienced nurses in charge of wards; and (4) inefficient ambulance administration. The superintendent is thereupon alleged to have informed them that in the domestic and nursing department of the hospital he had no jurisdiction over the matron. A letter of complaint was then addressed to the town clerk on Nov. 27th. Soon thereafter a notice was posted at the hospital intimating that an inquiry would be held by the sub-committee of the hospital which stated that it would receive any statement which a sister or nurse wished to make regarding the conduct of the hospital. Thereupon 105 of the nursing staff wrote offering to testify and a number of these were examined. Before Christmas the inquiry was

The total number of cases of cholera registered in the Russian Empire since the beginning of the epidemic down to Dec. 18th (31st) was 12,109 and that of deaths 5800.

Constantinople, Jan. 23rd.

SANITATION AT SEA.

THE VENTILATION AND DRAINAGE OF SOME LIVERPOOL PASSENGER SHIPS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE newest developments in shipbuilding may inspire the hope that real progress will be accomplished in securing sanitation at sea; nevertheless, the fact remains that there is still much to be done. Undoubtedly the rivalry in running great and luxurious liners is a force that makes for sanitary improvements. It is now very generally acknowledged that special machinery must be employed to propel the necessary amount of air into a ship; therefore the newer and best ships have machinery for this purpose. This is a great step forward. There now remain the regulation of such supply and its even distribution over all parts of the ship without, however, causing injurious draughts. Having seen on the *Mauretania* and the *Lusitania* the latest efforts that have been made in this direction, I visited the White Star liner *Cedric*, which is not a new boat nor can it be considered an old boat. Again, it is not one of the more recent and extravagantly luxurious ships, while, on the other hand, it is a very large and comfortable vessel. It was in the early morning of Nov. 21st last that I went on board this ship while still in dock at Liverpool, though she sailed that afternoon for New York. My first experience was to assist at the examination of the crew and steerage passengers by the Board of Trade medical inspectors. The crew marched past in Indian file as their names were called out, for they had already been placed in line and in order along the promenade deck. Then followed some 350 steerage passengers. An interpreter helped the medical officer to ask questions. But as all these persons had previously been carefully examined by the ship's surgeon this was more a formal matter and only doubtful looking passengers were stopped and questioned anew. Some of the emigrants were rather rough in manner and appearance. They were taught their first lesson of ship's discipline by being made to take off their hats and to remove their cigarettes from their mouths when passing before the inspectors. But the manner in which this lesson was conveyed was at times as rough as the behaviour it was intended to correct. There was more trouble with the women. The Board of Trade instruction is that nothing must be taken on board that might be the cause of hurt or injury. Consequently, a dead set was made against hatpins. These sharp points protruding from the sides of women's hats are undoubtedly dangerous on a crowded deck, particularly when, as the ship rolls, passengers stumble up against one another. The examining medical officer explained that recently in a Liverpool omnibus a lady moved her head in such a manner that she drove her hatpin into a gentleman's eye. The lady thereupon had a fit of hysterics in the omnibus but this did not restore the wounded gentleman's sight. Consequently all the women had to remove their hatpins before they were allowed to proceed, but as these dangerous implements were not confiscated I do not see what is to prevent their using them again once the ship is out of port. The stewards will have a hard time of it if they are going to watch all these women and see that they never use their hatpins again during the whole voyage. Still, it is undoubtedly dangerous to wear hats from which protrude long and sharp pins when the sea is rough and it is impossible to walk straight and steadily. Some curious incidents occur during these examinations. Thus one woman was kept back to be examined more thoroughly because she persisted in saying that she did not know the age of her own child. Perhaps she was afraid of being charged a higher fare, though this had nothing whatsoever to do with the medical officer. All he could do was to insist on the child showing the vaccination marks. The chief thing was the eyes. Four passengers had been refused by the ship's surgeon and the Board of Trade medical inspector again re-examined the eyes of several passengers. Some looked very wretched specimens of humanity, but there was no organic defect, so they were allowed to pass.

The *Cedric* is a very large ship of 21,000 tons and could carry 1835 third-class passengers. It possesses in all ten steam and six electrical ventilating fans but also relies largely on natural ventilation. There are numerous mushroom cowl ventilators in the sheltered parts of the promenade deck. How far these work satisfactorily I had but few opportunities of ascertaining. One thing I may venture to say. The lavatories are badly situated; indeed, they are in so unsuitable a position that it is absolutely necessary to employ mechanical force to prevent a nuisance arising. They are just in the very centre of the ship, as far away from the sides or from natural ventilation as it is possible to place them. Now there is in this a distinct advantage. The Criterion was, I believe, the first theatre in London to be ventilated scientifically and this simply because being built entirely underground there could be no natural ventilation whatsoever. In the lavatories of the *Cedric* there are air shafts or trunks along the ceiling with openings over each closet seat and the suction, mechanically produced, is so strong that a piece of paper will be held against the wire netting by the force of the outrushing air current. In the third-class dining-room I also found the suction within the ventilating trunks strong enough to hold paper fast against the apertures for drawing out the air. The system here is to draw away the air, leaving it to find its way in by the accident of doors and portholes. The electric fans employed are of the "sirocco" type and they are very powerful. They are reserved for the passenger part of the ship. But the very word "sirocco" suggests the principal difficulty. Something like a sirocco might be useful for a blast furnace but no one would desire to have a sirocco in his cabin. Perhaps when applied for suction only it may not cause much inconvenience but if the air is blown into the cabins with great force the ventilators will be closed. Thus though there were many air shafts or trunks travelling along the ceiling, notably in the sleeping compartment of the steerage, the currents of air coming through the apertures which I examined seemed to me much too strong for anyone to sit or to lie down near them. There is great need of a more systematic means for delivering the air so as to avoid cutting draughts. In the hospital I could not find any mechanical ventilation, though it is more needed there than elsewhere. There was what is called a torpedo ventilator communicating with the very badly situated hospital closet. This is a sort of cowl which catches the air as the ship moves along and is of little or no use when the ship is not moving. But it should be in the open air, whereas in this case it was between decks and near the descent to the hold. There were, of course, portholes, and some of them have an air inlet but this is natural ventilation. Undoubtedly, the lavatories are the best ventilated part of the ship and the hospital should have been treated in the same manner. In the smoke room there was a double dome. Some of the glass panes of the inner dome were removed and replaced by ornamental fretwork. As a suction is produced between the outer and inner dome the air is drawn away through the fretwork. In a word, it seemed to me that though the *Cedric* possesses a considerable amount of mechanical power this is not utilised in a systematic manner. The means are there but their application is defective. Too much is left to accident, there is no well-thought-out organised method. But probably much about the same thing could be said of almost every ship afloat.

The Board of Trade insists that there shall be means of ventilation, but what indication is there as to how these are to be applied? If the result is far from perfect even on palatial liners what happens on ships of more modest pretensions? While in Liverpool I had the opportunity of visiting a few of the latter kind of ships belonging to other and to different companies. This experience was neither pleasant nor encouraging. One was a big cattle ship which was to sail in about 24 hours. The filth that still remained on board was so abundant that I failed to see how the ship could possibly be cleaned in time. Of course, this was due to the cattle which had been on board, and though these had been landed some time ago it does not seem to me that the decks had been properly scoured out. In dark corners there were still accumulations of nondescript filth and refuse. Where some of the cattle-men sleep there is a gutter running along the side of the ship. Liquid manure and water travels and with the pitching of the ship sometimes rushes along this gutter. It passes under some of the bunks occupied by cattle-men. It used to be uncovered and caused a very bad smell. The only reason for not doing away with it altogether is the desire to officer from office unless for good and sufficient reasons. It was then moved and seconded—

> That in view of the resolution carried at last meeting with reference to the medical officer and without prejudice to the pleas of the council as to the regularity and validity of his appointment the council resolve to dispense with the services of Dr. Brown on three months' notice, and the clerk be, and hereby is, instructed to give Dr. Brown, under reservation of the said pleas, three months' notice of dismissal; and further that the council direct the clerk to advertise the vacancy in terms of the regulations.

This motion was carried. The chairman thereupon handed in a protest stating that the dismissal of Dr. Brown constituted a breach of the council's contract with him. The protest further stated that, on behalf of Mr. A. H. Farquharson of Invercauld, and on his own behalf, he protested against the parish assessments being employed in expenditure connected with any action which might be taken as a result of this breach of contract, and held those who voted for the motion as liable to recoup him in any loss or damage which he might sustain. Two other members of the council also handed in protests. Dr. Brown laid on the table a protest which was read by the chairman. In this he declined to accept notice of dismissal from the council on the ground that he held his appointment from Feb. 23rd, 1907, and that the council had failed to give him the six weeks' notice which was declared by the Local Government Board to be necessary. He also declined to take delivery of any letter containing such notice of dismissal.

Feb. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Lord Kelvin.

Lord Kelvin was certainly one of the most distinguished men to whom Ireland has ever given birth and it is fitting that a statue should be raised to him in his native city of Belfast. A sum of nearly £1000 has been subscribed for the purpose as the result of a public meeting.

The Royal College of Surgeons in Ireland.

The annual dinner of the College took place on Feb. 1st at the College, Sir Henry R. Swanzy, the President, being in the chair. The toast of "The College" was proposed by Dr. J. Magee Finny, President of the Royal Academy of Medicine of Ireland, and was responded to by Sir Henry Swanzy who took legitimate pride in pointing out the many improvements that had recently been made in the medical school attached to the College.

Death of Professor Antony Roche.

The death is announced of Mr. Antony Roche, professor of medical jurisprudence in the Catholic University and examiner at the Royal University of Ireland. Professor Roche took great interest in sanitary science and made many interesting communications to THE LANCET.

Sanatorium for the County of Cork.

In the year 1902 the various public boards of the county of Cork agreed to submit to a rate of 1*d.* in the £ for the erection and maintenance of a sanatorium for consumptives. Since then the project has undergone many vicissitudes. The conjoint board first selected a site at Marsytown, near Macroom, but the Local Government Board refused to approve of it on the grounds that it was unsuitable for the purpose. The next site proposed was Myshall, but as a river from which some of the water-supply comes for Cork would bound the proposed grounds of the sanatorium the Cork town council appeared by counsel at the Local Government Board inquiry and offered strenuous opposition to the adoption of the site. Again the Local Government Board entered a *non possumus.* Then Mr. Brazier-Creagh, a member of the conjoint board, offered a free site at Streamhill, near Doneraile, and his colleagues, mindful of their previous experiences, decided on casting as far as possible on the shoulders of the Local Government Board the onus of selecting a site and accordingly requested that body to send two of its inspectors to visit the lands offered by Mr. Brazier-Creagh. The Local Government Board acceded to the request and a week ago an inquiry was held by Dr. E. C. Bigger and Mr. Cowen, C.E., the two inspectors who had visited the proposed site and had apparently approved of it. It was not considered necessary to produce any medical evidence in favour of the site but it was soon found that a number of people residing in the neighbourhood of Streamhill were opposed to the project, and it was urged that the expectorations of the patients could find their way into an adjoining river and spread the disease amongst the inhabitants and their cattle. Lord Castletown and Mr. Harold-Barry of Ballyvonare, landlords who have extensive holdings near Streamhill, also objected on the ground that their properties would be injured. An engineer gave evidence that the soil on which it is proposed to build the sanatorium is peaty and retentive, and Mr. Harold-Barry said that it is bog over which he shot snipe. Professor H. Corby stated that the fact of it being a bog would at once condemn it. He also expressed the opinion that the sanatorium treatment is so comparatively valueless that it is a pity a large sum of the ratepayers' money should be expended on the erection of a sanatorium in any part of the county. Some witnesses were then examined who gave evidence in favour of the site and the inquiry terminated. It is believed that the recent report of the Local Government Board of England on the sanatorium treatment of consumption will influence the Cork conjoint board in abandoning the project of erecting a sanatorium for the county.

Poor-law Administration in Belfast.

At a meeting of the Belfast board of guardians on Jan. 14th it was reported by the clerk that the estimates for the year ending March 31st, 1908, showed an increase of £3959, due to the large number of inmates, especially infirmary patients, there being an increase of nearly 400 patients. There was an increase of 200 in those requiring medical treatment and an increase of 72 in children. In clothing the average weekly cost had gone up from 6½*d.* per week to 9*d.* Then outdoor relief would reach £1670 for the current half-year and a total of £3601 for the year, and taking the increase to go on progressively it would be almost £4000 and a rate of 1*s.* 1*d.* in the pound would be needed in the forthcoming year. It must be candidly admitted that such figures raise among many the suspicion that the Poor-law system is not what it should be in Belfast. Why should pauperism increase in Belfast where for the past three or four years trade has been brisk? It would seem as if among some of the poor the spirit of independence, which formerly at least prevailed and which prevented them accepting assistance from the workhouse unless sheer want drove them into it, is gone. Then the workhouse system really encourages pauperism owing to the fact that the inmates are now better housed, better fed, and better cared for than a large proportion of the poorer ratepayers. Such a state of affairs is really a direct incentive to many lazy, idle people to join the pauper ranks and it imposes an almost unbearable burden on those who are just on the border-line of pauperism. Again, the increase in the infirmary patients is one of those weak points in the Poor-laws that require to be remedied, as it is surely wrong that struggling ratepayers should have to pay for the treatment of those who might reasonably be called upon to discharge their own liabilities. An increase in the cost of clothing—almost to one-third—is very extraordinary, and considering the industrial conditions of Belfast an outdoor bill of £3600 is really preposterous and contrary to the recommendations of Mr. Agnew, the Local Government Board inspector. In the Belfast workhouse there is the population of a small town (4028 inmates were in it a week ago). How many of the lazy, idle men and women in this institution do anything (as occurs in Switzerland and other continental countries) for their upkeep? The ratepayers of Belfast are beginning to see that the guardians must exercise much more discrimination in the administration of relief.

The Consumption Dispensary in Belfast.

At a meeting of the city council of Belfast in committee held on Jan. 20th it was decided after some discussion to agree to an arrangement by which the Forster-green Hospital for Consumption will undertake to open a dispensary in the city or, in other words, an out-patient department, on the understanding that the corporation takes ten beds in addition to the 25 already provided and pays at the rate of £1 15*s.* a week for each additional bed, with the proviso that in case any of the said ten beds should be vacant the corporation is to be given credit for each such bed at the rate of 15*s.* per week for the time such vacancy shall continue, the agreement to be for one year with the option of renewing it at the end of that period. This new development will cost, it is said, almost £3000 per annum.

Feb. 4th.

St. John Ambulance Association.

The report presented at the annual meeting of the Birmingham centre of the St. John Ambulance Association shows that the work of the centre continues at a high level. 24 classes were held during the year and most satisfactory examination results were secured. It was stated that the appeal made for funds for the Birmingham corps of the brigade had not met with a satisfactory response, and further support is needed to enable the brigade to attain its full development. In proposing a vote of thanks to the Lord Mayor, who presided at the meeting, Dr. T. Nelson, the chief surgeon of the brigade, pointed out that new headquarters would be required, for those at present held have to be given up during the year, and he expressed the hope that provision might be made in the new municipal buildings. If Dr. Nelson's hope is realised the brigade will be fortunate, but no doubt whether in the municipal buildings or elsewhere suitable headquarters will be found.

The Analyst's Report.

The analyst's report is always interesting reading for it gives us a general idea of the possible purity of the food we consume. Apparently during the last quarter of 1907 our milk-supply was less tampered with than during the same period of the previous year, and the cases of addition of poisonous preservatives were both very few and comparatively unimportant. Butter also, so far as the samples taken were concerned, showed less evidence of adulteration than in the same quarter of 1906. We may therefore congratulate ourselves that during the latter part of 1907 our food was a little more pure than usual and that may be looked upon as some compensation for its increased cost.

The late Sir William Cook.

By the death of Sir William Cook Birmingham is deprived of a man who took the greatest interest in, and gave freely of his services to, everything which appertained to the good health of the city. He was chairman of the health committee for the long period of 34 years. He was closely associated with, and took an active part in, every important movement for the sanitary reform of the city during that time and we have to thank his skill, foresight, and energy for many of the advantages which we enjoy to-day. One of the last efforts which he made for health purposes was that by which he induced the council to acquire Salterby Grange for a sanatorium, and, in the opinion of many people, he was the only man who could have induced the council to take the step at the time when the motion was brought forward. From 1880 till his death he was chairman of the Hospital Saturday Fund and he had the pleasure of seeing the annual income of the Fund gradually increase till last year it attained to the amount of £20,000, a sum upon which he had set his heart. He was a governor of the General Hospital and a supporter of the New Lying-in Charity. He worked hard for both institutions; indeed, he was a man who will always be honoured as one who gave his best work for the good of his fellow citizens.

Feb. 4th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Anthrax in the Market.

A CASE brought before the stipendiary magistrate on Jan. 29th shows how necessary it is that skilled inspection of food should be carried out by those who are qualified and alert. Two quarters of beef were exposed for sale in the meat market on Dec. 12th last. The chief veterinary inspector said it was "rough-looking" and took a sample. Microscopical examination, confirmed by others, showed that it was a case of anthrax. There does not seem to have been any attempt at concealment in this case, for when the inspector said that he should have to seize the whole of it the butcher told him he had sold the other half but kept this for the inspector to see. He also showed a letter from the person who had sent the carcass saying that the heifer had been accidentally hanged and was not bled till an hour after it happened. "But run no risk; have it inspected before exposing. I expect it is all right." This looks as if the sender's suspicions were excited. Happily the portions already sold were recovered before any had been used for food. The defendant had been in business for 30 years and was a past-president of the Manchester and Salford Butchers' Association; he had "an unblemished business reputation," so that he had every motive for not attempting any concealment of the facts. He had, however, to pay a fine of £10 and costs, and the magistrate said, "if he had been of opinion that the defendant sold the meat knowing it to be affected with anthrax he should have been obliged to send him to prison." This may seem to be rather a hard case for the butcher but the food-supply must be carefully guarded.

Useful and Unobtrusive.

Though our charities are no doubt often abused, yet those who know most as to the condition of the patients in the Manchester hospitals acknowledge that on the whole they are as to means in a state of poverty, and from that point of view worthy of help. One of the most useful ways of affording help is to give them suitable garments for use in hospital or on leaving. The Manchester Hospital Work Society is an association that year by year distributes garments, made by the associates themselves, to the poor sick in the hospitals. It has been correctly described as a society for work and not for collecting money, and this description was justified by the statements made at the annual meeting presided over by the Lady Mayoress on Jan. 29th. But like most other organisations, its prosperity ebbs and flows, and this last year the tide of its success was low. Dr. A. M. Edge said that fewer garments had been received for distribution, far short of two garments per bed which is aimed at. New hospitals and hospital enlargements are being built, so that the outlook is serious as they mean more patients. There is one point named in the report of the committee which will be appreciated by those who deplore the deaths from burning so often occurring where flannelette is worn. The committee pleaded for the use of flannel and not flannelette in making bed jackets. Dr. W. Walter read the financial statement which showed the year's income as £103 and the working expenses as £19 14*s*. The lady associates had contributed 2228 garments, while the funds only allowed of 448 being purchased. This special charity is one that appeals more particularly to the active benevolence of women and should be more successful than it is. The Lady Mayoress, who must be acknowledged to speak with authority on such a subject, considered that "two garments a year were really a very small contribution from one woman," and she seemed to think that fancy work was more attractive than plain sewing, but ventured to predict that the day of the former would go by and good plain needlework come to the front. The value of the work was testified to by Mr. Andrew Boutflower and other medical men. Surely there are many ladies in the district who would gladly join in this work if it were brought to their notice. *Apropos* of the mention of flannelette, on Jan. 29th the city coroner held inquests on four children in different parts of Manchester who had died from burning. The usual accounts were given—the absence of the mother for a few minutes, no fireguards, and playing with matches. The coroner said that "it was most heartrending to have to hold inquests on so many little children."

Convocation of the University of Manchester.

A meeting of the Convocation was held on Jan. 29th, when Professor R. B. Wild was unanimously elected chairman of Convocation. Dr. George Ashton, Captain R.A.M.C. (Volunteers), moved:—

> That in the opinion of Convocation it is the duty of the Manchester University authorities to give every support to Mr. Haldane's Territorial Army scheme.

The meeting, he said, was not asked to discuss the scheme politically or to consider its merits or demerits. It had passed through Parliament and would come into force on April 1st next. In East Lancashire the county association was expected to provide a division—i.e., about 19,600 men. Dr. Ashton thought that the University had not in the past shown the interest in the Volunteer movement which he could have wished. "There were about 1100 students and only 125 volunteers," and among the teaching staff—about 200—only three held commissions, and he wanted to see more of the students and more of the teaching staff engaged in the scheme. One gentleman, as an American "outlander," thought that all the students would be the better for "military drill and discipline," and there is no doubt whatever that he gave utterance to a truth. Whether his further view that "for a large number of students military drill would be of

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Italian Red Cross: A School for Female Helps.

THE otherwise admirably equipped Red Cross of Italy is admittedly defective in one important adjunct to its efficiency—an adjunct long possessed by the sister societies of the Red Cross in other countries—that of female helps. These helps are recruited from the class of ladies of good social position, whose education, already productive of refinement in manner and demeanour, has been specially enhanced by training in the *métier* of nurse. During the sanguinary Russo-Japanese war the lady-helps (*dame infermiere*) of both belligerents gave memorable proof of their good offices not only on the battlefield but on other occasions involving disaster—explosion or similar accidents in camp or quarters—inseparable from military operations. Of these offices, on the Russian side, the Italian representative Count Camperio was an assiduous witness and the account which he gave of them in a lecture delivered last year in Rome profoundly impressed the many interested in Red Cross organisation. The regional subcommittee of the "Croce Rossa Italiana" at once utilised the interest thus evoked by putting itself in communication with the central committee, and its initiative has now fructified in a "school" specially equipped for the training of lady-helps on the lines of the Russian and Japanese organisations—a school which will be officially opened to-day in the buildings of the military hospital on the Caelian Hill. Her Majesty Queen Elena is the patroness and at her instance an appeal has been addressed to the ladies of Rome to give the institution all the encouragement in their power. The response has already been more than gratifying and the present year will witness the start of a corps of "infermiere voluntarie" (volunteer lady-helps) which will place Italy on a level with her sisters in the one branch of Red Cross equipment in which she has hitherto been defective. The appeal—a lengthy but none the less impressive document—sets forth the programme of special instruction to be given on the Thursdays and Sundays of successive weeks throughout five months of the year between the hours of 3 and 6 P.M. The subjects taught will be essentially practical in their tenour, divided into four courses, and the teachers will be four officers, two of whom will be supplied by the War Office and two by the Red Cross Association. A final examination will give the successful examinee the right to the "Diploma di Infermiera della Croce Rossa Italiana," together with a "medaglia di riconoscimento" (medal of recognition) bearing the emblem of the Geneva Convention and the name of the holder of the diploma. Every such holder will be morally obliged to be in readiness for every call in case of the mobilisation of the Italian Red Cross. Other duties are specified in the programme of qualification but as these are identical with those imposed by the Red Cross societies of other nations they need not be detailed here. The school, I may add, will be under the direction of Lieutenant-Colonel Parisi, director of the military hospital of Rome; of Dr. Postemski, principal medical inspector of the Italian Red Cross; of Colonel Panara, medical officer of the Reserve; of the Duchess Amalia Tortonia, of the Countess Camerana, and of the Countess Pelagallo di Marazzano. As I write, I am informed that the teaching staff will consist of the Chevalier Professor Giovanni Memmo and Dr. Umberto Riva of the Army Medical Department, and of the Chevalier Dr. Augusto Bisso and the Chevalier Dr. Bonaventura Pasca, medical captains of the Red Cross.

"Frost-bite and Wolf-bite."

If up to now the winter on the Italian slopes of the Alps has been comparatively mild—so mild as to tempt some of the Piedmontese Alpine Club to arduous expeditions—the same cannot be said of the southern ranges of the Apennines. This time last year THE LANCET, under the above title, recorded the disastrous incursion of famished wolves into the haunts of man—one heard of them in the Abruzzi having, under stress of cold and hunger, assailed a linesman on the highway, and, in spite of his armed defence, torn him to pieces, leaving little besides his blood-stained sword to attest his fate. Further south last week in the Basilicata, not far from the town of Potenza, a similar tragedy well nigh befel a wood cutter and his son driving home on a cart from the plantation. It was broad day—not the dusk of the evening, as in the former instance—when the two were assailed by wolves, the fiercest of which remained in single combat with the wood-cutter, while the others were being scared away by his son. The father, a man of powerful build and dauntless courage, grappled with the brute, and after a desperate struggle succeeded in pinning it to the ground. The wolf, however, still made formidable fight, and to such effect that the wood-cutter, already severely bitten and losing blood, might have got the worst of it had not his son opportunely fetched him an axe from the vehicle. With this he dealt the brute a decisive blow and the struggle was at an end—leaving him, however, as stated, horribly lacerated, particularly in the hands, a proper subject for the Pasteur Institute. The Government, it is suggested, might offer a prize for each of these dangerous animals brought in dead, and this would be a finer, and also a more serviceable, sport than the steady destruction of the chamois, which is rapidly disappearing from Alpine Italy, till it bids fair to live only in Carducci's magnificent ode, entitled "Il Piemonte."

Feb. 2nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Medical Inspection of Schools.

THE Ministry of Education, in which medical influence is undoubtedly active, has again issued an order dealing with hygienic measures to be adopted in regard to the supervision of schools. School hygiene is to be regarded as an integral part of the sanitary administration of the different counties and the reports sent in by the respective boards will have to show clearly to what extent schools are visited by medical men at regular periods. The order enables the local authorities to appoint visiting medical officers for the schools, especially for the so-called elementary schools, in which children from six to 14 years of age receive instruction. The order empowers them also to institute medical supervision in infants' schools (where the ages of the children are from four to six years), in technical schools, and in commercial schools. A suggestion as to the time of inspection of the children is given. The medical officer must examine new pupils on their first arrival and must afterwards visit the schools at intervals of about four or six months, unless a local outbreak of epidemic disease, such as parotitis, measles, scarlet fever, or diphtheria, makes it advisable to pay more frequent visits. Special attention is to be given to diseases of the eye, ear, throat, and teeth, as well as to the ventilation and the lighting of the class-rooms. The expenditure will be borne by the ratepayers and the Government. The school medical officer will not undertake the treatment of the little patients but his work will be rather of a preventive nature. The fees for treatment have to be found by the parents or friends. Another memorandum just issued deals with the care of feeble-minded or crippled children and with the proper treatment and care of the deaf and dumb. There is good provision for this class of defectives in Austria and the Ministry of Education only calls the attention of teachers to its existence. For the higher classes of the public schools gymnastics are recommended as an antidote to the ill-effects of the demands made by modern education on the mental faculties.

A Case of Lymphatic Leukæmia with Chylothorax.

At a recent meeting of the Medical Society Dr. Strasser showed a man who had been suffering from diarrhœa and swollen glands for some time previously to his admission to hospital. A cubic millimetre of his blood contained 4,000,000 erythrocytes and 437,000 leucocytes, of which 98 per cent. were lymphocytes. A few weeks after admission the hæmoglobin index, which had been constantly 74 per cent., sank still lower, and he had a sudden attack of dyspnœa, caused by accumulation of fluid in the right pleural cavity. Puncture had to be performed twice, the fluid which was withdrawn being turbid and yellowish in colour with a specific gravity of 1·16; it contained 7 per cent. of albumin and 3 per cent. of fat with some sugar, and was, in fact, typical chyle. Although the exudation reached to the level of the third rib the heart was not displaced, a condition which Dr. Strasser thought was due to infiltration of the pleura making it rigid. The chylothorax was caused either by bursting of the stopped and efforts were made to restore harmony, but without effect. Later, it is stated, the sub-committee informally requested the physician-superintendent to dismiss three of the assistants and that he declined to do so, as he had no complaint against them. On Jan. 7th, however, the three assistants received a letter from the medical officer of health of Glasgow dismissing them. This "dismissal" the resident physicians refused to accept but eventually left the hospital under protest. The final stage in the episode so far is an intimation to the town clerk from the Local Government Board stating that the Board has received a memorial from the resident physicians at Ruchill Hospital praying the Board to institute an inquiry into the conditions existing at the hospital. The statements in the memorial appear to the Board to constitute a *primâ-facie* case for inquiry by it in the interests of public health. Before coming to a decision, however, it has deemed it advisable to hold a preliminary investigation with the view of ascertaining whether the circumstances call for a full and detailed inquiry. With this object it has appointed Dr. Henry H. Littlejohn, professor of forensic medicine in the University of Edinburgh, a commissioner to inquire and report. As a result of Professor Littlejohn's preliminary report the Local Government Board has intimated that it has appointed Mr. Donald Crawford, K.C., sheriff of Aberdeenshire, a commissioner "to inquire and report upon the complaints of overcrowding and understaffing of Ruchill Fever Hospital and on the administration and management of the hospital."

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The epidemic of enteric fever in the west-end of Glasgow seems to be now on the wane and it is not expected that many more cases will be reported. At the time of writing, however, there are 156 cases of enteric fever in the city as compared with 139 in the previous week, and of these 90 have been traced to the same source, a contaminated milk-supply.

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On Jan. 13th a meeting of the managers of the Montrose Asylum and Infirmary was held to discuss an unfortunate hitch which has occurred in connexion with the building of the new convalescent home at Edzell. The meeting, which lasted about one and a half hours, was held in private. Considerable progress has already been made with the building, which was estimated to cost £2500. The building operations are, however, at present suspended and at the meeting the managers heard lengthy correspondence on the subject and also a report by Mr. John Sim, the architect. After free discussion the managers unanimously decided that no arrangement would satisfy them which did not involve the pulling down of the building.

Seaforth Sanatorium, Ross-shire.

This institution was formally opened on Jan. 16th in the presence of a large and representative gathering and of the town councils of Dingwall and Tain. A message from the King wishing success to the sanatorium was received, and also one from the Local Government Board of Scotland offering congratulations to Colonel and Mrs. Stewart Mackenzie of Seaforth, the donors of the institution. Mrs. Stewart Mackenzie was presented with a gold key by Mr. Macbeth, the architect, with which she opened the main entrance and declared the Seaforth Sanatorium open. The foundation-stone of this institution was laid rather more than a year ago by Mrs. Stewart Mackenzie. It is situated over 200 feet above sea-level, about two miles from Dingwall, and just behind the village of Maryburgh. It has been endowed by the donors to the extent of £100,000, and they have also given the site, large grounds, building, and equipment. The institution is available for both sexes; one-third of the accommodation is reserved for the Island of Lewis, and the other two-thirds for the mainland of Ross and Cromarty. The total accommodation in the meantime consists of 12 beds but this may materially be enlarged by the addition of outside cubicles. Anyone resident in the county who cannot afford to go to a commercially conducted sanatorium may be admitted and it is hoped that an educational as well as a curative work may be done through the institution. The building is divided into two blocks with the administrative department in the centre. The patients' rooms are uniform with the exception of the end rooms which are larger and intended for the treatment of special cases. While in the meantime each patient will have a room, any of the rooms might be used for two beds and the larger ones for four. The rooms open on to a broad plat which runs along the entire length of the structure and on to which beds can be drawn and a constant current of air, regulated at will, can be had in each room. The floorings are of pitch pine; all the corners of the rooms are rounded and all the furnishings are on the most approved principles. The building is three storeys high in the centre and contains matron's and nurses' rooms, dispensary, and pathological research rooms for the resident physician. During the lifetime of Colonel and Mrs. Stewart Mackenzie the institution will be managed by them. Afterwards it will be controlled by a body of trustees and a local committee.

The Notification of Births Act and Scottish Medical Men.

An influential deputation of the Aberdeen Medico-Chirurgical Society, representing nearly the whole of the medical profession in Aberdeen and the immediate neighbourhood, waited upon the town council of that city on Jan. 20th to express the views of the society on the proposed adoption of the Notification of Births Act by Aberdeen. The deputation, which consisted of Dr. G. Williamson (president), Dr. J. Marnoch (secretary), Dr. A. H. Lister (treasurer), Dr. John Gordon, Dr. G. M. Edmond, and Dr. R. G. Mackerron, advanced in a very able manner arguments against its adoption such as have been laid before the readers THE LANCET more than once. They did not oppose the objective of the Act but only the method of its proposed administration—namely, by means of gratuitous certificates supplied under penalty by medical men attending births. They pointed out that in this matter no exercise of professional skill is involved and that the notification could be made by the father or nearest relative attending the mother, as only a simple statement of fact was required. It was contrary to the usage of the profession to give any information regarding patients, except such as the law required for the public welfare and which could only be supplied by a medical man. Further, if a mother wished to conceal a birth she would be less likely than formerly to summon medical aid in a place where the Act had come into operation. Finally, the injustice to medical men of expecting them to perform another gratuitous service to the State was shown and the case of Manchester, the council of which city has rejected the Act after its adoption by the sanitary committee, was cited. The deputation was heard very courteously by the Aberdeen bailies and in consequence Councillor Kendall Barnett withdrew his motion to accept the Act and substituted one to send it back to the public health committee for further consideration in the light of the expression of medical opinion which the council had heard. This vigorous defence of professional rights may be commended to the notice of medical societies elsewhere. —At the first meeting of the newly elected Laurencekirk district committee of Kincardine county council a circular was submitted from the Local Government Board explaining the Notification of Births Act, 1907, and inclosing a form of application for its adoption. The chairman moved that the Act be not adopted. Mr. Low seconded the motion and pointed out that the Act was an injustice to the medical profession, because it imposed a penalty for neglect of duty for which they received no payment. The motion was agreed to unanimously.

Crathie and Braemar Parish Council: Medical Officership.

In THE LANCET of Jan. 4th, p. 60, some details were given of a conflict of opinion which has arisen in the parish council of Crathie and Braemar in Aberdeenshire with reference to the appointment of Dr. William Brown of Braemar as medical officer to the council. Some of the members are very hostile to Dr. Brown and at the meeting held on Dec. 13th, 1907, a majority of 6 votes to 2 were in favour of dismissing him. The subject was again discussed at a meeting of the parish council held on Jan. 29th. The chairman said that he had communicated with the Local Government Board for Scotland, giving a statement of the various steps which had been taken during the past year in connexion with the appointment of the medical officer, and that the Local Government Board had replied, stating that Dr. Brown's appointment was in order, and that there was no good reason for doubting its legality. The Local Government Board also stated that a medical officer, unless his agreement specially provides to the contrary, holds office for one year and his engagement may be terminated at the end of that year if due notice, say, of six weeks or two months be given to him. If no such notice be given he holds office by "tacit relocation" for another year. The Board also strongly deprecated the removal of a medical governing the manufacture of foods under the "Pure Food Laws." But his rulings have been severely criticised by dealers in foods. It is alleged by the fruit driers of California that the quantity of sulphur specified as the maximum by Dr. Wiley's decision is one-third that allowed in Germany which has the strictest food regulations of all countries. The complaints against Dr. Wiley's decisions are so numerous and urgent that the President has determined to appoint a commission of expert chemists who shall constitute a board to make a final decision on all of these questions. In order to secure the most competent chemists the President has requested the presidents of the universities of Johns Hopkins, Virginia, California, Yale, and the Northwestern of Chicago each to recommend a chemist whom he will appoint on a board which shall determine finally all questions arising under the law.

General Immigration Statistics.

Recently published statistics by the Immigration Restriction League show that during the year 1907 there were landed in this country 1,285,349 immigrants, the largest number received in any one year since 1821. The change in the national groups of immigration since 1869, a period of 37 years, is interesting. The percentage of immigrants, from Austria-Hungary, Italy, and Russia in 1869 was 0·9, and from the United Kingdom, France, Germany, and Scandinavia it was 73·8; in 1907 the former group was 71·3 per cent. and the second group 17·1 per cent. The change in the relative percentage of these two groups of immigrants began in 1896. The largest elements in immigration at present are as follows: Southern Italian, 242,497; Hebrew, 149,182; Polish, 138,033; German, 92,936; Magyar, 60,071; and Scandinavian, 53,425. The percentage of illiterates in total immigration was 23·9; the lowest percentage in each 100 immigrants over 14 years of age who cannot write and cannot read and write their own language was Scotch 1·0, and the highest percentage was Portuguese, 76·6. The present immigration law excludes the following classes:—The mentally unfit—viz., idiots, imbeciles, feeble-minded, and insane; the physically unfit—epileptics, tuberculous, and persons afflicted with a loathsome or contagious disease; the morally unfit—prostitutes, procurers, polygamists, anarchists, and convicts; the economically unfit—paupers, persons likely to become a public charge, professional beggars, contract labourers, and assisted emigrants. The number debarred and deported in 1907 was 14,059, or 1·1 per cent. of the total number of arrivals.

The Federal Employers' Liability Law Void.

For more than 20 years the railroad men of the United States have been struggling to secure a law which protected them from the accidents to which they are especially liable. The President urged the passage of such a Bill and at the last session of Congress it was finally passed and became law. The law was brief and provided for the extension of the employers' liability to all common carriers engaged in interstate commerce and practically abolished the "Fellow Servant" rule. The doctrine of contributory negligence was modified so as not to bar recovery where the negligence of the employee was slight and the negligence of the employer was gross in comparison—the newer doctrine of "comparative contributory negligence." On the passage of the law several railroads united to test its constitutionality, with the result that it has been declared unconstitutional by the highest court and is now void.

Jan. 25th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Melbourne Hospital.

THE question of a site for rebuilding the Melbourne Hospital remains unsettled, although it provides a topic for newspaper correspondence and has been the subject of several conferences between various bodies interested. Dr. J. W. Springthorpe is energetic in support of the proposal to rebuild on the present site, while Dr. R. R. Stawell expresses the opinion of the advocates for removal. At a meeting of the hospital medical staff a motion affirming the desirability of procuring a larger site was carried by 11 votes to five. The present block is about four acres in extent and the proposed new area, which is at present occupied by the pig and horse market, would be something between 12 and 14 acres, but it is about a mile farther out of the city. The opponents of removal assert that this extra distance is a serious drawback and that the site itself is dusty and exposed to the north winds. The advocates for a new site affirm that the present situation is too small for a modern self-contained hospital and clinical school, and that the "pig-market" block has the advantage of being in the immediate vicinity of the University Medical School. Under the terms of the gift of £100,000 for rebuilding purposes made by the trustees of the Wilson estate, the question of site had to be decided upon within six months. About four months of the term have already elapsed. The trustees also retained the right of approval of any site determined upon.

The Danysz Microbe.

Sir William Lyne is determined to carry out the Federal policy of "Australia for the Australians" even to denying admission to imported microbes. Dr. F. Tidswell has shown that the Danysz microbe, or one indistinguishable from it, is already known in New South Wales and has caused epizootics among rabbits. Sir William Lyne admits that this places a new aspect on the question of trying the Danysz method on the mainland, but states that it is certain that Parliament would never permit the liberation of the microbe introduced to Australia by Dr. Danysz. Meanwhile the pastoralists demand that a trial shall be made in the rabbit-infested areas of the interior.

St. Vincent's Hospital.

The engineering inspector of the Board of Public Health has reported that St. Vincent's Hospital, Melbourne, is "excessively overcrowded." St. Vincent's is the most recent hospital building in Australia and is fitted with every modern improvement. The present structure forms only a part of the whole design and under the Board's standard is available for 76 patients. At the time of the inspector's visit 124 patients were under treatment, patients being "placed in the balconies, in the lobbies, and other parts of the building not set apart for such a purpose." Dr. Norris (chairman of the Board of Health) remarked that the state of affairs was "nothing short of scandalous" and immediate action was ordered in the direction of a peremptory letter to the hospital authorities and a communication with the Board's solicitors. The hospital authorities have replied that so great has been the demand in urgent cases that they have been unable to turn them away and that the hospital is so equipped with balcony and corridor space that some patients can be temporarily accommodated there without inconvenience.

Infants' Food.

Recently at the Richmond (Victoria) police court tradesmen were fined with costs for selling well-known brands of infants' food in contravention of the Pure Foods Act. The editor of the *Chemist and Druggist* has written to the press to point out that the prosecution was for failure to state that the foods must not be used for infants under six months. The Pure Foods Act requires that infants' foods containing starch must be labelled or sold with the statement that they are not intended for children under the age of six months.

Home for Consumptives.

On Dec. 14th last the sanatorium for consumptive women was opened at Thirlmere, New South Wales, by the State Governor, Sir Harry Rawson. The site was devoted to the purpose originally by a Mr. Goodlet, but subsequently was placed under the management of the Queen Victoria Home for Consumptives. Eventually the site was purchased and with the new buildings has cost £10,000. It will accommodate 50 patients. Since the male wing was opened at King's Tableland the practice of mixing the sexes at Thirlmere has been abandoned. The medical supervision will be in the hands of Dr. Eric Sinclair.

Action for Libel.

Mr. S. B. Helwig who is registered as M.D. Univ. of Heidelberg, 1899, recently brought an action against the proprietors of the Ballarat *Echo*, claiming £1000 damages for alleged libellous paragraphs stating that the plaintiff had victimised a resident of Ballarat in respect to an alleged cure for gall-stones. The plaintiff has practised for some time at Pakenham, a small village near Melbourne. He is alleged to have claimed by advertisement in the public press to be able to remove gall-stones by means of a special medical treatment. The paragraphs complained of had reference to a patient who had undergone the treatment without benefit. A stopped and efforts were made to restore harmony, but without effect. Later, it is stated, the sub-committee informally requested the physician-superintendent to dismiss three of the assistants and that he declined to do so, as he had no complaint against them. On Jan. 7th, however, the three assistants received a letter from the medical officer of health of Glasgow dismissing them. This "dismissal" the resident physicians refused to accept but eventually left the hospital under protest. The final stage in the episode so far is an intimation to the town clerk from the Local Government Board stating that the Board has received a memorial from the resident physicians at Ruchill Hospital praying the Board to institute an inquiry into the conditions existing at the hospital. The statements in the memorial appear to the Board to constitute a *primâ-facie* case for inquiry by it in the interests of public health. Before coming to a decision, however, it has deemed it advisable to hold a preliminary investigation with the view of ascertaining whether the circumstances call for a full and detailed inquiry. With this object it has appointed Dr. Henry H. Littlejohn, professor of forensic medicine in the University of Edinburgh, a commissioner to inquire and report. As a result of Professor Littlejohn's preliminary report the Local Government Board has intimated that it has appointed Mr. Donald Crawford, K.C., sheriff of Aberdeenshire, a commissioner "to inquire and report upon the complaints of overcrowding and understaffing of Ruchill Fever Hospital and on the administration and management of the hospital."

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This institution was formally opened on Jan. 16th in the presence of a large and representative gathering and of the town councils of Dingwall and Tain. A message from the King wishing success to the sanatorium was received, and also one from the Local Government Board of Scotland offering congratulations to Colonel and Mrs. Stewart Mackenzie of Seaforth, the donors of the institution. Mrs. Stewart Mackenzie was presented with a gold key by Mr. Macbeth, the architect, with which she opened the main entrance and declared the Seaforth Sanatorium open. The foundation-stone of this institution was laid rather more than a year ago by Mrs. Stewart Mackenzie. It is situated over 200 feet above sea-level, about two miles from Dingwall, and just behind the village of Maryburgh. It has been endowed by the donors to the extent of £100,000, and they have also given the site, large grounds, building, and equipment. The institution is available for both sexes; one-third of the accommodation is reserved for the Island of Lewis, and the other two-thirds for the mainland of Ross and Cromarty. The total accommodation in the meantime consists of 12 beds but this may materially be enlarged by the addition of outside cubicles. Anyone resident in the county who cannot afford to go to a commercially conducted sanatorium may be admitted and it is hoped that an educational as well as a curative work may be done through the institution. The building is divided into two blocks with the administrative department in the centre. The patients' rooms are uniform with the exception of the end rooms which are larger and intended for the treatment of special cases. While in the meantime each patient will have a room, any of the rooms might be used for two beds and the larger ones for four. The rooms open on to a broad plat which runs along the entire length of the structure and on to which beds can be drawn and a constant current of air, regulated at will, can be had in each room. The floorings are of pitch pine; all the corners of the rooms are rounded and all the furnishings are on the most approved principles. The building is three storeys high in the centre and contains matron's and nurses' rooms, dispensary, and pathological research rooms for the resident physician. During the lifetime of Colonel and Mrs. Stewart Mackenzie the institution will be managed by them. Afterwards it will be controlled by a body of trustees and a local committee.

The Notification of Births Act and Scottish Medical Men.

An influential deputation of the Aberdeen Medico-Chirurgical Society, representing nearly the whole of the medical profession in Aberdeen and the immediate neighbourhood, waited upon the town council of that city on Jan. 20th to express the views of the society on the proposed adoption of the Notification of Births Act by Aberdeen. The deputation, which consisted of Dr. G. Williamson (president), Dr. J. Marnoch (secretary), Dr. A. H. Lister (treasurer), Dr. John Gordon, Dr. G. M. Edmond, and Dr. R. G. Mackerron, advanced in a very able manner arguments against its adoption such as have been laid before the readers THE LANCET more than once. They did not oppose the objective of the Act but only the method of its proposed administration—namely, by means of gratuitous certificates supplied under penalty by medical men attending births. They pointed out that in this matter no exercise of professional skill is involved and that the notification could be made by the father or nearest relative attending the mother, as only a simple statement of fact was required. It was contrary to the usage of the profession to give any information regarding patients, except such as the law required for the public welfare and which could only be supplied by a medical man. Further, if a mother wished to conceal a birth she would be less likely than formerly to summon medical aid in a place where the Act had come into operation. Finally, the injustice to medical men of expecting them to perform another gratuitous service to the State was shown and the case of Manchester, the council of which city has rejected the Act after its adoption by the sanitary committee, was cited. The deputation was heard very courteously by the Aberdeen bailies and in consequence Councillor Kendall Burnett withdrew his motion to accept the Act and substituted one to send it back to the public health committee for further consideration in the light of the expression of medical opinion which the council had heard. This vigorous defence of professional rights may be commended to the notice of medical societies elsewhere. —At the first meeting of the newly elected Laurencekirk district committee of Kincardine county council a circular was submitted from the Local Government Board explaining the Notification of Births Act, 1907, and inclosing a form of application for its adoption. The chairman moved that the Act be not adopted. Mr. Low seconded the motion and pointed out that the Act was an injustice to the medical profession, because it imposed a penalty for neglect of duty for which they received no payment. The motion was agreed to unanimously.

Crathie and Braemar Parish Council: Medical Officership.

In THE LANCET of Jan. 4th, p. 60, some details were given of a conflict of opinion which has arisen in the parish council of Crathie and Braemar in Aberdeenshire with reference to the appointment of Dr. William Brown of Braemar as medical officer to the council. Some of the members are very hostile to Dr. Brown and at the meeting held on Dec. 13th, 1907, a majority of 6 votes to 2 were in favour of dismissing him. The subject was again discussed at a meeting of the parish council held on Jan. 29th. The chairman said that he had communicated with the Local Government Board for Scotland, giving a statement of the various steps which had been taken during the past year in connexion with the appointment of the medical officer, and that the Local Government Board had replied, stating that Dr. Brown's appointment was in order, and that there was no good reason for doubting its legality. The Local Government Board also stated that a medical officer, unless his agreement specially provides to the contrary, holds office for one year and his engagement may be terminated at the end of that year if due notice, say, of six weeks or two months be given to him. If no such notice be given he holds office by "tacit relocation" for another year. The Board also strongly deprecated the removal of a medical

Obituary.

SIR THOMAS McCALL ANDERSON, M.D. GLASG., F.F.P.S. GLASG.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF GLASGOW.

THE tragically sudden death of Sir Thomas McCall Anderson on the evening of Jan. 25th has removed a prominent personality from the ranks of the profession in Glasgow and the West of Scotland and a popular and highly successful teacher from the Glasgow Medical School in which he laboured with conspicuous ability for a period of nearly 50 years. On that evening he was present at the anniversary dinner of the Glasgow Ayrshire Society as the guest of his old friend the chairman, Surgeon-Colonel Robert Pollok, and appeared to be in his ordinary health and spirits. In felicitous terms he proposed the last toast on the list, that of the directors and other office-bearers of the society. Immediately afterwards he left the dining-room in company with his friend and colleague Sir Hector C. Cameron, apparently quite well, but on his way down the staircase he suddenly fainted and, surrounded by a number of medical friends who like himself had been guests of the chairman, he expired in a few minutes from heart failure. He had promised Dr. Pollok to be present and to propose a toast. He had felt somewhat tired during the day but in spite of the remonstrances of his family he felt that he could not disappoint his old friend and pupil who had been called to the honourable office of chairman of the society. He attended the dinner and kept his promise, with the tragical result which has just been stated. During the past year or more, probably as the result of a sudden but transient illness of an apoplectic nature, he had not enjoyed his usual vigorous good health, and last summer, on the advice of his medical friends, he took a prolonged holiday from teaching and professional work. He had benefited by the rest and change so much that he was able to resume his professorial duties at the beginning of the present winter session. At the meeting of the General Medical Council in November last he appeared to be in good health and took an active part in all the business of the session. He also attended the meeting of the Scottish branch council in Edinburgh last month.

Thomas McCall Anderson was born in Glasgow in 1836 and came of a family long and honourably connected with the city. His father, Dr. Alexander Dunlop Anderson (1794-1871), was the son of a merchant in Greenock and nephew of Dr. John Anderson, professor of natural philosophy in the university and founder in 1796 of the "Andersonian" university which is still famous as the leading extramural medical school in Glasgow. Through the Dunlops his family was intimately connected with the university, one of the Dunlops having been principal at the end of the seventeenth and another professor of Greek during the greater part of the first half of the eighteenth century. It will thus be seen that he came from a family which was able to give him a good start on the journey of life, and he himself soon proved that he was fitted and willing to make the very best use of his hereditary endowments. After a brilliant career as a medical student in the university of his native city he graduated "with honours" in 1858. For the succeeding two years he acted as one of the resident assistants in the Glasgow Royal Infirmary, in which institution his father had served during a number of years on the visiting staff. He then spent some time at Vienna and other great continental schools, and soon afterwards he settled in practice in Glasgow. In these early years he securely laid the foundations of his future success as a teacher and physician by his enthusiasm for his medical work and his tireless industry in the prosecution of it. He possessed that capacity for taking pains which is said to be akin to genius. Two old notebooks given by him to a friend many years ago bear abundant evidence of this. One of them contains full records of the symptoms and treatment of the rarer cases coming under his observation, and the other full notes of the books he studied. In the list of books thus annotated are such classics as Louis on Phthisis, Williams on Diseases of the Chest, Brinton on Ulcer of the Stomach, Virchow on the Cellular Pathology, Ricord on Syphilis, Gairdner and Garrod on Gout, Brown-Séquard on Epilepsy, Adams on Rheumatic Gout, and many others. In such a thorough manner did he prepare himself for his life's work.

Soon after settling in Glasgow he was appointed professor of the practice of medicine in the "Andersonian" College and somewhat later one of the visiting physicians to the Glasgow Royal Infirmary. From this time his success as a teacher and a physician was rapid and was maintained till the end of his long career. When the clinical school of the University was removed from the Royal to the Western Infirmary in 1874 he was appointed professor of clinical medicine in the University and one of the visiting physicians to the newly founded infirmary, where by far the greater part of his clinical work was done, and in the wards of which he was on full duty at the time of his death. In addition to his great industry another element in his success was the methodical manner in which he arranged his work. The proof of this is found in the fact that his great work on diseases of the skin was written at a time when his consulting practice was at its highest level and his popularity as a clinical teacher at its greatest. Regularly every afternoon in the midst of his numerous academic, professional, and social engagements an hour or two was devoted to the writing of the book. His custom then was to make pencil notes late at night and to dictate them the next afternoon as they were to appear in print to his amanuensis. His untiring industry and his method of working were an example and an inspiration to his students and assistants.

From what has been said it will readily be understood that the reason of McCall Anderson's great popularity and success as a teacher, especially of clinical medicine, is not far to seek. In the old Royal Infirmary days, before the University migrated to the west, he had already displayed his powers as a teacher, and his clinical classes were always most numerously attended. His definite aim in these days was to raise the standard of clinical teaching. He saw that in order to be effective clinical study and practice should be something more than a mere "walking the hospital." He set himself definitely so to organise his large classes that so far as possible individual students should be brought into personal contact with the cases. For this purpose in the most thorough manner he adopted the tutorial system, dividing the students into groups so that the elements of physical diagnosis and urinary analysis might be efficiently taught. The same methods were adopted when he went in 1874 to the Western Infirmary as Professor of Clinical Medicine in the University. Similar popularity attended him in his new sphere, and to the end in the Western Infirmary his clinical classes were always the largest. His great success in clinical teaching was due mainly to three characteristics: (1) to his clear and systematic method of exposition and demonstration; (2) to his intense concentration upon the subject in hand, which prevented his being led into the discussion of irrelevant matters; and (3) to his admirable powers of organisation in arranging for the teaching of large classes of students. These are qualities which, if combined with enthusiasm and industry, are bound to command success in clinical teaching. Everyone recognised that under the conditions of medical education which have up to now prevailed in this country no better method of instruction than that carried out by McCall Anderson could be devised for laying a sure foundation in the study and practice of clinical medicine.

As a physician Sir Thomas McCall Anderson may be described as at once practical and sagacious. His powers were greater in the direction of therapeutics than in that of pathology or the minutiæ of diagnosis. He did not belong to the expectant school and was never content to rely merely on the *vis medicatrix naturæ*. He believed thoroughly in the practical applications of the medical art and nothing delighted him more than to demonstrate to his students the beneficial effects of the drugs and therapeutic measures which he had prescribed. Indeed, this was the part of his teaching from which many of his students felt that they had profited most. And outside the wards of the infirmary his clear and common-sense instructions as to the treatment to be carried out in a given case were greatly valued by the numerous medical men who were in the habit of seeking his advice as a consultant. For many years he enjoyed a very extensive consulting practice. He did not, however, confine himself to general medicine; he also had a deservedly high reputation as a specialist in diseases of the skin. It was, indeed, as a dermatologist perhaps that he was best known in England and on the continent of Europe. Very early in his professional career he was instrumental in

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Disinfection of Uniforms.

WITH a view to avoid the risks of the transmission of infectious diseases throughout the army by means of every-day kit the Minister for War has ordered that disinfection shall be obligatory for all articles commonly in use, whether before their return into store or before they have been handed over from one man to another without being returned to store. The regulations now applicable to the use of formaldehyde vapour shall henceforward be applicable to headgear, boots or shoes, and spats.

Poisonous Milk from Cows Fed on Beet.

At a meeting of the Pædiatric Society held on Jan. 21st M. Decherf mentioned that an epidemic of acute enteritis had broken out in November among the children who attended his clinique at Tourcoign. No obvious cause appeared for this, as all the milk had been sterilised in the usual way. Inquiry eventually showed that owing to the lack of ordinary forage the cows had been fed upon beet leaves and red cabbage, vegetables which are well known to give both milk and butter a particular flavour. M. Decherf added that he had noticed a similar epidemic in the September of 1903. In this case it was due to the cows having been fed upon beet which had been kept in silos during the summer and which had fermented. The enteritis due to this cause presents the same features as that caused by microbe-infected milk but feeding by skim milk, which has a favourable effect upon microbial enteritis, has no effect upon toxic enteritis.

Expert Medical Evidence and the Criminal Law in France.

At a meeting of the Academy of Medicine held on Jan. 21st M. Thoinot and M. Lacassagne communicated a paper in which they pointed out how very little guarantee expert evidence under the present regulations offered to an accused man. If the diploma of doctor gives the holder the right to be summoned by the court as an expert it is no guarantee of his competence to act as such. Reforms as to the status of the medico-legal experts have been demanded for some time and a Bill to this effect has been before the Senate since 1899. M. Thoinot and his colleague ask that every condition should be exacted from expert witnesses so as to guarantee their competence and that legislation to this effect should be forthcoming.

The Cholera.

The greatest mortality from cholera takes place in India either in the height of summer or in the depth of winter. At the present time cholera imported from India is present at Mecca. After the Bairam festival, which this year occurred about Jan. 15th, there was reason to fear that the return of pilgrims would rapidly infect Mesopotamia, Persia, and Egypt. Another source of infection to be feared is that when the Hedjaz railway is completed it will bring Medina within four days of Damascus, thus doing away with the barrier, hitherto almost insurmountable, which the passage of the desert has offered. At the same meeting of the Academy of Medicine M. Chantemesse and M. Borel communicated a paper in which they said that the pilgrim routes, whether by sea or land, should be under strict supervision.

Statistics of Diphtheria.

At a meeting of the Hospitals Medical Society held on Jan. 7th M. Marfan gave the statistics of the diphtheria block at the Hospital for Sick Children from May 1st, 1906, to the same date in 1907. Of 789 patients admitted to the block 555 were suffering from diphtheria. Of these 555 patients the total mortality was 10·45 per cent. and the corrected mortality (*mortalité réduite*) 6·4 per cent. It will be seen, therefore, that the notable diminution in the mortality from the disease which has been observed of late years is fully maintained.

Sleeping Sickness in a White Man.

At a meeting of the Hospitals Medical Society held on Jan. 31st M. Guillain and M. Martin showed a man who had been attacked in the Congo with sleeping sickness, the diagnosis having been confirmed by the finding of trypanosomata. After he arrived in Paris paralysis with atrophy of the arm supervened, the characteristics being similar to those observed in syphilitic paraplegia. The groups of muscles specially affected were those of the thenar and hypothenar eminences. There were also present affections of sensation, exaggerated patellar reflex, Babinski's sign on the left side, and some modifications of the electrical reactions. All the symptoms disappeared after treatment with atoxyl. The presence of the trypanosoma in this case made it easy to eliminate all the other causes to which the symptoms might have been due. The atoxyl was administered as follows: first, one injection of 0·5 of a gramme; secondly, seven injections of 1 gramme; and finally, 11 injections of 0·5 of a gramme.

Feb. 4th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Brown Glasses as Eye Protectors.

IN a recent number of the *Revue Médicale de la Suisse Romande* Dr. Gonin has published his investigations on the use of coloured glasses to protect the eyes against the detrimental influence of strong light. He says that healthy persons only need these glasses when exposed to dazzling artificial light or when traversing snowfields and glaciers. The ultra-violet rays prove more detrimental to the conjunctiva than to the retina. Snow-blindness does not supervene suddenly as in the cases of blindness provoked by looking at the sun during an eclipse without the protection afforded by dark glasses. The retina is protected by the crystalline lens which absorbs ultra-violet rays (Widmark, Birch-Hirschfeld). Even the interposition of plain uncoloured glass acts as a protective to the retina. Dr. Gonin strongly recommends brown glasses as being capable of absorbing the greater part of the blue and violet rays without obscuring the vision, as in the case of the blue and black glasses which are generally in use. They have proved of special benefit to persons of a certain age with already diminished eyesight. Dr. Gonin has experimented with these glasses on Alpine tours and warmly recommends them; he has also found them useful in cases of retinitis pigmentosa, choroiditis, and neurasthenia with eye fatigue, whereas dark glasses are indicated when complete rest is necessary for the eye, as in the case of acute iritis, detachment of the retina, or atrophy of the optic nerve. In a communication to the Academy of Medicine Professor Motais of Angers has indicated four different shades of these brown glasses, and it is desirable that opticians should always adhere to the same formula.

Epidemic Cerebro-spinal Meningitis.

Dr. Charlotte Müller, assistant physician at the Medical Clinique of Zürich, has published lengthy details of 29 cases of so-called "epidemic" cerebro-spinal meningitis treated during the last two years under the care of Professor Eichhorst. The differential diagnosis between epidemic and tuberculous meningitis is insecure when resting only on clinical symptoms, though now and then the appearance of tubercles in the choroid and the absence of herpes febrilis determine the tuberculous origin of the brain affection. Neither chemical examination of the exudation nor microscopic examination of the blood supplies any definite information; this can only be obtained by bacteriological investigation, and even that may be misleading, as one fatal case proved. Out of 36 cases of purulent meningitis observed in the clinique 29 were due to the meningococcus of Weichselbaum, two had to be attributed to the diplococcus lanceolatus, three to the streptococcus mucosus (Schottmüller), one to the staphylococcus pyogenes aureus, and one to a doubtful form of diplococcus. Thus, 80 per cent. of all the cases were due to the epidemic variety of the disease, though there could be no question of an epidemic prevailing in and about Zürich, as the various cases had no connexion with each other. Some clinical symptoms seem of importance as regards diagnosis. Generally the spleen was not enlarged and in almost half the cases herpes febrilis was observed. In 26 out of 36 cases lumbar puncture was successfully performed. The serum treatment with anti-meningococcus serum, prepared by the Swiss Serum Institute according to the method of Kölle and Wassermann, proved ineffectual, as the rate of mortality of 75 per cent. was not influenced thereby.

Zürich, Feb. 2nd.

thoracic duct consequent on the pressure of leukæmic glands or by injury of the duct through sarcoma. The patient was submitted to a course of x ray treatment. The long bones, the spleen, and the glands were exposed to the rays, and the leucocytes fell to 5000 per cubic millimetre after a few weeks. Such cases where the lymphocytes were so abundant were liable to develop malignant disease, mostly of a sarcomatous nature. An interesting property of the pleuritic effusion was that it counteracted the effect produced by adrenalin on the pupil of the eye, whether that of the patient or of an animal. This fact might perhaps in future be made use of to ascertain the nature of doubtful pleuritic effusions.

Cerebro-spinal Meningitis and Deafness.

The epidemic of cerebro-spinal meningitis which occurred in Vienna in 1907 gave Dr. Alt an opportunity of studying its effects on the auditory organs and he recently communicated his results to the Gesellschaft der Aerzte. He examined 60 patients, of whom 9 died without a functional examination being possible. Of the 51 remaining patients 12 became completely deaf, 15 died later, 15 regained full health and hearing, and 9 suffered more or less serious damage. Deafness appeared as an early symptom within the first four days, but in a few cases it came on later; in three cases it supervened after the disease was practically over. The vestibular organs were affected in a high degree. All those who became deaf had an unsteady gait, with vertigo and other disturbances of coördination, until they learned to control their gait through the medium of the other senses, especially that of sight. Microscopic examination of the internal ear constantly showed purulent disease of the labyrinth, the cochlea and the semicircular canals, whilst the nerves were infiltrated and the bony labyrinth was in many cases filled with newly formed connective tissue. The patients who survived and became deaf showed not the least change in the tympanic membrane and functional examination of these patients revealed complete absence of perception of spoken words, musical sounds, or noises, deafness being complete in consequence of the destruction of the inner ear.

Primary Syphilitic Sore of the Nose.

A very rare case of extra-genital syphilis was shown by Dr. Menzel at the same meeting of the above society. The patient was a young man who had for three weeks been complaining of a swelling of the nose. The appearance of the affected part suggested simple abscess or furuncle. Examination of the nares revealed an elliptic, hard, well-defined, prominent nodule, with an ulcer of a lardaceous appearance on the top of it. The infiltration measured about three-quarters of an inch in all diameters. The relative absence of pain, the short duration and the presence of hard indolent glands in the submaxillary region confirmed the diagnosis of specific ulcer. A few days later a typical syphilitic exanthem appeared on the trunk, whilst no trace of any other primary lesion was discoverable. Spirochætæ were found in some of the particles removed for that purpose from the ulcer, so that the diagnosis was unquestionable. Only 25 cases of similar primary infections have been recorded and it was remarkable that nearly all of them were after a short time followed by severe syphilis of the brain; in fact, most dermatologists were agreed that extra-genital syphilis, especially in the head and face, often led very quickly to cerebral lesions. This has been explained by Fournier and Mobl as being due to the fact that in these cases the virulence of the spirochæta was not attenuated as it otherwise was by passing through glands.

Influenza in Vienna.

During the month of December, 1907, and January of the present year, when changes of weather were unusually rapid and frequent, influenza was very prevalent in Vienna, but as a rule the disease ran a very mild course, either because the virulence of the micro-organism was diminished or because the population was already to some extent immunised. The infection was present everywhere and assumed a bronchitic type with complications affecting not only the accessory sinuses of the nose but also the intestinal canal. About 11,000 cases were reported in one week, but the diagnosis was hardly ever confirmed by bacteriological examination. The disease took the shape of a pandemic, all the larger towns in Central Austria suffering alike, so that public offices, schools, and even post-offices had to be closed temporarily. The attack, however, generally passed away in from four to six days.

Feb. 1st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Rank of Medical Officers in the Navy.

THE resignation of the chief officer of the Bureau of Navigation makes public a controversy in official naval circles in regard to the rank of medical officers in charge of hospital ships. It appears that the head of the Bureau, a rear admiral, contended that these ships should be in command of a line officer and the surgeon should be in charge of the sick only. The Surgeon-General of the Navy endeavoured to have the rule established that a hospital ship should be in command of the surgeon who should have a corresponding rank. A joint board of the army and navy medical officers convened more than a year ago by executive order to unify the medical services as much as possible recommended that hospital ships should be commanded by medical officers, and the recommendation was approved by both the Secretary of War and the Secretary of the Navy in general orders. Accordingly, in the army all hospital ships and medical transports are placed under the Surgeon-General but in the navy the opposition has continued, and in the preparation of the naval medical supplies for the fleet now on the way to the Pacific the question of the position of commander of hospital ships assumed an acute form which was closed by the decision of the President in favour of the Surgeon-General of the Navy and the retirement of the head of the Bureau of Navigation.

Public Medical Lectures.

The Faculty of Harvard Medical College has organised a course of public lectures to be given on Sunday evenings and Saturday afternoons, which are holidays for the working public. The subjects selected for each lecture are of a popular character and are designed to entertain and to instruct the common people. The following are examples: Common Salt; Fatigue, its Effects and Treatment; Alcoholism and Insanity; Infant Feeding; Preventable Diseases of the Skin; and Foods in Health and Disease. The lectures are exciting popular interest and will result in stimulating other medical schools to undertake similar work and thus meet a great public want.

Hospital for Nervous Diseases.

The Department of Charities of New York has established a hospital for the exclusive treatment of diseases of the nervous system on Blackwell's Island. Its capacity is for 250 beds. It is reported that there are more than 1000 patients in the hospitals of the city awaiting admission, all of whom are suffering from various forms of nervous diseases which unfit them for treatment in general hospitals. The new hospital will be equipped with laboratories and all necessary appliances for diagnostic and therapeutic research, and for lectures and demonstrations in neurological science. This is the first hospital of the kind established in this country.

Use of Nostrums by Physicians.

At a meeting of the Philadelphia branch of the American Pharmaceutical Association a discussion arose on the prevalence of the custom of physicians to prescribe advertised nostrums the ingredients of which were unknown. The editor of a leading magazine, which excludes from its columns all nostrums, stated that the present agitation against advertising nostrums had the effect upon the public to make thousands of people absolutely opposed to them. The result is that in three years 18 nostrum manufacturers have gone out of business and two of the largest concerns are for sale. He added that to-day it is practically impossible to get nostrum advertisements into any reputable magazine and within a short time it will be almost impossible to get patent medicine advertisements into the religious weeklies. The next effort is to be centred on the provincial and urban daily newspapers. Dr. H. C. Wood attributed the continuance of the evil of nostrum medication to the leading members of the profession. It appeared on examination of 6000 prescriptions made in the year 1906 that there was 6 per cent. more patent medicine prescribed by leading physicians of Philadelphia than in 1905.

New Board to decide on Pure Food Rules.

Dr. Harvey W. Wiley of the United States Agricultural Department has heretofore made and enforced the rules

Medical News.

UNIVERSITY OF OXFORD.—In a Congregation held on Jan. 23rd the following degrees in medicine and surgery were conferred:—

Bachelors in Medicine and Surgery.—C. G. Douglas, Fellow of St. John's College; G. M. Johnson, Magdalene College; N. Flower, Exeter College; S. Hartill, New College; and B. G. Klein, Corpus Christi College.

—The remaining degree days in the present term are:—Saturday, Feb. 15th, at 2.30 P.M., and Thursday, March 12th, at 10 A.M.

UNIVERSITY OF CAMBRIDGE.—The council of the Senate recommends that the centenary of the birth of Charles Darwin shall be celebrated by the University in the week beginning June 20th, 1909.—The following degrees were conferred on Jan. 30th:—

M.D.—C. J. Coleman, Trinity.
B.C.—C. E. M. Jones, King's; C. Heath, Trinity; A. F. Jackson, Peterhouse; C. H. Treadgold, Clare; and A. W. C. Drake and S. G. Luker, Pembroke.

UNIVERSITY OF LIVERPOOL.—At a meeting of the Senate held on Jan. 29th diplomas in Public Health were awarded to—

E. S. Jones, M.R.C.S., L.R.C.P.; R. C. Mather, M.B., L.R.C.P., L.R.C.S.; and J. Orr, L.R.C.P., L.R.C.S., L.F.P.S.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of subscribers to the British Medical Benevolent Fund will be held at 15, Wimpole-street, London, W., on Tuesday, Feb. 18th, for the purpose of receiving the treasurer's financial statement and the report of the committee and for the election of a president and other officers and of a committee. The chair will be taken at 5.30 o'clock.

VACCINATION FEES.—At a meeting of the Falmouth board of guardians held on Jan. 29th a letter was read from the Local Government Board stating that the revised scale of fees submitted by the guardians for payment to the public vaccinators was too low. After some discussion it was decided to inform the Local Government Board that the guardians had arranged the fees with the public vaccinators.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—The Thornbury (Gloucestershire) board of guardians at its meeting on Jan. 25th passed a resolution advocating the desirability of the medical inspection of school children being placed in the hands of local medical men instead of appointing a medical officer solely for that purpose.—At a meeting of the Somerset county council held on Jan. 31st it was stated that 68 candidates had applied for the post of chief medical inspector of schools, the salary offered being £500 per annum, with necessary out-of-pocket expenses. Eventually Dr. T. H. Craig Stevenson of Walthamstow was elected.

EXAMINATIONS IN HYGIENE.—A series of examinations in hygiene has been promoted and organised by the Incorporated Institute of Hygiene of London. These examinations will be held at the leading centres throughout England, Scotland, and Ireland, and will include not only the necessary examination showing general proficiency in hygiene but the following additional honours subjects—viz., the hygiene of the home; the hygiene of motherhood; the feeding and rearing of children; food and cooking; home nursing and first aid; school hygiene; and physical training. The future heads of households are those to whom this syllabus more particularly appeals, and there is no doubt that the young women of this country have still much to learn in connexion with personal and domestic hygiene. Nursing and the needs of the invalid and the feeding and rearing of children are subjects which are worthy of being placed in the forefront of a girl's education, as they are likely to be of far more practical use in her daily life than many branches of study which now receive an attention out of proportion to their value. The prevalent ignorance in regard to child-life is one of the chief causes of infant mortality. In personal and domestic hygiene we lag sadly behind some other countries, especially France. It is most important that every school teacher should have a general knowledge of the principles of hygiene, quite apart from the special knowledge required in teaching it. An examining board, composed of some of the leading physicians and men of science throughout the country, has been formed to further this branch of the educational work of the Institute of Hygiene; and every assistance and encouragement will be given to candidates who may carry on their studies at school, college, or at home, while they will receive the certificate of the institute for proficiency in elementary knowledge and the diploma of the institute for proficiency in advanced knowledge should they pass the examination successfully. Further particulars can be obtained from the Secretary, Incorporated Institute of Hygiene, 34, Devonshire-street, Harley-street, London, W.

THE ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of the institute will be held at the Council Chamber, Exchange Buildings, Nottingham, on Saturday, Feb. 15th, when a discussion will take place on "Present-day Road Requirements in Town and Country." The discussion will be opened by Mr. E. Purnell Hooley, M.Inst.C.E., county surveyor, Notts, to be followed by, amongst others, Mr. A. Brown, M.Inst.C.E., city engineer, Nottingham, and Dr. F. R. Mutch, chairman of the health committee, and a general discussion is invited. The chair will be taken at 11 A.M. by Mr. H. D. Searles-Wood, F.R.I.B.A., chairman of the council of the institute. Tickets for admission of visitors may be had on application to Dr. P. Boobbyer, medical officer of health, Guildhall, Nottingham, who is acting as the local honorary secretary of the meeting; and of Mr. E. White Wallis, secretary, Parkes Museum, Margaret-street, London, W.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill are just about to publish the second and concluding volume of "The Labyrinth of Animals," by Dr. Albert A. Gray, aural surgeon to the Victoria Infirmary, Glasgow; the work will be illustrated by stereoscopic plates. Another new book to be published by the same firm is entitled "Abdominal Tuberculosis," by Mr. A. E. Maylard; the text will be illustrated. New editions nearly ready are the second of "Lectures on Medical Jurisprudence and Toxicology," by Dr. F. J. Smith of the London Hospital; additional lectures on "The Examination of the Person Alive and Dead," "Anæsthetics," and "Death Certification" have been included; also the sixth edition of "A Simple Method of Water Analysis," by Dr. J. C. Thresh of the London Hospital.—A branch of the London Independent Labour Party, viz., the Committee for Promoting the Physical Welfare of Children, has issued a pamphlet by Mr. M. D. Eder on "Diseases in the Schoolroom," in which the writer points out how urgent the need is for attention to the many diseases now prevalent in the State schools. The pamphlet is published at the nominal price of *1d.* and aims at helping the efficacious carrying out of the Act which came into force on Jan. 1st for the medical inspection of school children.

THE ELEVENTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.—This congress will meet at Naples at the beginning of April, 1909, and its organising committee has already issued a circular letter of invitation. Professor Marc Dufour will be honorary president and Dr. Landolt will be vice-president. The corresponding members of the congress for Great Britain are Mr. Walter H. H. Jessop, 73, Harley-street, London, W.; Professor George Mackay, 20, Drumsheugh-gardens, Edinburgh; and Sir Henry R Swanzy, 23, Merrion-square, Dublin. Ophthalmologists subscribing to the congress and wishing to communicate papers must forward their titles during the September of this year. All papers must be compiled in one of the official languages of the congress—viz., Italian, French, English, German, and Spanish. Documents will be sent before the meeting to those who shall have signified their intention to be present and will contain the information relating to the work of the commission nominated at the preceding congress to consider the themes of discussion: First, to fix, with regard to an indemnity, the value of a lost or damaged eye; and, secondly, unification of the measure of the visual power and unification of the notation of the meridians of astigmatism. The subscription for the congress is 25 francs for members and 10 francs for every member of their family. Notification of presence, subscriptions, and communications relating to the congress should be addressed directly to Professor Arnaldo Angelucci, R. Clinica Oculistica in S. Andrea delle Dame, Naples, or to one of the corresponding members of the respective countries. The member's ticket which those taking part at the congress will strong bar appeared on both sides. The jury found generally for the defendants and Mr. Justice Cussen said that he would appoint a future day to hear arguments as to how the verdict should be entered and as to costs. On a subsequent application judgment was entered for the defendants with costs upon one count, and as to the other count a new trial was ordered.

Diphtheria Patient Fined.

An unusual prosecution in this part of the world was made in the case of a woman who was charged under the Health Act that she was, while knowing she was suffering from a dangerous infectious disease—to wit, diphtheria—intentionally in a public place. The patient had been an inmate of the infectious diseases hospital and though convalescent left the institution against the order of the medical superintendent. In going home to her family she called at a friend's house and sat on the verandah. The magistrates imposed a fine of 10*s.* with £3 3*s.* costs.

State Relief.

The annual report of the State Children's Relief Board of New South Wales shows that 7049 children are under supervision, 4024 being boarded out apart from, and 3025 with, their mothers. The expenditure for the entire service of the department was £69,772. Contributions of parents amounted to £2078, leaving the actual cost to the State of each child at £15 6*s.* Allowances to widows and deserted wives towards the support of their children at home amounted to £19,269, so that the State appears to be assuming a large undertaking in addition to education. 1201 children are apprenticed under the control of the Board. Their wages are paid into the Savings Bank and disbursed according to a scheme that has worked well, two-thirds being retained till the child is 21 years old. Street-trading licences were issued to 735 children.

British Medical Association.

The annual meeting of the Victorian branch of the British Medical Association was held on Dec. 3rd. The retiring president (Professor H. B. Allen) delivered an address in which he outlined the scheme by which the branch had become amalgamated with the Medical Society of Victoria. The following office-bearers were elected for 1908: President, Mr. G. A. Syme; Vice-Presidents, Dr. R. R. Stawell and Mr. G. Cuscaden; Secretaries, Dr. L. J. Balfour and Dr. Henry Laurie; Treasurer, Dr. O. H. Mollison; Librarians, Mr. A. W. F. Noyes and Dr. H. D. Stephens; Council, Dr. W. R. Boyd, Dr. Felix H. Meyer, Dr. W. Moore, Mr. F. W. Morton, Dr. A. Lewers, Mr. W. Beattie-Smith, Dr. A. J. Wood, and Dr. G. T. Howard.

Dec. 28th, 1907.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Bradycardia in Appendicitis in Children.

Dr. János Bókay, professor of pædiatrics at the University of Budapest, has drawn attention in a clinical lecture to the importance of bradycardia in children suffering from appendicitis. This symptom has not been dealt with as yet; in the literature of the subject there is only one memoir referring to bradycardia in appendicitis, and in it only adults are considered. Professor Bókay draws the following conclusions from an experience of ten cases treated successfully. 1. During the absorption of the periappendicular exudation bradycardia sets in almost regularly and persists for many days; it may even last for more than a fortnight. 2. Bradycardia may also be observed after an appendicular abscess has been evacuated by an operation. 3. In children between the ages of seven and 16 years the pulse-rate ranged from 52 to 80. 4. There is no parallelism whatever between the pulse-rate and the temperature. 5. Bradycardia cannot be regarded as an unfavourable sign from the point of view of prognosis; on the contrary, in cases of periappendicular exudation it is a sign of the commencement of the process of absorption. In all the ten cases observed by Professor Bókay the bradycardia must have been of extracardial, i.e., nervous, origin, because organic heart disease could be excluded. He was therefore justified in assuming that the essential cause was irritation of the vagus, probably due to the absorption of toxins from the periappendicular exudation.

Why do not the Living Stomach and Intestine Digest Themselves.

Dr. Nandor Klug, professor of physiology, has been investigating in his laboratory the still unsolved question, why the living stomach does not digest itself. His investigations were based on Weinland's experimental results, according to which the walls of the stomach and intestines defend themselves against the proteolytic enzymes by means of anti-enzymes or anti-ferments. Professor Klug has found that the inner half of the gastric mucous membrane contained a substance which powerfully resisted the digestive action of the trypsin and the gastric juice. The stomach (and the small intestines as well) were therefore protected against self-digestion by mucin which they themselves secreted. Dr. Klug's experiments did not prove the presence of so-called anti-ferments, as supposed by Weinland. The mucin could not be digested either by the mixture of pepsin and hydrochloric acid or by the trypsin solution. Mucin was not liable to diffusion; it retained the trypsin and pepsin, and this property sufficed for the protection of the stomach and intestines from self-digestion. The ascaris lumbricoides was not digested by the intestinal fluids on account of the resistant properties of its external covering.

Cancer of the Lip.

At a recent meeting of the Budapest Medical Society Dr. Heiner Pál read a paper giving statistical details of the cases of cancer of the lip which have been under observation in Professor Dollinger's clinic during the last seven years. He said that labial cancer was ten times as frequent in men as in women and that cancer of the lower lip was twelve times as frequent as that of the upper lip. All parts of the lower lip were alike liable to be attacked; in the upper lip, on the other hand, the favourite site of the disease was the middle part. Cancer of the lip was most frequent in agricultural labourers and men who smoked pipes. It mostly occurred between the ages of 55 and 60 years. Preceding inflammations, psoriasis, leukoplakia, and scars had an important influence in the development of the disease. With regard to the period of admission to hospital, 84 per cent. of the patients presented themselves within the first year from the onset of the cancer and in 76 per cent. of the cases the parts were already ulcerated. In 67 per cent. of the cases there was a regional glandular infiltration present. Of the cases operated on, 69·6 per cent. have now remained free from recurrence for over five years. In two-thirds of the cases in which there has been recurrence death supervened in the course of the first year.

The Position of the Assistant Medical Officers of the Budapest Hospitals.

On Jan. 28th the assistant medical officers of the Budapest municipal hospitals—namely, St. Rochus, St. Ladislaus, St. Stephen, the Workhouse Hospital, St. John and Margareth Hospitals—gave notice to the director, Professor Kolomann Müller, that they would resign their posts on Feb. 4th. The motive for taking this step is the lowness of the salaries paid to the assistant medical officers. In 1904 they asked the municipal board to raise their remuneration from 1200 kronen (£50) to 2000 kronen, considering the great amount of work which they have to do and the expensiveness of living in Budapest. They pointed out that an assistant medical officer has to attend 200 patients daily and that the duties as well as the present salaries were fixed many years ago at a time when x ray work, advanced bacteriology, and the manifold forms of physical treatment now in use did not exist. It could therefore be easily understood that they have to work hard from early morning till late in the evening. They hoped that the municipal board would comply with their request, but on Jan. 27th the board refused the application. The assistant medical officers accordingly gave notice of their intention to resign their posts. The medical profession in general sympathises with them and is ready to offer help and support if the board maintains its present attitude.

Jan. 28th.

ST. MARY'S HOSPITAL.—A new special department for nervous diseases has been instituted in the out-patient practice of this hospital; it is a development of the electro-therapeutic department and will receive new cases as such, instead of only dealing with cases referred to it from other departments. The x ray department remains separate as before. Dr. Wilfred Harris has been appointed physician-in-charge of the department for nervous diseases in addition to his duties as senior physician to out-patients.

to the increase in the number of courses of lectures and the flourishing conditions of the teaching department, students being attracted from all parts of the world. The health of the chairman was proposed by Mr. R. Marcus Gunn, senior surgeon to the hospital.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Opening of Parliament.

Parliament was opened with the usual State ceremonial by His Majesty the King on Wednesday, Jan. 29th. Amongst the measures which were promised in the speech from the Throne were Bills to amend the Acts relating to the housing of the working classes and to regulate the laying out of land needed for the development of growing urban centres; to improve and extend university education in Ireland, and to consolidate and to amend the law relating to the protection of children and to the treatment of juvenile offenders.

The Pharmacy (Ireland) Acts.

An order approving of a regulation made under the Pharmacy (Ireland) Acts by the Pharmaceutical Society of Ireland has been ordered to lie upon the table of both Houses of Parliament.

New Bills.

Since the Session began the following Bills have been introduced into the House of Commons: The Sweated Industries Bill, by Mr. Toulmin; the Housing of the Working Classes (Ireland) Bill, by Mr. Hagan; the Education (Provision of Meals) (Scotland) Bill, by Mr. T. F. Richards; the Coroners' Inquests (Railways Fatalities) Bill by Sir Francis Channing; the Coroners' Inquests Bill, by Mr. Higham; and the Infant Life Protection Bill by Mr. Staveley-Hill. Several of these measures have been before the House on previous occasions. Mr. Higham's measure is designed to dispense with the compulsory viewing of bodies on the holding of coroners' inquests.

Legislation on Milk-Supply.

It is the intention of the Earl of Northbrook to put a question to the Government in the House of Lords next week with respect to legislation with regard to milk-supply. Mr. Burns, however, has intimated in the House of Commons that it is the intention of the Government to promote a Bill on the subject during the session.

Alcohol and Tuberculosis in Ireland.

On the motion of Mr. Sloan, the House of Commons has ordered a return giving statistics showing the number of deaths in Ireland due to alcohol and tuberculosis for the 12 months ending on the 31st day of December, 1907.

HOUSE OF LORDS.

Wednesday, Jan. 29th.

The International Conference on Sleeping Sickness.

Answering a question put by the Earl of Mayo in the course of the debate on the Address, Lord Fitzmaurice, the Under Secretary for Foreign Affairs, said that the International Conference upon Sleeping Sickness and Tropical Disease, which met at London, arrived at certain conclusions, but as the delegates who came from various foreign States had no power to sign a treaty the Conference adjourned. It was hoped that the Conference would reassemble in March and that then a convention would be signed.

HOUSE OF COMMONS.

Friday, Jan. 31st.

Medical Appointments in India.

Dr. V. H. Rutherford in the course of a speech advocating changes in the method of governing India, incidentally observed that the natives of that country could not get the high appointments in the medical profession there. All the best appointments in the hospitals and medical colleges were kept in the hands of Europeans.

Monday, Feb. 3rd.

Children in Public-houses.

Mr. Wedgwood asked the Secretary of State for the Home Department whether his attention had been drawn to the statement of the Chief Constable of Liverpool that the action of the Liverpool Licensing Bench in discountenancing the presence of children in public-houses was responsible for the fact that the children observed to be taken into public-houses in Liverpool amounted to only 1·25 per public-house per hour against 9·12 in London; and whether the same method of checking this evil could be recommended by the Home Office to other licensing benches.—Mr. H. Samuel (who replied) said: The Secretary of State does not find that the Chief Constable of Liverpool committed himself to so definite a statement as my honourable friend attributes to him, but there can be no doubt that the views of a licensing authority on the question of the admission of women and children into public-houses must have a strong influence on the licence-holders within their district. The Secretary of State has no power to advise licensing authorities in this matter, but he is sure that they must all be fully alive to a question which is so much in the public mind at the moment and which will be dealt with in coming legislation.

Tuesday, Feb. 4th.

The Sleeping Sickness.

Mr. Rees asked the Under Secretary of State for the Colonies what measures had been taken to prevent the spread of sleeping sickness from Uganda towards Nyassaland.—Mr. Churchill answered: The question of the spread of sleeping sickness towards Nyassaland is being investigated by a party of scientific experts sent out by the Liverpool School of Tropical Medicine with the assistance of a grant from Government funds. When their report has been received the Secretary of State will consider in consultation with the Governor of the Protectorate what measures, if any, are required. The whole matter is being closely watched.

Regulations on Imported Meat.

Mr. Courthope asked the President of the Local Government Board what steps, if any, were being taken to remove the danger to the public health arising from imported meat and to carry out the recommendations contained in Dr. G. S. Buchanan's recent report on the subject.—Mr. Burns replied: I have caused regulations to be prepared under the Public Health (Regulations as to Food) Act of last session dealing with the subjects referred to in Dr. Buchanan's report, and I am now in communication with the other departments concerned with regard to them.

Milk-supply and Legislation.

Mr. Victor Cavendish asked the Prime Minister whether, in view of the widespread anxiety existing in many parts of the country, he would cause a full inquiry to be made into the question of the supply of milk in relation to public health before any legislation was introduced.—Mr. Burns (who replied to the question) said: The Government is desirous that there should be legislation with regard to milk-supply during the present session, and I could not promise further inquiry before introducing a Bill on the subject.

Irish Poor-law Medical Officers.

Mr. Fetherstonhaugh asked the Chief Secretary to the Lord Lieutenant of Ireland whether it was intended to introduce any legislation during the present session to give effect to the report of the Commission on the Irish Poor-law Administration, and in particular to deal with the grievances of the Irish Poor-law medical officers.—Mr. Birrell answered: It is the intention of the Government to introduce legislation to amend the Irish Poor-laws, but I cannot hold out any hope that an opportunity will arise during the current session.

Wednesday, Feb. 5th.

A Tuberculosis Prevention Bill for Ireland.

Mr. Augustine Roche asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the unanimous expression of public opinion all over Ireland during the past six months on the urgent necessity of taking steps to check the ravages of consumption in Ireland, any action would be taken this session to amend the law in conformity with the views expressed at the meetings.—Mr. Birrell replied: It is intended to introduce a Bill on the subject referred to in the question. The Bill, which has been drafted, is entitled "The Tuberculosis Prevention (Ireland) Bill, 1908." I hope it will pass into law during the present session.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Bailey, T. Ridley, M.D. Edin., has been appointed School Medical Officer under the Bilston Education Committee.

Bird, W. E. F., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the York Post Office.

Charles, Herbert, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Paddington Green Children's Hospital.

Collier, James, M.D., F.R.C.P. Lond., has been appointed Physician in Charge of Wards to St. George's Hospital.

Edington, G. H., M.D. Edin., F.F.P.S. Glasg., has been appointed Assistant to the Professor of Clinical Surgery, University of Glasgow.

Jardine, Robert, M.D. Edin., M.R.C.S. Eng., F.F.P.S. Glasg., F.R.S.E., has been appointed External Examiner in Obstetrics to the Victoria University, Manchester.

Maynard, Edwin, F.R.C.S. Eng., L.R.C.P., D.P.H. Lond., has been appointed Senior House Surgeon at the Bristol General Hospital.

Mudge, Zachary Belling, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Hayle (Cornwall) Urban District Council.

Naylor, Rupert George St. John, F.R.C.S. Edin., has been appointed Public Vaccinator for the South-Eastern District of Victoria, Australia.

Sleeman, James Henry, M.B., Ch.B. Melb., has been appointed Public Vaccinator for the South-Western District of Victoria, Australia.

Stevenson, Thomas Henry Craig, M.D., B.S. Lond., L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed Chief Medical Inspector of Schools by the Somerset County Council.

Thomas, Frank Leslie, M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed *pro tem.* District Medical Officer by the Barnstaple Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Abertillery Urban District Council. Education Committee.—Doctor (female). Salary at rate of £150, rising to £200 per annum.

Acton Urban District Education Committee.—Medical Inspector of Schools (female). Salary £200 per annum.

Bangor, Carnarvonshire and Anglesey Infirmary.—House Surgeon. Salary £80 per annum, with board, lodging and washing.

Bath, Royal Mineral Water Hospital.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

SIR THOMAS McCALL ANDERSON, M.D. GLASG., F.F.P.S. GLASG.,
REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF GLASGOW.

allowed the muffin-bell to become a familiar, but unnecessary, form of nuisance, only to take steps against it upon its disturbing the slumbers of members of "the force." Nevertheless, if we are to witness the total disappearance of the muffin-man as a result of his being unable to advertise his wares in the accepted manner of doing so we may temper our sympathy with the individual by the reflection that he distributed articles of diet of doubtful origin in a manner which few could regard as desirable. His tray often covered with a piece of baize of a hue suggestive of long service in the murky atmosphere of the London streets has not been an ideal means of conveyance from a sanitary point of view, nor has his personal cleanliness been always above criticism.

A MEDICAL correspondent writes under the signature "Phenad": "Can anyone give me information as to any localised poisonous possibilities from a leech-bite, as distinct from an infection of the wound left by the bite?"

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P. A. F.—We have read most of the stories before. These people thrive on contradiction, while nothing minimises the mischief of their action so much as never to mention them.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 6th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 31	29·94	S.W.	0·02	69	48	35	39	41	Overcast
Feb. 1	29·87	N.W.	...	72	43	37	35	38	Fine
" 2	30·22	W.	...	61	42	33	35	36	Fine
" 3	30·17	W.	...	50	45	33	38	38	Overcast
" 4	30·35	N.	0·05	66	43	36	35	37	Fine
" 5	30·62	N.E.	...	53	45	35	35	37	Hazy
" 6	30·65	W.	...	52	48	36	43	43	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, *Hanover-square, W.*

TUESDAY.—(*Surgical Section*). 5.30 P.M., Mr. A. H. Tubby: Co Valga

THURSDAY.—(*Obstetrical and Gynæcological Section*). 7.45 P.M. The President, Dr Macnaughton-Jones, Dr. E. Holland, an Dr. A. Routh: Specimens. Dr. R. Andrews and Dr. Maxwell; A Case of Difficult Labour, with Remarks on th Specimen of the Frozen Section of the Uterus. Dr. M. Randal An Ovarian Dermoid with Secondary Cysts connected with th Omentum, with Pathological Report and Remarks by M T. W. P. Lawrence.

FRIDAY.—(*Clinical Section*). 8.30 P.M., Dr. L. Guthrie and Mr. Mayou Mr. J. P. Roughton, Dr. H. French, Mr. R. J Godle, Dr. S. Taylor, Dr. A. Latham, and Dr. F. P. Weber: Exhibition of Cases. Dr F. G. Batten and Dr. J. G. Forbes: Note on a Case of Gaertner Infection in an Infant. The patients will be in attendance at 8 P.M.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Clinical Evening. Mr. G. Watson, Dr. Wynter, Dr. M. Dockrell, Dr. R. Hutchison, Dr. W. H. Willcox, Dr. de H. Hall, Dr. A. Morison, Dr. C. Wall, and *others*: Cases

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Clinical Evening. Mr. L. Paton, Mr. J. Hosford, Dr. F. W. Edridge-Green, Mr. J. H. Fisher, and others: Cases and Demonstrations. 9 P.M., Discussion of th Cases.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Dr. Pembrey: The Physiological Principles of Physical Training.

MEDICO-LEGAL SOCIETY, 22, Albemarle-street, W.

TUESDAY.—8.15 P.M., Narration of Cases and Exhibits of Medico-Legal Interest. Dr. L. Freyberger: An Analysis of 14 Cases of Sudden Death while under the Influence of an Anæsthetic.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne-street, Edgware road, W.

THURSDAY.—8.30 P.M., Mr. M. Smith: The Diagnosis and Treatment of Abdominal Injuries. Dr. C. Jones: The Treatment of Bronchial Asthma by Inoculation with a Bacterial Vaccine.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY.—5 P.M., Mr. S. G Shattock: Ovarian Teratomata.

WEDNESDAY.—5 P.M., Dr. J. W. H. Eyre: The Importance (Surgically) of the Pyogenetic Activities of Diplococcus Pneumoniæ.

FRIDAY.—5 P.M., Mr. L. S Dudgeon: Infection of the Urinary Tract due to Bacillus Coli.

(Erasmus Wilson Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. Whitfield: Clinique (Skin). 5.15 P.M. Lecture:—Dr. P Stewart: Thalamic Hemiplegia.

TUESDAY.—4 P.M., Dr. A. Morison: Clinique (Medical). 5.15 P.M. Dr. M. Dobbie: Swedish Medical Gymnastics, their App in the Treatment of Diseases of the Circulatory and Systems.

WEDNESDAY.—4 P.M., Mr. H. L. Barnard: Clinique: 5.15 P.M., Lecture:—Mr. R. H. J. Swan: Carcinoma of Breast, its Early Recognition and Treatment.

THURSDAY.—4 P.M., Clinique (Surgical). 5.15 P.M., Lecture:—D J. E. Squire: Pneumothorax.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith road, W.

MONDAY.—12 noon: Lecture:—Dr. Low: Pathological. 2 P.M. Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:— Davis: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M. Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical Surgical Clinics. X Rays. Dr. Scott: Diseases of the 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Pardoe: Cystitis

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., L Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. M. Moullin: Gynæcological Operations 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Opera Dr. Abraham: Diseases of the Skin. 3 P.M., Lecture:— R. Jones: Types of Insanity (at the London County Asylum Claybury, Woodford Bridge, Essex).

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical Surgical Clinics. X Rays. Dr. Scott: Diseases of the 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—*Cliniques*:—10 A.M., Surgical Out-patient (Mr. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

founding the Glasgow Hospital and Dispensary for Diseases of the Skin. In this institution he worked hard all his life and obtained a wide experience of all varieties of cutaneous maladies. His annual clinique on diseases of the skin has done much to promote a thorough knowledge of dermatology amongst the practitioners graduating from the Glasgow school. During his busy life Sir Thomas McCall Anderson found time also to contribute largely to the literature of medicine. His largest work, as has already been mentioned, was the "Treatise on Diseases of the Skin." Among the long list the following may also be mentioned: "On the Curability of Attacks of Tubercular Peritonitis and Acute Phthisis (Galloping Consumption)"; on "Syphilitic Affections of the Nervous System: their Diagnosis and Treatment"; and "Lectures on Clinical Medicine delivered in the Royal and Western Infirmaries of Glasgow." These, and we might mention many more, are sufficient to show the wide scope of his literary efforts and of his clinical studies. As a writer his style was clear and terse; and his views both on diagnosis and treatment were always based upon cases actually observed and treated. As a man of affairs he had a high reputation. He was a good business man; and his sound common-sense was recognised by his being placed on a number of public and charitable boards. In politics he was a Conservative and he took an interest in the local affairs of the party. For many years he was an elder in the Church of Scotland.

In 1900 Sir Thomas McCall Anderson was transferred by Lord Balfour of Burleigh, then Secretary for Scotland, to the chair of Practice of Medicine vacated by Sir William T. Gairdner. In 1903 he succeeded the same gentleman as representative of the University of Glasgow on the General Medical Council. He was knighted in 1905 and two years later, on the death of Sir William Gairdner, he succeeded him as one of the honorary physicians to the King in Scotland. He has now ended his busy life full of honours, having discharged his daily duties to the very last. On the Monday after his death the headings of his intended lecture for that day on cerebral hæmorrhage were found written in his own hand on the blackboard of his class-room. His punctuality and diligence in his medical work have long been admired by his medical brethren; and those who were his students will not soon forget the clear and succinct clinical teaching which in the case of many of them laid the foundation of their own success in the profession of medicine.

He is survived by Lady McCall Anderson, one son, and five daughters, with whom much sympathy is felt.

JAMES BELL PETTIGREW, M.D. EDIN., F.R.C.P. EDIN., F.R.S. LOND., LL.D. GLASG.,

PROFESSOR OF MEDICINE AND ANATOMY IN THE UNIVERSITY OF ST. ANDREWS.

Professor James Bell Pettigrew died at his residence, The Swallowgate, St. Andrews, on Jan. 30th, after a long illness. He was born in 1834 at Roxhill in Lanarkshire, and was related on his mother's side to Henry Bell, the founder of steam navigation in Europe. He studied medicine in the University of Edinburgh, where he graduated as M.D. in 1861, receiving a gold medal for his thesis; he was also a gold medallist in the subjects of anatomy and medical jurisprudence. From 1862 to 1868 he held the appointment of assistant curator at the Hunterian Museum of the Royal College of Surgeons of England. Returning to Edinburgh he worked for the Royal College of Surgeons in that city, being appointed curator of the museum in 1869 and lecturer on physiology in 1873. In 1875 he became Chandos professor of medicine and anatomy in the University of St. Andrews, a position which he held till the time of his death, although increasing infirmities compelled him not long ago to relinquish the active duties connected with his chair. Professor Pettigrew made many valuable contributions to medical literature, chiefly in the form of articles published in various journals and papers read before societies. At an early part of his career he worked at the muscular structure of the heart, stomach, and bladder; and some of his results were published in the *Philosophical Transactions* in 1864 and 1867. The latter of these two memoirs gained for him in 1874 the Godard prize of the French Academy of Sciences and he also received the distinction of laureate of the Institute of France. He subsequently gave much attention to problems connected with the flight of birds. In 1873 he published a treatise on "Animal Locomotion," and the article entitled "Flight: Natural and Artificial," in the ninth edition of the "Encyclopædia Britannica" (1879) was written by him. Various forms of flying machines were devised by him for the purpose of illustrating his views. On Nov. 23rd and 30th, 1901, we published two valuable papers by him on the making of anatomical preparations, and again in January, 1904, an article on Spiral Fomrations in Relation to Walking, Swimming, and Flying. Marrying in 1890, Professor Pettigrew has left a widow who was a daughter, of the late Sir W. Gray of Greatham, Durham.

CHARLES JAMES WRIGHT, M.Sc. LEEDS, M.R.C.S. ENG.,

EMERITUS PROFESSOR OF OBSTETRICS, UNIVERSITY OF LEEDS; HONORARY CONSULTING SURGEON TO THE HOSPITAL FOR WOMEN AND CHILDREN, LEEDS.

THE loss which Leeds has sustained by the death of Mr. O. J. Wright will be felt not only by those with whom he has for so many years been associated but by a large number of medical men in practice in various parts of the county of York and elsewhere. Though Mr. Wright had been manifestly failing in health for some years he went on bravely with his work until about a week before he passed away on Jan. 17th, and the announcement of his death came as a surprise even to many of his friends in Leeds. Mr. Wright, who was in his sixty-sixth year, was a native of Wakefield. He was educated at St. Peter's School, York, and was a student of the old Leeds School of Medicine as well as of Guy's Hospital. It may be said that the whole of his professional life was identified with the Leeds School of Medicine, for as a student he worked in the old house in East Parade, and in this house he also taught. He was associated with the school when it was housed in the new premises in Park-street, opened by Sir James Paget, and he continued his work until last year in the new buildings opened by the present Prince of Wales in the early "nineties." To few men indeed is it given to be a member of the active teaching staff of any institution for the long period of 41 years, and not only was this the case with Mr. Wright, but everyone who was acquainted with his work will cordially agree that during the whole of that time his energies were unsparingly devoted to the welfare and reputation of the school. Mr. Wright's earlier work was done in the departments of anatomy and physiology but from the year 1884 he was responsible for the teaching of obstetrics, first as lecturer in succession to the late Mr. William Nicholson Price, and subsequently to 1888 as professor. The University honoured him by conferring upon him the degree of Master of Science and on his resignation of the professorship last year it will be remembered that he was promoted to the honorary position of emeritus professor.

For many years Mr. Wright was a member of the honorary staff of the Hospital for Women and Children. On retiring from the active staff last year he was elected honorary consulting surgeon to the institution. In the reconstruction of this charity and in the erection of the new buildings, which were opened a few years ago, he took a very active part. For many years he was connected with the important work of the Leeds District Nursing Association and the committee will for long look back with gratitude to his genial and unsparing solicitude for the welfare of the nurses, at whose disposal he always held himself in times of illness. Though always in general practice Mr. Wright devoted himself more especially to obstetrics and gynæcology and he was frequently called in consultation by his former students in cases of difficulty. A distinguishing characteristic of Mr. Wright was his extraordinary grasp of details; he was apparently able at any time to lay his hand on some memorandum of an event which everyone else was at a loss to give a clear account of. One of his colleagues described him as "a born secretary," and another in joke said "his house must be full of pigeon holes," so unfailing was his accuracy in this respect. With this he combined a geniality of manner and a true kindness of heart which those who came much in contact with him will never forget. He probably valued nothing so much as the esteem and gratitude of his students, and this he had in a measure which was alike an honour to them and to him on whom it was bestowed. The sympathy of all who knew him will be freely extended to Mrs. Wright and his family, and his colleagues will always keep his memory fresh in their minds as of one who did his duty manfully.

Communications, Letters, &c., have been received from—

A.—Acton Urban District Council, Clerk to the; Ancoats Hospital, Manchester, Secretary of; Dr. F. H. Alderson, Bournemouth; Anglo-American Pharmaceutical Co., Croydon.

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Y.—Mr. Walter A. Yearsley, Accrington; Dr. Ernest Young, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. Adam, West Malling; Messrs. Aked and Aked, Lond.; Mr. C. Adams, Elgin; Dr. T. M. Allison, Newcastle-on-Tyne; Dr. W. S. Anderson, Chapel-en-le-Frith; Mr. A. Anderson, Rosewood, Queensland; Messrs. Allen and Hanburys, Lond.; Apollinaris Co., Lond.

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Y.—York County Hospital, Secretary of.

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DONATIONS AND BEQUESTS.—Under the will of Colonel Edward Sanderson Tozer, V D., of Sheffield, the Sheffield Royal Infirmary. the Sheffield Royal Hospital, and the Jessop Hospital for Women will each benefit by a legacy of £500.—By the will of Major Christopher Deake Brickmann of Bath £200 have been left to the Eastern Dispensary, Bath, and £500 to the Royal United Hospital, Bath, for the maintenance of a cot to be called after the testator.

THE After-Care Association for poor persons discharged as recovered from asylums for the insane held its annual meeting on Jan. 29th, at 48, Wimpole-street, London. Mr. Anthony Hope Hawkins was in the chair. The report of the council read by the secretary, Mr. H. T. Roxby, stated that the proportion of cases successfully treated had been very encouraging. The results showed that the prevention of relapse into insanity was possible when an efficient re-start in life was given. Many persons discharged from asylums for the insane were quite capable of work if suitable occupation were found for them, but were unable to stand the anxiety and strain of procuring it for themselves. The council wished to call particular attention to this point as it was often overlooked when patients were discharged and their slender means were spent before they applied for help from the Association at the Church House, Dean's-yard, Westminster. Amongst those present were Dr. G. H. Savage who spoke on the difficulties of convalescence from mental disorders, Dr. G. F. Blandford, Dr. G. Amsden, and Dr. H. Bond.

THE WEST AFRICAN MEDICAL STAFF.—The winter dinner of the West African Medical Staff took place on Jan. 29th, at the New Gaiety Restaurant, Strand, London. There was a large attendance of members, including Dr. W. T. Prout, C.M.G., of the Liverpool School of Tropical Medicine, late principal medical officer, Sierra Leone, who presided; Mr. G. J. Rutherford, senior medical officer, Gold Coast; Dr. C. R. Chichester, senior medical officer, Northern Nigeria; Dr. M. Cameron Blair, senior medical officer, Southern Nigeria, and others. Among the guests were Sir Patrick Manson, K.C.M.G., Mr. J. Robinson of the Colonial Office, and Dr. C. W. Daniels of the London School of Tropical Medicine. Letters regretting inability to be present were received from Mr. R. Antrobus, C.B., Assistant Under Secretary of State for the Colonies, Sir Alfred Jones, K.C.M.G., Sir Rubert Boyce, and others. Dr. Prout, in proposing "Success and Prosperity to the West African Medical Staff," said that he was sure that in the midst of these luxurious surroundings those present would remember their brother officers who were bearing the white man's burden in the unhealthy wilds of West Africa. He then briefly reviewed the changes which had come about since he first went out to West Africa and drew attention to the vast developments which had taken place in tropical science of late years, many of which were due to the ability, the dogged determination, and the far-sightedness of that veteran of tropical medicine whom they were proud to have as an honoured guest that evening, Sir Patrick Manson. But up to the present there had been one thing lacking—the feeling of comradeship and *esprit de corps* which was so essential to the welfare of any body of men, scientific or otherwise, who are bound together by a common training, common knowledge, and common interests. This was possibly due mainly to the geographical conditions of West Africa and he believed that these dinners would do much to foster that feeling of union and cohesion which was so necessary. It was his conviction that whatever was conducive to the efficiency of the medical staff would undoubtedly be for the benefit of the general community who lived under the unhealthy conditions of West Africa, and he was sure that he was speaking for all of them when he said that they would welcome any improvement of this nature, not for merely selfish and personal considerations, but because of the great gain to health and sanitation which would result. The health of the guests, coupled with the name of Sir Patrick Manson, was briefly proposed by Mr. Rutherford. Sir Patrick Manson, in reply, expressed the great pleasure he had at being present and considered that such meetings would be of great benefit to the West African Medical Staff and would be conducive to a feeling of union which would strengthen their hands for good. He was aware that there was a feeling that they had not always received that support in sanitary matters to which they were entitled; this was not due to any want of sympathy on the part of the Colonial Office which was fully alive to the value of their services and was anxious to assist in forwarding sanitary reforms, but was perhaps to be attributed to local conditions. He realised that it was desirable that some form of organisation should be devised which would enable them to bring forward their views in a more direct manner but it was difficult to see how this could be done at once and it was necessary to proceed slowly and cautiously. He hoped that ere long it would be found possible to find some means of surmounting these difficulties. Efficiency in the West African Medical Staff was especially desirable at the present time. They were at the beginning of new developments, of a new pathological era for West Africa, which the political changes of recent years, increasing inter-communication, and, above all, the new railways, were sure to bring about. Diseases formerly limited in their area would become diffused and widespread and diseases hitherto unknown there—for example, plague and cholera—would be introduced.—Mr. G. T. Whyte, medical officer in Northern Nigeria, has resigned his appointment with effect from Oct 4th, 1907. Mr. P. Phillips, medical officer in Southern Nigeria, has been invalided from the service with effect from Nov. 7th, 1907. Dr. W. Fletcher, D.S.O., medical officer in Southern Nigeria, has retired on pension from Nov. 15th, 1907. Mr. J. D. Small, senior medical officer in Southern Nigeria, has retired on pension from Dec. 12th, 1907. Dr. T. C. Caldwell, medical officer in Southern Nigeria, has been invalided from the service with effect from Dec. 24th, 1907. Dr. D. H. R. Waldron, senior medical officer of the Gold Coast, will retire on pension from Feb. 18th, 1908. Dr. C. R. Chichester, senior medical officer in Northern Nigeria, will retire on pension from March 28th, 1908. Dr. J. A. Pickels, medical officer in Southern Nigeria, has been promoted to senior medical officer, vice Mr. J. D. Small. The following gentlemen have been appointed to the staff:—Sierra Leone: Mr. J. C. Murphy, dated Nov. 16th, 1907. Northern Nigeria: Mr. F. E. Bissell, dated Nov. 16th, 1907. Southern Nigeria: Dr. G. Beatty, dated Dec. 28th, 1907; and Mr. W. R. Larbalestier, Mr. W. S. Snell, Dr. T. L. Craig, and Dr. J. Boyd, dated Jan. 11th, 1908.

DR. A. NEWSHOLME AND BRIGHTON.—At a special meeting of the Brighton town council on Jan. 30th it was unanimously decided that the following resolution should be engrossed on vellum, sealed with the common seal of the borough, and presented to Dr. Newsholme:—

> That the council with great regret accept the resignation of Dr. Newsholme, medical officer of health for the borough, and tender him their very hearty congratulations upon his appointment as head of the medical department of the Local Government Board. They desire to assure Dr. Newsholme of their high appreciation of the unstinted service rendered by him to the inhabitants of the borough during the period of 20 years throughout which he has held his important office, by which a continuous and progressive decline in the death-rate has been brought about, the housing conditions of the poor have been greatly improved, and the standard of public health administration has been raised to a very high degree of efficiency. They further wish to congratulate Dr. Newsholme upon his early recognition of the importance from the public health standpoint of the treatment of consumption and upon the national service which he has rendered in the department of medical science.

At the same meeting Dr. Newsholme was allowed to terminate his engagement on Feb. 3rd, thus abrogating the usual quarter's notice, and Dr. Henry Collier Lecky, resident medical officer of health at the sanatorium, was appointed acting medical officer of health pending the appointment of a successor to Dr. Newsholme.

SECOND ANNUAL DINNER FOR PAST AND PRESENT STUDENTS OF THE ROYAL LONDON OPHTHALMIC HOSPITAL.—The second annual dinner for past and present students of the Royal London Ophthalmic Hospital was held at the Trocadéro Restaurant on Jan. 29th, under the presidency of Sir John Tweedy, consulting surgeon to the hospital and late President of the Royal College of Surgeons of England. About 60 past and present students and guests were present and the success which attended the initiation of this celebration last year, under the presidency of Mr. Jonathan Hutchinson, was repeated. Sir John Tweedy proposed the toast of "The Moorfields Hospital and Medical School" in felicitous terms, response being made by Mr. Sturgis, chairman of the hospital committee, and Mr. W. T. Holmes Spicer, dean of the school. The latter drew attention add it to the heterogeneous category of such without violence, for it is as simple in structure, though not in its origin, as a cyst, say, of the urachus. It is a cyst produced from an embryo and I venture to name it an *embryonal cyst*. And such teratoma may become the seats of malignant disease. We may be sure that the localised epithelioma or squamous-celled carcinoma encountered at times in an ovarian cyst has arisen in the cutaneous covering of a teratoma. But more frequently the tumour arising from the teratoma is of a mixed kind; all the histological elements of the teratoma, seeing that they are all embryonic residua, may partake in the abnormal overgrowth and the resulting tumour may be simple, or malignant producing metastasis. Mr. H. T. Hicks and Mr. J. H. Targett have published two cases of malignant embryoma of the ovary, one of the patients being but six years of age. And a case of yet younger age is recounted by Mr. L. S. Dudgeon, where a huge tumour of this kind filled the abdomen of a child under four years of age. In some of the similar cases reported cerebral tissue has been found in the tumour.

To return now to the theories which have at different times been advanced in explanation of the so-called ovarian dermoid. One, which has been long held, is that such cysts result from an impregnation which has been relatively abortive and incomplete in result. As a sufficient refutation of this view it can be pointed out that these cysts may be met with in the unmarried and in children, and this objection has not yet been met. We often find it recorded that a patient from whom such a teratomatous cyst was taken was unmarried. Yet such a history of itself is scientifically inconclusive in this regard. And then we come across one of those decisive but simple observations of Hunter, which forces us to believe that he saw its importance for the simple reason that he made it. In the case of the Hunterian specimen (No. 4508 in the College Museum) we find it recorded that the hymen was intact. The cyst was taken from a woman, aged 18 years, and from its otherwise smooth interior there projects an embryoma covered with piliferous skin and bearing a tooth. And as regards the presence of such cysts in children, No. 4514 is a thin-walled ovarian cyst bearing a small piliferous teratoma, which contains cartilage, the parts being removed from a girl, aged eight years. It is clear, moreover, that in the case of the teratomatous or so-called dermoid cyst of the testicle the theory of a post-natal impregnation is reduced to an absurdity. The view usually adopted in regard to the ovarian teratoma is that the latter is due to the impaction of a second individual which has started on its development synchronously with its host but which has subsequently failed in its progress.

The chief argument against the theory of a twin impaction in explanation of the ovarian embryoma is the sheer commonness of the latter; partly this and partly the difficulty of understanding why such an impaction should so regularly take place into the substance of the ovary and why, being so common in the ovary, it should be of such excessive rarity in the testicle, seeing that these organs occupy the same primitive position and are, in fact, at first indistinguishable from one another. The occurrence, again, of a teratomatous cyst in each ovary adds to the difficulty of accepting this explanation. This bilateralism is, indeed, very far from rare. The presence of two or even three teratomatous cysts in the same ovary accentuates the difficulty, for it would involve the impaction of as many embryoes.

A further difficulty in regard to the theory of impaction arises from the discrepancies referable to the colour of the hair in such cysts. In multiple teratomatous cysts of the same ovary the hair may be of different colour. In bilateral dermoids, too, the hair may be of different colours; it has been found dark in one cyst and light in the other. The colour of the hair in the dermoid again may be markedly different from that of the patient. In the case described in the present communication the hair of the teratoma, which consists of a tuft growing from the pubes, the parasite being acephalous and devoid of teeth, is of the palest flaxen, whilst that of the patient is of a well-pronounced or medium brown, although, as is so regularly the case, it had darkened since infancy; it is fair, however, to contrast the two, for the growth of the pubic hair in the parasite must be regarded as synchronous with the puberty, and not with the infancy, of the patient. A more striking instance of this diff-rence is afforded by a specimen in which the cyst is filled with a mass of shed hair, the colour of which is flaxen or light yellow; hair of similar colour grows from the teratoma: the hair of the patient and that of her husband are of a full black.

Such facts go towards showing, in the first place, that the piliferous skin of the "ovarian dermoid" has not the same histological origin as the skin of the patient, i.e., that its pertaining epidermis is not a portion of the general and primitive epiblast. In the second place, they go towards showing that the embryoma is not an impacted homologous twin. For such twins (which arise from a single ovum, are formed on a single blastodermic vesicle, and inclosed within a single amniotic sac) are not only of the same sex, but so alike in detail as to be with difficulty or not at all distinguishable. This, too, is true of double monsters, which have the same kind of origin as homologous twins, from the misdevelopment of which they arise. For the colour of the hair is, I find, invariably the same upon the two heads. Were the ovarian embryoma due to the impaction of a homologous twin its hair should be of the same colour as that of the patient; and in the case of multiple embryomata it should, moreover, be of the same colour in all.

The foregoing considerations lead me to propose a theory which may explain both the frequency of the ovarian embryomatous cyst and its particular location, a theory, moreover, with which the occurrence of embryomatous cysts in the testicle is not incompatible and which at the same time is in harmony with their rarity. This theory is, that the ovarian teratoma results from the fertilisation of one of the primordial ova in the ovary of the embryo, so that the embryo gives rise to a second imperfect individual whose origin is, therefore, not synchronous with but of later date than itself. It is the formation of one embryo within another, and the name I venture to suggest for the theory is that of epi-embryogenesis.

With respect to the access of spermatozoa to the primitive ova, it is not necessary to suppose that a second penetration of the developing ovum takes place. It is well known that more than a single spermatozoon may perforate the investing membrane of the ovum. It becomes thus quite conceivable that surplus spermatozoa may remain about the segmenting mass or morula, may become engaged between its component cells, and in this way be actually ready in the blastoderm to fertilise the primordial ova which are developed so soon after its lamination and the cleavage of the mesoblast which results in the formation of the body-cavity. The longevity of spermatozoa when under conditions not adverse to their life is a subject upon which little is known. Somewhat to the point, however, is the fact, well known to poultry breeders, that after a single impregnation the hen of the turkey will lay her whole brood—that is, will lay the entire succession of fertile eggs, about 12 in number, which makes the brood, one egg being laid about every other day and the whole process extending over a period of about four weeks. Mr. W. B. Tegetmeier has told me that he knew of one instance in the common fowl in which fertile eggs were laid and hatched six weeks after the access of the male bird.

Not only does this theory of an epifecundation of primordial ova in the ovary of the embryo explain the frequency and particular location of embryomatous cysts of the ovary, but it explains the multiplicity of such cysts in the same ovary and their occurrence in both the ovaries of the same patient. The theory, again, will account for the difference in colour of the hair in multiple teratomatous cysts, or of the teratomata in cysts of opposite ovaries. For such differences become examples only of the differences in colour so frequently seen in children born of the same parents, or still more closely in heterologous twins whose hair may be of different colour. Nor does the difference in colour between the hair of the embryoma and that of the patient offer any difficulty. The patient is, whilst yet an embryo, the mother of the teratoma; the father of the teratoma is the father of the patient. The colour of the hair of the embryoma need not therefore resemble that of the patient, the mother; it might resemble that of the father, or it might not resemble either, but that of a more remote ancestor.

Amongst zoologists three methods of embryogenesis are recognised in addition to the common one in which the ovum, previously and independently matured by the extrusion of its polar globules, is fertilised by a spermatozoon. 1. Shock-fertilisation: this involves the preliminary independent maturation of the ovum, but the incentive to the subsequent division of the latter and the development of the embryo is mechanical. The ova of the star-fish, as is now universally known, can be fertilised by means of "soda-water" added to the sea-water of the aquarium, or by mere shaking. 2. Parthenogenesis, which takes place in many of the insecta (particularly the bee), involves a maturation of th, Royal United Hospital.—House Physician, also House Surgeon. Salaries £80 per annum, with board, lodging, and washing.

rkenhead Borough Hospital.—Senior Resident House Surgeon. Salary £100 and fees. Also Junior Resident House Surgeon. Salary £80 and fees.

righton, County Borough of.—Medical Officer of Health. Salary £800 per annum.

righton, Sussex County Hospital.—House Physician, unmarried. Salary £70 per annum, with board, residence, and laundry.

righton Throat and Ear Hospital, Church-street, Queen's-road. —Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

ristol Royal Hospital for Sick Children and Women.—House Surgeon. Salary £60 per annum, with board, rooms, and attendance.

ristol Royal Infirmary.—Obstetric Officer. Salary £75 per annum. Also Junior House Surgeon for six months. Salary at rate of £50 per annum. Also Casualty Officer for six months. Salary at rate of £50 per annum. All with board, lodging, and washing.

armarthen, Joint Counties Lunatic Asylum.—Second Assistant Medical Officer. Salary £160, increasing to £180 per annum, with board, lodging, washing, and attendance.

olchester, Essex and Colchester General Hospital.—House Physician. Salary £80 per annum, with board, residence, and washing.

udley, Guest Hospital.—Assistant House Surgeon. Salary £50 per annum, with residence, board, and washing.

rocers' Company's Scholarships.—Two Scholarships for original research in Sanitary Science, value £300 a year each, with allowance to meet the cost of apparatus and other expenses.

ngham Infirmary and South Shields and Westoe Dispensary.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

ing Edward VII. Sanatorium, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

ing's College Hospital.—Assistant Physician.

icester Infirmary.—Assistant House Physician, for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

indsey County Council, Lincolnshire.—Medical Officer of Health and Medical Inspector of School Children. Salary £400 per annum, rising to £500, with expenses.

ondon Temperance Hospital.—Medical Registrar and Surgical Registrar. Salaries 40 guineas per annum. Also Pathologist and Bacteriologist. Salary 50 guineas per annum. Also Anæsthetist. Salary 20 guineas per annum. Also Radiographer. Salary 10 guineas per annum.

aidstone, Kent County Asylum.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, &c.

anchester, Ancoats Hospital.—Resident House Surgeon. Salary £100, with board, residence, &c.

etropolitan Hospital, Kingsland-road, N.E.—Resident Anæsthetist. Salary at rate of £40 per annum.

ullingar District Lunatic Asylum.—Resident Junior Assistant Medical Officer. Salary £100 a year, all found.

ational Hospital for the Paralysed and Epileptic, Albany Memorial, Queen-square, Bloomsbury.—Assistant Pathologist. Salary 50 guineas per annum.

rfolk County Council.—Medical Officer of Health. Salary £500 per annum, rising to £550.

rth-Eastern Hospital for Children, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

ttingham City Asylum.—Second Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

ttinghamshire Education Committee.—School Medical Officer. Salary £300 per annum, and travelling expenses.

yal Navy, Medical Department.—Examination for not less than 15 Commissions.

Peter's Hospital for Stone, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

effield Royal Hospital.—Honorary Assistant Surgeon.

arrington Infirmary and Dispensary.—House Surgeon, unmarried. Salary £80 per annum, with residence and board.

Births, Marriages, and Deaths.

BIRTHS.

derson.—At Newholme, Pitlochry, on the 2nd inst., the wife of John Anderson, M.B., C.M. Edin., of a daughter.

rtis.—On Jan. 31st, at Alton House, Redhill, the wife of Frederick Curtis, F.R.C.S. Eng., &c., of a son.

MARRIAGE.

aylor—Robarts.—On Jan. 30th, at St. John the Baptist Church, Fladbury, Stuart Hopcraft Stanley Taylor, B.A. Cantab., M.B., Ch.B. Edin., of Lacock, Wilts, to Hilda Mary Fanny, third surviving daughter of the late Arthur Frederick Robarts and Fanny Robarts, of Craycombe Pershore, Worcestershire.

DEATHS.

llingham.—On Feb. 4th, at Kingsdene, Worthing, William Allingham, F.R.C.S., aged 72.

arke.—On Feb. 3rd, at St. John's Wood-road, N.W., Benjamin Harris, M.R.C.S. Eng., L.S.A. Lond., aged 70 years.

ttigrew.—On Jan. 30th, at The Swallowgate, St. Andrews, James Bell Pettigrew, M.D., LL.D., F.R.S., F.R.C.P., Chandos Professor of Medicine and Anatomy in the University of St. Andrews.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL CERTIFICATES FOR GOVERNMENT SCHOOL CHILDREN.

A correspondent asks us the oft-repeated question as to how a medical man giving a medical certificate to an educational authority for the absence of a child from school should be paid if the parents are too poor to pay. We have not seen the report of the case in question but we believe the position of affairs to be this. The London County Council has been charged by the Government with the duty of providing education for children and of seeing that they attend school. If the children do not attend school the London County Council has the right to summon the parents of such children and of demanding that they should give a reasonable excuse for their children not having been to school. A medical certificate properly signed by a registered medical man is, we believe, accepted as a reasonable excuse but the London County Council has no legal power to demand a medical certificate. It can only be demanded by the magistrate before whom the parents have to appear. The London County Council, we believe, has no power to pay medical men fees for certifying that the absence of a child is due to illness, and in fact the forms of certificate by the old London School Board had a notice distinctly printed upon them that the school board was not responsible for the fee. As the State requires the County Council to see that the children attend school it would seem to be only fair that the State should also reimburse medical men for certifying that children are unable to attend, but at present this is not the case.

HOSPITAL REFORM.

To the Editor of The Lancet.

Sir,—The few suggestions I venture to make might be the means of drawing out the opinions of other members of the profession as to much needed hospital reform. 1. All hospitals to be under State supervision excepting cottage hospitals in small towns supported by local subscriptions. 2. The staff to be advertised for and selected for their worth, ability, and experience alone, not chosen by interest, canvassing, or by purchase, the usual proceedings. 3. No member of staff to hold *more than one* hospital appointment—a gross injustice to others of equal ability who are thus debarred from obtaining office. 4. The staff to be paid by the State, the fees from students going to help such payment. 5. No out-patients to be treated without letter from one of their local medical men stating they are unable to pay a doctor. 6. Each member of staff to hold office for ten years only and (in any case) to be compulsorily retired at the age of 60 years. These suggestions may lead to far better being proposed, and certainly it appears high time something should be done to alter the plan of assessment of each hospital's claim on the King's Fund so as to improve on the usual one—viz., bulk of patients attended to—naturally making the staff of each hospital anxious for crowded attendance (numbers of whom can afford to pay cost of coming from a distance but prefer to save the money—by paying no doctor's fee—for admission to football-match, music-hall, or perhaps a drunken debauch).

I am, Sir, yours faithfully,

Feb. 4th, 1908. A Former Hospital Physician.

A WARNING.

To the Editor of The Lancet.

Sir,—I am informed that a young man, pretending to be a son of mine, is going about asking for pecuniary assistance. This person is an impostor and I shall be glad to hear that he is in custody.

I am, Sir, yours faithfully,

Upper Brook-street, W., Feb. 4th, 1908. F. H. Champneys.

THE MUFFIN-MAN.

So *far* as the streets of London are concerned which are inhabited by the more well-to-do class of citizen, the itinerant muffin-man's bell is less often heard than formerly, and probably we may regard the sale of muffins and crumpets from a tray carried on the vendor's head as a "disappearing industry." Its survival is not likely to be fostered by a recent prosecution at the Marylebone police court of a muffin-man for ringing his bell, although he was not fined by Mr. Plowden but was allowed to go upon payment of the costs, a sum of 2s. only. The magistrate informed the defendant that he was prosecuted under an Act of Parliament passed 60 or 70 years ago which provides a penalty for the use of any noisy instrument for the purpose o selling anything. It may also be observed that the man in question appears to have been made the subject of legal proceedings by the police not on account of their solicitude for the nerves of the ordinary citizen but because he was rousing some police officers who were asleep after night duty. Protest has frequently been made in The Lancet against the annoyance and even injury to health caused by street noises in a vast city like London where the majority of the inhabitants are workers, and it is a matter for observation that the police should have be an immense step in the direction of stamping out consumption. In any case, the serum is quite harmless and will only be used with the full consent of those parents whose children have been exposed to infection.

METHOD OF TREATMENT.

It is preferable (though not necessary) that the patient should stay in bed a few days before and after the first injection. The temperature and pulse should be noted every four hours before treatment and if not above 100° F. at any time the first injection of 0·0001 milligramme may be given under the skin with, of course, the strictest aseptic precautions. The temperature and pulse should be taken every two hours afterwards for 24 hours and then every four hours for 48 hours more. If any reaction is going to take place the temperature will rise up to 100° or 101° within the first 12 hours or even later; but experience has shown that if the injections are commenced with such a small dose and slowly and gradually increased no reactions follow and beyond an occasional slight headache or feeling of sickness no disagreeable symptoms are observed. In fact, many patients visit the consulting-room for their injections every week and continue their ordinary duties in the interval without any personal inconvenience. The second injection of 0·0002 milligramme is given after an interval of one week, provided no reaction has followed the first injection, in which case the first injection is repeated and then doses (in milligrammes) in the following order: 0·0004, 0·0005, 0·001, 0·002, 0·0025, 0·003, 0·004, 0·005, 0·0075, and 0·01 (maximum dose), making in all 12 injections. If the patient requires further injections the last injection of 0·01 milligramme is repeated for a few more doses but that dose is never exceeded. After the first two or three injections the patients feel better, the temperature drops to normal, the appetite is improved, and there is a feeling of general improvement. Not even the slightest bad effect has been observed from the injections, but of course great care must be exercised in the technique and a careful watch must be kept on the doings of the patient during the course.

Many of us had experience of the tuberculin introduced to the profession by Professor Koch 16 years ago. It was used in a great many cases of phthisis and other forms of tuberculosis without discrimination, but it was soon found that the most marked effects of the tuberculin were produced by injecting it in cases of lupus. I well remember, after obtaining it with great difficulty, injecting several cases of lupus. The reaction was terrific, and from notes of one of my cases I find that the temperature ran up to 105°, the pulse 140, whilst the inflammatory reaction on the lupus itself was most intense. The patient complained of a hot, parched, burning sensation all over his body—in fact, felt he was going to die. In the course of five days he developed acute tuberculous meningitis and died within a week. Although I had no other fatal cases yet in most of them the reaction was acute and in some alarming. In four cases of phthisis in which I used it the patients were made rapidly worse; in fact, the effects were so serious that the remedy was very quickly dropped by the profession. We now know that the only fault of the tuberculin was its dosage. It was a powerful remedy and too large a dose was administered without the slightest scientific knowledge as to its action. At the present time the effects of tuberculin are produced by the administration of minute doses with careful observation as to the effects of each dose. The tuberculin is slowly increased in strength, thus gradually immunising the patient to it until by degrees a maximum dose of $\frac{1}{100}$th part of a milligramme is administered.

In the year 1897 on the introduction of Koch's new tuberculin, or tuberculin R., I made a series of observations on 18 cases of phthisis and recorded the results in THE LANCET at that time. The dosage commenced with $\frac{1}{1000}$th milligramme and was slowly raised to 1 milligramme as a maximum dose. Even that dosage was found to be too high and I think the present method is scientifically correct. The results of that series of cases were not encouraging. In only one case of phthisis could we see any definite improvement. The remaining 17 cases were not in any way improved but they were certainly not in the slightest degree damaged by its use. Since then I have used Koch's tuberculin R. in a large number of cases of phthisis, and I came to the conclusion a year ago, after a very careful examination of its effects, that it was not beneficial in phthisis. But the same cannot be said when we inject Koch's tuberculin into other forms of tuberculosis. In fact, as I have mentioned before, the injection of this tuberculin has a most marked and lasting curative effect, so much so that now it is my routine practice to give every suitable case of surgical tuberculosis injections of Koch's tuberculin and also every case of early phthisis injections of tuberculin prepared from bovine sources. The results are most encouraging and in some cases wonderful, and I am convinced that the treatment of the future of tuberculosis in all its forms will be by the physician rather than by the surgeon.

I now proceed to relate the particular cases in which tuberculin has been used, and although it is impossible to enter into details in this short paper yet I will endeavour as far as possible to classify the different groups of cases with their results.

PHTHISIS PULMONALIS.

At the present time there are 16 cases of phthisis pulmonalis under treatment by injections of bovine tuberculin. They are all adults, nine women and seven men, and in each case the disease is in the first stage according to the classification of Turban—that is, involving one lobe of one lung, or both apices limited to above the clavicle and spine of the scapula. In ten of the cases tubercle bacilli were found; in the other six cases no expectoration could be obtained.

The following is a brief account of the 16 cases:—

CASE 1.—Male, aged 23 years. History of hæmoptysis six months ago; constant cough and slight expectoration. Tubercle bacilli found. He had been steadily losing weight and has even now a typical cachexia. Temperature 100° F. at night. He has had ten injections of tuberculin, commencing with 0·0001 milligramme and rising to 0·01 milligramme. He left the hospital after three months' treatment, having gained 10½ pounds and with total disappearance of all physical signs, cough, and expectoration, and with a normal temperature. He has since been seen on several occasions and remains well and at work. He had only early infection of the left apex.

CASE 2.—Male, aged 31 years. Early phthisis with consolidation of right apex. Tubercle bacilli found in sputum; profuse night sweats and loss of flesh for five months. The usual injections were commenced four months ago with the result that steady improvement has followed. Physical signs have practically disappeared and the man is feeling very much better.

It is, of course, too early yet to give a final verdict, but in this particular case the tuberculin has had a marked effect.

CASE 3.—Female, aged 31 years, with marked physical signs of tuberculosis at both apices. She is of rather frail and delicate constitution but there is no family history of tubercle. She had tried sanatorium treatment for two months but had to give it up on account of it not agreeing with her—in fact, she lost weight whilst in the sanatorium. Injections were started in July last and she has altogether had 14 injections at intervals of one week. Her cough has entirely disappeared, expectoration is almost *nil*, temperature is normal, and she has gained 20 pounds.

CASE 4.—Male, aged 17 years, with active tubercle of the left upper lobe. He was losing weight steadily and had a troublesome and continued cough with expectoration which contained tubercle bacilli. He has had nine injections and is steadily progressing towards recovery.

CASE 5.—Male, aged 23 years, with active phthisis of the right apex, temperature ranging to 101° F. with persistent cough, especially at night. He had hæmoptysis six weeks before treatment. He has had ten injections of tuberculin, has gained 17 pounds, and is steadily improving.

CASE 6.—Female, aged 29 years, with fairly extensive pulmonary tuberculosis and laryngitis. The cough and dyspnœa were very urgent. There was considerable ulceration of the larynx and she had great distress and pain in swallowing, especially hot liquids. Although it was not a case that one would select for treatment yet it was thought that something ought to be done to relieve the distressing laryngeal symptoms. She had altogether seven injections of tuberculin but I regret to say without any good effect whatever, so that they were discontinued. She died two months afterwards and at the necropsy there was considerable destruction of both lungs, with serious involvement of the larynx and extensive secondary ulceration of the intestines, a condition that I invariably find where the larynx is much involved. This case strongly supports the view which I hold—namely, that tuberculin can only be useful in a localised infection of tuberculosis. In other cases it has no immunising effects whatever, and I am rather inclined to believe, although I am not certain, that it may intensify the tuberculous process.

CASE 7.—Female, aged 19 years, with early phthisis at the left apex. She was very thin on admission and had been steadily going down-hill for the last 12 months. Cough troublesome; expectoration profuse in the morning. Under tuberculin she improved rapidly, and in 13 weeks she gained 24 pounds and left the hospital apparently quite well. Tubercle bacilli were never found in her expectoration, although the physical signs of phthisis were quite pronounced.

CASE 8.—Female, aged 26 years, a nurse, contracted phthisis probably from her husband who died from it. She had well-marked signs of tubercle over the whole of the left lobe in front and behind, constant cough and expectoration, progressive loss of weight and profuse night sweats. Tubercle bacilli were found in her expectoration and she readily consented to inoculation. After 13 injections she made a complete recovery. Physical signs were greatly diminished, although there was still some diminished resonance over the affected lung; tubercle bacilli disappeared from her sputum, her cough and night sweats entirely disappeared, and she gained 28 pounds in weight.

This I consider one of the most successful cases of the series.

CASE 9.—Female, aged 26 years, with marked phthisis at the left apex. She had been losing ground for the last 12 months, with cough,

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Throat Operations (Mr. Carson).

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie). 4.30 P.M., Demonstration:—Mr. R. P. Brooks: Selected Eye Cases.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: The Diagnosis of Errors of Refraction.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Dr. Rankin: Neurasthenia, its Etiology and Treatment.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).

TUESDAY.—2.30 P.M., In-patients Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).

FRIDAY.—3.30 P.M., Lecture:—Mr. G. B. M. White: Urethral Stricture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Sir W. Gowers: Clinical.

FRIDAY.—3.30 P.M., Lecture:—Dr. Batten: Hereditary Ataxy.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: Treatment (Constitutional and Local in all its Forms).

CHARING CROSS HOSPITAL.

THURSDAY.—3 P.M., Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M., Demonstration:—Mr. Boyd: Surgical. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.

WEDNESDAY.—4 P.M. Lecture:—Dr. Habershon: Cases from the Wards.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Mr. Corner: Injuries and Diseases of the Epiphyses.

ROYAL INSTITUTION *OF GREAT* BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. W. Stirling: Membranes—their Structure, Uses, and Products.

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We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

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VOLUMES for the second half of the year 1907 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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During the week marked copies of the following newspapers have been received:—*Edinburgh Evening News, Morning Post, Daily Chronicle, Daily News, Manchester Dispatch, Northern Whig, Bournemouth Echo, Westminster Gazette, Cork Examiner, Lymington Chronicle, Poole Herald, Coventry Times, The Tribune, Daily Graphic, Liverpool Courier, Manchester Courier, Daily Express, Birmingham Post, &c.*

from human sources and exactly in contra-distinction to the cases of phthisis which were treated by a bovine tuberculin. In summing up the treatment of surgical tuberculosis I have found that if there is any waxy disease present the tuberculin has no effect, so that it is important to find out before treatment is commenced, especially in chronic cases, the condition of the liver, spleen, and kidneys. A large number of similar cases will be placed under treatment during the next few months and I hope to be able to record similar satisfactory results.

I would strongly advocate the treatment to be carried out by practitioners on their patients in their own homes. If careful precautions are observed there is no risk or danger whatever, and, from my experience, the tuberculin is carefully prepared and standardised by the Clinical Research Association at a moderate cost.

The following is a summary of the cases treated by Koch's tuberculin: glands in the neck, 23; lupus of the face, 24; joints, 27; peritonitis, 8; meningitis, 4; tuberculous sinuses, 18; total 104. Number of cases treated by tuberculin prepared from bovine sources: phthisis pulmonalis, 18.

ON A CASE OF ACUTE POLIOMYELITIS ASSOCIATED WITH A DIPLOCOCCAL INFECTION OF THE SPINAL SAC.

BY WILLIAM PASTEUR, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL;
ALEXANDER G. R. FOULERTON, F.R.C.S. ENG.,
D.P.H. CANTAB.,
LECTURER ON BACTERIOLOGY AND ON PUBLIC HEALTH TO THE MIDDLESEX HOSPITAL;
AND
HENRY MACCORMAC, M.B., CH.B. EDIN.,
DEMONSTRATOR IN THE BACTERIOLOGICAL DEPARTMENT OF THE MIDDLESEX HOSPITAL.

WHILST it has been recognised for many years that an infective origin is probable for certain nervous affections which have a paralysis of acute onset as their chief clinical manifestation, such as acute poliomyelitis, acute disseminated myelitis, and Landry's paralysis, the evidence indicating the mode of causation has been hitherto of a circumstantial rather than a direct nature. In the course of an investigation into the case which we shall now describe we have obtained, however, further evidence of an important kind, inasmuch as having identified a micrococcus in the spinal fluid withdrawn during life from a boy with symptoms of acute poliomyelitis we have succeeded in producing an ascending motor paralysis in the rabbit, after a prolonged period of incubation, by inoculating this fluid into the subdural space. On the death of the experimental animal we have been able to demonstrate in the cerebro-spinal fluid a micrococcus similar to that seen in the fluid from the human case; and further, by similarly inoculating another rabbit with an emulsion of cerebro-spinal substance and fluid from the first experimental animal we have succeeded in reproducing a motor paralysis, again after a somewhat prolonged period of incubation, and again associated with the presence of the micrococcus in the spinal fluid. But whilst we have succeeded thus in obtaining direct evidence of the infective nature of the illness and of its association with a certain micro-organism, our evidence is incomplete bacteriologically, since we failed to obtain the micrococcus in culture on artificial media, and so are unable to give a complete description of it.

THE CLINICAL HISTORY OF THE CASE.

The patient was a slightly built schoolboy, aged 13½ years, and of rather delicate appearance. The history of the onset of his illness was as follows. He was apparently in his usual health on Nov. 11th, 1906. On the evening of the next day he complained of shooting pains in the thighs and across the abdomen at about the level of the anterior superior iliac spines. He was seriously ill during the night and the following day with severe abdominal pain and quiet delirium. On the 13th he was free from delirium and felt better generally, but during the night he suffered again from sharp pains in the legs, which were increased by movement. On the morning of the 14th the patient was unable to leave his bed because of an almost complete loss of power in both legs. By the 16th he had become quite helpless and, although he could use his arms to some extent, was unable to move himself in his bed. About this time his friends noticed that he was unable to cough. He was admitted into the Middlesex Hospital on the 19th. There was nothing in either the family history or the previous personal history of the patient which appeared to have any direct bearing on his present illness. He was one of a family of five children; the other four were in good health. The patient himself was described as having been always rather delicate and nervous; when younger he had suffered from scarlet fever, measles, chicken-pox, and whooping-cough, and when five years old had been treated at the hospital for rickets and bronchitis. He had had "a fit" on two occasions, once at the age of two years and again two years ago; latterly his general health had been fairly good and there was no history of any special indisposition immediately preceding the present illness.

On his admission into hospital the patient lay helpless in his bed. His complexion was somewhat dusky, his voice was feeble, and there were frequent toneless, non explosive efforts at coughing. The respiration-rate was 40 and the pulse-rate was 100 and regular. The temperature on admission was 99° F., but during the first ten days after admission it ranged between 100° and 103° in consequence of a broncho-pneumonia which was probably secondary to collapse of the left lung. The head was drawn somewhat towards the left side and was moved with difficulty because of muscular weakness, the patient being unable to lift it from the pillow. There was no evidence of any paralysis of the facial, lingual, or pharyngeal muscles; the movements of the eyes were not impaired, the pupils were normal in size and as to movement, and the conjunctival reflex was natural. Both lower limbs were in a condition of complete flaccid paralysis except for some flickering muscular contractions which could be seen on attempts to flex or extend the toes of the right foot. And, except the right peroneal muscles, which responded feebly to strong galvanic stimulation, the paralysed muscles did not react to either faradic or galvanic currents. The plantar, patellar, and cremasteric reflexes were not obtainable. Respiration was entirely thoracic in character; there was no movement of the abdominal muscles in respiration, nor was there any visible contraction of them when the patient attempted to cough or to lift his head from the pillow. The diaphragm was apparently paralysed completely. The patient was unable to turn to either side, but could arch his back slightly. The abdominal and epigastric reflexes were not obtainable. The sphincters were not apparently impaired. The thoracic movements were equal on either side but were distinctly deficient. On auscultation of the front of the chest a fair amount of air could be heard entering the lungs, but a complete examination of the chest was not made at the time because of the severe respiratory distress which accompanied the least disturbance of the patient. On subsequent examination, however, it was evident that there had been some considerable collapse of the lungs, and especially on the left side, as a result of paralysis of the diaphragm and intercostals. The range of movement of the arms was as normal, but the muscular power was notably weak. The extensor muscles reacted to strong faradic currents, the flexors reacted normally. Tactile sensibility and sense of temperature were normal everywhere. There were no abnormal sensations nor was there any exaggerated surface tenderness. The organs of special sense were apparently healthy.

During the first ten days when the patient was under observation his condition was one of much danger because of a broncho-pneumonia which was apparently related to the collapse of the lungs which had followed the paralysis of some of the respiratory muscles. But on Nov. 30th the temperature fell suddenly to normal and the patient's general condition improved quickly thereafter. Some recovery of power in the muscles of the arms, the shoulders, and the neck was evident early in December, and by the end of the year the patient had apparently free use of his arms, could turn readily from side to side in bed, and could raise himself to a sitting posture. Some further improvement followed, but when the patient was shown at a meeting of the Clinical Section of the Royal Society of Medicine on Dec. 13th, 1907, he was still completely crippled so far as any use of his lower limbs was concerned.

The evolution and progress of the symptoms in the case were in complete accordance with the recognised clinical features of acute poliomyelitis, and there was little difficulty

Erasmus Wilson Lecture

ON

OVARIAN TERATOMATA.

Delivered before the Royal College of Surgeons of England on Feb. 10th, 1908,

BY SAMUEL GEORGE SHATTOCK, F.R.C.S.,
PATHOLOGICAL CURATOR OF THE COLLEGE MUSEUM.

[MR. SHATTOCK commenced by describing an embryoma projecting into an ovarian cyst in which the indications of a second fœtus were unusually evident. The embryoma consisted of a trunk furnished with two lower limbs and a peritoneal cavity containing a blind coil of intestine. The skeleton comprised a short rudimentary spinal column with a pelvic girdle, and in each of the lower limbs there was a long osseous element filled with fatty marrow. Between the limbs were two distinct labia bounding a blind depression, and behind these a perineal raphé. The embryoma, except on the soles of the feet, was covered with short fine hair, but over the pubes there was a well-pronounced tuft of long pubic hair. The wall of the cyst into which the embryoma projected was smooth and devoid of hair or epidermal lining. He continued :—]

The growth of pubic hair is a subject of no little interest in this remarkable specimen. It must be taken as marking the advent of puberty. As the presence of sexual glands in the embryoma itself may be excluded (for there is nothing but a coil of intestine in the peritoneal cavity), the explanation of its puberty must be sought in a maternal influence, or more definitely in the action of an internal secretion produced by the sexual glands of the autosite; the autosite and the embryoma will have acquired the cutaneous marks of puberty simultaneously. It is, in fact, a natural experiment which successfully carries out one devised and attempted by Dr. C. G. Seligmann and myself. Our experiment consisted in grafting together by the legs a castrated cockerel (after its recovery) and an intact cockerel of the same age and kind. Although the operation was itself successful, one of the grafted birds, in each of the four cases in which it was carried out, died within a few days without obvious cause. The object of the experiment was to see whether the castrated bird would, as it matured, put on the plumage and comb of the cock from the access of blood to it from the intact bird. In the ovarian embryoma the experiment has been accomplished. The trunk of the embryoma being without heart and independent circulation has been supplied with blood from the side of the autosite and with the result that the overgrowth of hair which marks the advent of puberty has actually been brought about.

[Mr. Shattock next demonstrated a series of ovarian teratomata, showing the progressive disappearance of limbs from an amorphous trunk, the true nature of which latter appeared from the presence of a rudimentary intestine, or (as he had demonstrated in three cases) from the presence of a central nervous system. He continued :—]

The presence of teeth necessarily shows the teratomatous character of the cyst in which they occur; but in the case of other ovarian teratomata, even those of a well-pronounced kind, teeth are wanting. These differences we must attribute to differences in the developmental arrest which involves now one part and *now* another of the embryoma. There are acormous (or trunkless) and acephalous (or headless) embryomata, as there are trunkless and headless acardiac homologous twins. In regard to the displacement or lateral dislocation of dentigerous and other bone, and the utter absence in most cases of any structure morphologically like a cranium, one must not overlook the mechanical action of the enlarging cyst and the pressure of its contents in exaggerating what are, probably, also original defects of formation. The striking length of the hair in certain ovarian cysts, again, can hardly be explained, except by regarding such hair as growing from a cutaneous area answering to the scalp, and this view is strengthened when the hair arises in the neighbourhood of a dentigerous process of bone. The hair in one College specimen (Mr. J. Bland-Sutton's) is 20 inches in length. Here, as in other cases, the mass of hair is confined to an elevation covered with true skin—i.e., to the proper teratoma. But the view that such dentigerous bones represent the cephalic end of an embryo is definitely proved by the presence of central nervous tissue in connexion with them. So long ago as 1853 Henry Gray described an ovarian cyst containing a tooth and hair, and projecting into this cyst was an eminence about the size of a walnut, situated near the dentigerous bone referred to; the wall of this eminence was delicate, its inner surface was highly vascular, and the contents consisted of a soft white substance, the surface of which was perfectly smooth and presented all the characters of brain. On microscopical examination it was found to consist entirely of the ordinary elements of nervous matter, being composed of a very large number of varicose nerve tubules of varying size intermixed with the "elementary components of grey matter—viz, nuclei and nucleated vesicles containing granules."

[Mr. Shattock also demonstrated the presence of a stomodæum with two lips and an appendage containing elastic cartilage and representing a rudimentary pinna at the same end of an elongated ovarian teratoma. He continued :—]

The astonishing excess of teeth, in rare cases met with in a teratomatous cyst, is perhaps explained by the occurrence of twin or triple teratomata in a *single* cyst. Or, it may be that the excess is brought about by an abnormal extension of the epithelial surface corresponding with that of the gum during the early enlargement of the cyst, so that the dental germs are increased in number and give rise to as many teeth or ill-deformed denticles. For even if we allow that two complete sets of teeth, a first and second, have been produced, the total (20 + 32) would not equal the numbers which have been encountered, which may be over 100. One must not, of course, fall into the error of reckoning multiple dentigerous cysts in the same ovary as a single "dermoid," and must also recognise the possibility of such coming to communicate through their partitions so as to produce a single multilocular cavity.

Not one of the least strange things in connexion with ovarian teratomata is that though themselves so abnormal they may nevertheless be the seats of disease. Setting aside the different degrees of aplasia and hypoplasia which, *ipso facto*, they illustrate, or the misdevelopment of particular teeth, or the presence of odontomata upon their fangs, we must look upon the relative amount of fat as in some cases quite reaching the proportion of disease. It is not simply subcutaneous fat duly proportionate to the skin over it, but it may constitute the bulk of the embryoma, the amount of bone and other structures being relatively insignificant as in the case described in the present communication, or in others already referred to from the College Museum (Nos. 4511, 4511A, 4526E). The morbid condition, in short, is that of lipomatosis, or a generalised abnormal formation of fat, as distinguished from a local tumour or lipoma. For it must be borne in mind that the presence of any fat in the ovary itself is something altogether as abnormal as it is in the testicle and that the fat of the embryoma appertains entirely to the latter. I am not aware of a fatty tumour ever having been observed in the ovary. In the testicle I have examined one only, and this in the horse; and so far as my knowledge goes it is unique.

But that hydromyelus should occur is still more strange. Yet it is shown in three of the teratomata already described, from Specimen No. 2371 in St. Thomas's Hospital Museum. In one of these the tubular hydromyelic sac is lined with columnar epithelium and the halves of the spinal cord lie one on either side of it, the whole being invested with a separable membrano-cutaneous covering or body-wall. As there is no spinal column we cannot speak, of course, of a spina bifida. The largest example of this morbid condition of the embryoma is contained within an ovarian cyst in the opposite ovary of the same patient. It consists of a double sac, the portions of which, each about three and a half inches in length, lie side by side, and communicate by a small aperture half surrounded by a process of bone. From the inner aspect of the sac a delicate continuous membrane can be raised; there is no trace of further structure. Yet that this bilocular sac is an embryoma dilated into a great cyst by hydromyelic and hydrocephalic distension is clear if it be compared with that first referred to in which the halves of a spinal cord lie on the sides of the sac; and by the circumstance that the sac itself is furnished with a delicate, separable lining representing the meninges of the dilated central nervous system, and an outer membranous body-wall.

We may, indeed, classify the last as a new form of cyst and examined, but neither any change in the ganglion cells when stained by Nissl's method nor any perivascular change could be detected.

The diplococci, alike in the patient's cerebro-spinal fluid and in that from the rabbits, stained well and deeply with Loeffler's blue, but we were not able to detect any specimens of the micro-organisms in films of the fluid which had been stained by Gram's method, with a counterstain, and so we are unable to state the reaction of the diplococci in this respect. In the rabbits' spinal fluid the diplococci were very sparsely scattered, they were grouped in pairs, occasionally in tetrads, and in one instance (see Figure) a chain of four cocci was noticed.

The results of our inoculation experiments may be conveniently recapitulated in tabular form.

TABLE OF ANIMAL EXPERIMENTS.

Specimens of spinal fluid.	*Series I.*—Animals inoculated with cerebro-spinal fluid from patient.	*Series II.*—Animals inoculated with an emulsion of the cerebro-spinal substance and fluid from rabbits of Series I.	*Series III.*—Animals inoculated with an emulsion of cerebro-spinal substance and fluid from rabbit of Series II.
Specimen I., drawn off on Nov. 22nd, 1906. *Contained diplococci.*	Rabbit 1.—Intracranial inoculation; died on twenty-second day afterwards. *Diplococci present in cerebro-spinal fluid.*	Rabbit 2.—Inoculated on Dec. 14th from Rabbit 1; died on Dec. 25th; cause of death not ascertainable; result of experiment negative. Rabbit 3.—Inoculated on Dec. 14th from Rabbit 1; killed on twenty-sixth day, apparently healthy.	—
Specimen II., drawn off on Dec. 14th, 1906. *Contained diplococci.*	Rabbit 4.—Intracranial inoculation; died from accident within 24 hours of operation. Rabbit 5.—Intracranial inoculation; marked paralysis of hind limbs on fiftieth day after inoculation; partial paralysis of forelimbs on fifty-second day; death on fifty-third day. *Diplococci present in spinal fluid.*	Rabbit 6.—Inoculated on Feb. 6th, 1907, from Rabbit 5; killed under chloroform on forty-first day. Result of experiment negative. Rabbit 7.—Inoculated on Feb. 6th, 1907, from Rabbit 5; complete paralysis of hind limbs and partial of forelimbs on forty-ninth day; killed on fiftieth day. *Diplococci present in cerebro-spinal fluid.*	Rabbit 10.—Inoculated on March 27th from Rabbit 7; died on fourth day after inoculation cause of death not ascertainable. Rabbit 11.—Inoculated on March 27th from Rabbit 7; alive and well four months afterwards.
Specimen III., drawn off on March 25th, 1907. No diplococci seen in cover-glass preparations.	Rabbit 8.—Intracranial inoculation; killed on twenty-first day; result of experiment negative. Rabbit 9.—Intracranial inoculation; alive and well four months afterwards.	—	—
Specimen IV., drawn off on April 17th, 1907. No diplococci seen in cover-glass preparations.	Rabbit 12.—Intracranial inoculation; died on July 2nd from coccidiosis. Rabbit 13.—Intracranial inoculation; alive and well three months afterwards. Rabbit 14.—Intraperitoneal inoculation; died on May 9th from coccidiosis. Rabbit 15.—Subcutaneous inoculation; died on July 12th from coccidiosis.	—	—

AS TO THE INFECTIVE ORIGIN OF SOME CASES OF ACUTE POLIOMYELITIS.

Whilst there is, as we said at the commencement, a considerable volume of indirect or circumstantial evidence which indicates a probable infective origin for, at any rate, some cases of acute poliomyelitis, the only reliable direct evidence as to causation which has been obtained hitherto is that derived from the work of Geirsvold,[2] to which we will refer a little later. The indirect evidence as to the causation of this affection is comprised in records of outbreaks of illness, either limited to a single family or of widely epidemic character, in which an acute paralysis, apparently due to acute poliomyelitis, has been either a prominent primary feature or a frequent consequence.

As a typical example of what may be termed the family outbreak we may refer to the instance recorded by one of us (W. P.)[3] in which an entire family of seven children were attacked by a mild febrile disorder which was followed in between five and seven days by marked motor paralysis in three cases, by muscular tremors and temporary strabismus in another case, and by general muscular tremors in a fifth case. Other outbreaks of similar character have been recorded and most of them are referred to in Dr. Farquhar Buzzard's Goulstonian lectures for 1907 on Certain Acute Infective or Toxic Conditions of the Nervous System.[4]

Epidemic outbreaks of an illness of which acute poliomyelitis was a prominent feature occurred in Norway during the years 1903, 1904, 1905, and 1906, and have been recorded by Geirsvold[5] and by Harbitz and Scheile.[6] Geirsvold, writing in 1905, states that 437 cases of the disease, with 69 deaths, had occurred in Norway during the year. The disease was of an epidemic character, spreading from farm to farm over the whole country. Frequently preceding, sometimes coincidently with, a local outbreak of cases of acute poliomyelitis there were cases of illness of a milder or abortive character. In these milder cases, in which obvious illness lasted for from one to four days, the principal symptoms were those of fever, with rigors, sore throat, sweating, and sometimes evidence of some meningeal irritation. In this type of case paralyses did not occur as a rule but Geirsvold notes that in some of them a progressive paralysis, sometimes terminating fatally, developed after apparent convalescence and after the patient had returned to work, and comments on the likelihood of the mild antecedent illness being overlooked in such cases of late paralysis. In the course of the epidemic children and adults were attacked and whilst some types of the disease resembled in their broad features cases of epidemic cerebro-spinal meningitis caused by diplococcus intracellularis of Weichselbaum a consideration of the epidemic as a whole leaves no doubt as to the different specific nature of the infection.

Dealing next with the direct evidence as to the infective nature of these cases of acute poliomyelitis, one has only to refer to a recent review by Carl Looft[7] of the Bacteriology of Acute Anterior Poliomyelitis to show how contradictory and generally unsatisfactory most of the evidence which has hitherto been brought forward has been. Thus, Harbitz and Bulow-Hansen[8] have recorded the finding of a diplococcus in the spinal fluid of a case of anterior poliomyelitis examined after death. Schultze[9] recorded the finding of the meningococcus in a single case, and in a second communication[10] recorded the finding of diplococci in two other cases, one of which, however, appears to have been of a tuberculous nature. Concetti[11] has published the results of the ovum, but not a proper fertilisation, the embryogenesis being started by the return, or want of extrusion, of the second polar globule which acts in place of the male element. 3. Sporogeny: here the embryo develops from the ovum without any preliminary maturation of the latter and apart from fertilisation. This phenomenon has been observed in the jelly-fish.

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[2] Geirsvold: Ibid.

[3] W. Pasteur: Transactions of the Clinical Society of London, vol. xxx.

[4] F. Buzzard: THE LANCET, March 16th (p. 705), 23rd (p. 785), and 30th (p. 863), 1907.

[5] Geirsvold: loc. cit.

[6] Harbitz and Scheile: The Journal of the American Medical Association, vol. xlix., 1907; also Pathologisch-Anatomische Untersuchungen über Akute Poliomyelitis und verwandte Krankheiten von den Epidemien in Norwegen, 1903-1906.

[7] Carl Looft: Review of Neurology and Psychiatry, 1907.

[8] Harbitz and Bulow-Hansen: Norsk. Magazin for Lægevidenskaben, 1898.

[9] Schultze: Jahrbuch für Kinderheilkunde, Band iv., 1899.

[10] Schultze: Ziegler's Beiträge zur Pathologischen Anatomie, Seventh Supplement, 1907.

[11] Concetti: Revue Mensuelle des Maladies de l'Enfance, 1900.

The theory of epi-embryogenesis in connexion with ovarian embryomata involves (as would also that of parthenogenesis) a premature preliminary "maturation" of the ovum, seeing that the process of fertilisation would take place in the embryo itself. The phenomenon of parthenogenesis, however, is limited to forms so far below mammals that it is difficult to think it obtains with such great frequency in the human subject as the common occurrence of ovarian teratomata would necessitate. Still more inapplicable is the phenomenon of sporogeny, the only one which does not involve a histological maturation of the ovum, when the extreme lowness of the forms in which it occurs is considered.

Let me, in conclusion, take up the difficulty presented by the occurrence of similar embryomatous cysts in the testicle. How is the extremely rare occurrence of such cysts to be accounted for on the theory advanced? In the embryonic sexual gland the proper reproductive cells are at first undifferentiated from one another. These cells become in the female the ova and in the male the spermatogenic elements of the testicle. The occurrence of embryomatous cysts of the testicle, then, would involve on the theory of epi-embryogenesis a hermaphrodite condition of the gland in which the cyst is formed, and the intra-embryonic fertilisation of one of the ova. True it is that in the human subject the condition of glandular hermaphroditism is but rarely observed, but still more rare is the teratomatous cyst of the testicle. The rarity of the one accords with the rarity of the other. Yet on any of the other theories advanced such cysts should be as frequent in the testicle as they are in the ovary.

A Lecture

ON

THE TREATMENT OF TUBERCULOSIS BY DIFFERENT KINDS OF TUBERCULIN.

Delivered at the Medical Graduates' College and Polyclinic, London, on Nov. 12th, 1907,

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F.R.S. EDIN.,

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GENTLEMEN,—The treatment of phthisis pulmonalis and other forms of tuberculosis is of such intense urgency and importance that any method based on scientific investigation ought to be thoroughly tested with a view to diminish the awful mortality in this country from tuberculosis. I have been greatly disappointed in the treatment of phthisis by Koch's tuberculin R., but in the treatment of surgical tuberculosis, such as tuberculous peritonitis, meningitis, bone and joint disease, enlarged glands and lupus, the results with tuberculin R. (Koch) have been most excellent, and I have at present a great many cases under treatment in hospital by this tuberculin as supplied by the Clinical Research Association.

I have recently had prepared from my own cultures of bovine tubercle a tuberculin for use in phthisis pulmonalis with, so far, encouraging results. A perusal of my paper in the April, 1907, number of *Tuberculosis* (Berlin) will explain the reason why tuberculin from bovine sources should be used for phthisis, whilst Koch's tuberculin R., which is prepared from human tubercle bacilli, should be used for the other forms of tuberculosis. The general results and impressions of that work are given here, but in the limited space at my disposal it is impossible to do more than touch generally on a few of the more important points investigated during this research.

Following the lines of my original paper of 1903, I have no reason to modify the view then set forth—namely: "That human and bovine bacilli are divisible into two distinct types of a common species: (1) typus humanus; and (2) typus bovinus." Another fact of the most profound importance in studying this problem is that for centuries man has been accustomed to feed upon cattle and their products—milk, butter, cheese, &c.—and in this way the human body has become tolerant to bovine tubercle bacilli. Whilst I firmly believe that human and bovine bacilli are different types of parasites, yet I am convinced that bovine bacilli are freely communicable to humans and are the cause of a large amount of tuberculosis in children. I believe that man is attacked by two distinct varieties of tubercle, one conveyed by infection from one person to another, the other by receiving into the body bovine bacilli from infected food. In other words, the human body is susceptible to both forms of tubercle. The difficult problem to determine now is what particular lesions in the human body are produced by each variety of tubercle.

To sum up my own views on the distribution of tubercle in the human body, I would say, speaking provisionally and without any final evidence of proof, that (1) tubercle bacilli of the typus humanus produce phthisis pulmonalis, ulceration of the intestines, and tuberculous laryngitis; and (2) tubercle bacilli of the typus bovinus produce tuberculous peritonitis, tuberculosis of the lymphatic glands, tuberculous joints, meningitis (probably), and lupus. I am of opinion, also, that acute miliary tuberculosis is of bovine origin.

Working on the hypothesis that the human body is attacked by two varieties of tubercle which may be present in the body at the same time and which, generally speaking, are antagonistic to each other, I have devoted my attention within the last few months to the preparation of tuberculins for the treatment of these different lesions. After a fairly complete experience I have come to the conclusion that Koch's tuberculin R. has little or no healing effect in phthisis pulmonalis, and when we remember that it is manufactured from human tubercle, if my theory is correct it is exactly what we would expect. Consequently I have had prepared from one of my own pure cultures from bovine sources a special tuberculin for the treatment of phthisis pulmonalis. The tuberculin was made from a typical culture of "perlsucht" and was very carefully sterilised and standardised. Several guinea-pigs were inoculated but without any bad effect. Working on these lines I am at present treating over 70 cases of surgical or bovine tuberculosis in the wards of Mill Road infirmary with Koch's tuberculin R., commencing with very small doses and slowly increasing up to a maximum dose of one-hundredth of a milligramme. The results, without any accessory treatment, have been beyond all my anticipation. Enlarged glands, joints, and lupus have been immensely improved, whilst discharging sinuses have cleared up and in two cases the symptoms of tuberculous meningitis associated with tuberculous peritonitis entirely disappeared. The full results of this large number of cases treated by tuberculin will be published in due course. On the other hand, I have treated 16 cases of early phthisis, four of which were associated with hæmoptysis and all of which showed tubercle bacilli in the sputum, with distinctive physical signs at one apex, with the tuberculin prepared from a pure culture of bovine tubercle (kindly supplied to me by Professor Calmette of Lille). These cases are still under treatment, but up to the present many of them have shown marked improvement, with total disappearance of physical signs. It is too soon yet to speak of the final results of treatment, but I hope to publish them after one year. My tuberculin should only be used in early cases and, if possible, in conjunction with open-air or sanatorium treatment. The directions and dosage issued by the Clinical Research Association should be strictly adhered to if good results are to be obtained.

With a view to produce immunity against human tubercle in children, especially in those who have been exposed to infection from a consumptive father or mother, I have lately been working with the serum of tuberculous cattle. I have purchased several dairy cows suffering from tuberculosis of the udder and have obtained, with the kind coöperation of Professor H. E. Annett, a large amount of the serum of these cows. This serum has been very carefully sterilised and injected into guinea-pigs without any ill-effects. I believe that the serum of a cow which has suffered from bovine tuberculosis will confer such immunity when injected into a child as will suffice to protect him against an attack of human tuberculosis. Considering the large number of children who are attacked by phthisis pulmonalis as the direct result of contact with a consumptive parent a protective serum would serums in doses strictly limited in quantity to avoid "inverted action" such as obtains in the analogous case of calcium salts. I found, however, that the clinical results of giving serum in this way in severe cases of hæmorrhage were, apart from hæmophilia, most disappointing. Hæmorrhage was little affected and coagulation time was not accelerated. I therefore gave much larger doses by the mouth and gave it repeatedly, and found it possible to control severe hæmorrhage in cases of purpura, acute hæmatemesis, and in cases of tuberculous hæmoptysis otherwise uncontrollable. Further, by extending the range of application I found that a most remarkable improvement in the clinical symptoms and in the condition of the blood followed in cases of many affections in no sense hæmorrhagic, such as chlorosis and ulcer without hæmorrhage. Hence, whatever value normal serum therapy may prove to have, it does not seem obviously connected with supplying fibrin ferment.

What the true explanation is must at present be a matter of speculation. It is conceivable that the administration of normal serum may affect the production of auto-anticomplement, or in some unknown way correct a disturbance of the regulating mechanism that Ritchie and others have postulated in order to explain Ehrlich's "horror autolyticus." For instance, in the paper referred to I have suggested that gastric ulcer is not a disease *sui generis* but is merely the local expression of a general blood dyscrasia at present unrecognised and that the essence of such disease may be the presence in the blood of cytolysins for gastric epithelium. The success that I have so far been able to obtain by the repeated oral administration of serum in many of these cases supports the view that it in some way affects the autolysis here supposed to cause the disease. Whatever the explanation, the exhibition of a large number of cases of different diseases treated in this way cannot fail to be of value in determining the utility of the treatment.

It will be seen that many interesting questions will arise in connexion with normal serum-therapy. For instance, what share have the normal constituents of serum in the results obtained by the use of serums such as the anti-diphtheritic and the polyvalents which we now attribute entirely to the action of abnormally produced bodies? Although I am optimistic as to the effects of normal serum-therapy in various conditions, our knowledge of its action is so slight that caution must be exercised in its use, and it is desirable that methods of testing and standardising the serum with regard to its anti-autolytic, anti-hæmorrhagic, and other properties should be employed in the future. It is also important that serum should be used from a horse that has been repeatedly bled, as its activity seems to be thereby enhanced.

The results in some of my own cases have been so striking that an anonymous donor has placed at my disposal a fund for the further investigation of the action of fresh serums. I am by this means able to avail myself of the aid of two other investigators on the staff of St. George's Hospital—viz., Dr. F. L. Golla and Dr. A. J. Jex-Blake, and collateral researches are now being actively pursued in the laboratory and in the clinical wards of several public institutions. I hope shortly, therefore, to present a large series of cases of various diseases treated in this way and to indicate thereby the limit of application. Appended are notes of four cases to indicate the possibilities apparently involved.

CASE 1. *Marked anæmia.*—The patient, an unmarried woman, aged 30 years, looked very ill and anæmic. She had had poor health for three years and had twice been treated in a nursing home without benefit. She complained of obstinate dyspepsia and distaste for food, troublesome constipation and amenorrhœa, slight gastrectasis and heavily loaded tongue, and dyspnœa on the slightest exertion. There was œdema in both legs up to the hips which pitted deeply on pressure. A loud hæmic bruit could be heard and the apex beat was in the nipple line. The urine was normal and there was no enlargement of the spleen. The blood count showed 60 per cent. of hæmoglobin and a fall in red corpuscles to 2,800,000. The blood had never previously been examined. The treatment adopted was rest, simple salines, ordinary diet and serum given in milk by the mouth on the following days—Nov. 24th, 26th, 28th, and 30th, and Dec 1st, 3rd, 5th, 7th, 9th, and 11th. In three days the œdema had nearly disappeared and in a week it was entirely gone, as also were the dyspnœa and dyspepsia. The patient was driving in ten days and walking in 14 days. The blood counts were as follows:—Nov. 20th, hæmoglobin 60 per cent. and red corpuscles 2,800,000; Nov. 26th, hæmoglobin 65 per cent. and red corpuscles 3,500,000; Dec. 6th, hæmoglobin 75 per cent. and red corpuscles 4,000,000; and Dec. 19th, hæmoglobin, 85 per cent. and red corpuscles 4,560,000.

This case, then, was one in which there had been obstinate dyspepsia for three years, which had proved refractory to treatment, and which had been associated with progressive anæmia and latterly marked œdema. Coincidently with the giving of serum there was immediate improvement in all the symptoms and the patient made a rapid recovery.

CASE 2. *Tuberculous hæmoptysis.*—This was an exceptionally good test case. The patient was a man, aged 26 years, with early but rapid tuberculosis of both lungs. When I first saw him in consultation he was bleeding profusely. "Stereotyped" treatment, including calcium chloride, had been tried for three days without avail. Amyl nitrite was the first suggestion that I made. This was as unsuccessful as I have always found it to be. Serum was then given by the mouth and bowel and two doses were sufficient to arrest bleeding. There was no more bleeding of any importance for some weeks when a fresh, though much less alarming, attack occurred. On auscultation a fresh focus of infection was clearly made out. The hæmorrhage was again immediately arrested by giving serum. In the next few months, at intervals of a few weeks, fresh hæmorrhages occurred from fresh foci of infection and in each case were immediately arrested as before by serum. It is fair to add that in two of these attacks the medical man in charge had previously employed again the ordinary methods of treatment without avail. An interesting point in this case was the fact that in spite of the rapid invasion of the lungs at the beginning of treatment by serum the tendency to great improvement, apart from arrest of hæmorrhage, was in the later months manifest. This may or may not have been due to the influence of the serum given, the total amount of which was considerable.

CASE 3. *Probable gastric ulcer without obvious hæmorrhage in a chlorotic.*—The patient, a young woman, aged 20 years, had for seven years suffered from almost constant gastric pain which always became aggravated by taking food and was always referred to one spot, which was also extremely tender. There had been occasional attacks of vomiting but no hæmatemesis and no melæna. Occult hæmorrhage was never searched for. The patient had often for many months at a time been dieted and put on iron with some improvement, but she had often relapsed. There had been no amenorrhœa and the urine was normal. Constipation had been a constant trouble and headache had persisted. No ocular defects had been discovered. The present attack of acute gastric pain with frequent vomiting had lasted for three days. There was extreme tenderness to the left of the epigastrium. A loud hæmic bruit audible over the left chest was loudest in the pulmonary area. There was slight dyspnœa on movement with slight dilatation of the stomach and some stasis of the gastric contents. The patient looked anæmic. The pulse was 110 and the temperature was subnormal. The following treatment was adopted. Complete rest in bed was enjoined and the administration of one drachm of compound liquorice powder every night. Every four hours small meals, in rotation, of stale bread and butter, chicken jelly, and four ounces of milk to which eight grains of sodium citrate were added were taken, and once a day for two days 10 cubic centimetres of normal horse serum were given by the mouth in milk. No other treatment whatever was undertaken. In 48 hours all pain, tenderness, vomiting, and even nausea had entirely disappeared and have not returned. On the third day of treatment pounded fish and chicken and the yelks of lightly-cooked eggs were given. On the fifth day 10 cubic centimetres of serum were given and pounded meat was added to the dietary. On the tenth day the patient was allowed to get up and was given ordinary household diet. On the thirteenth day she was in full work and she declared herself to be in perfect health. On Oct. 21st the hæmoglobin was 65 per cent. and the red corpuscles numbered 5,300,000. On the 27th, after the administration of 30 cubic centimetres of serum, the hæmoglobin was 75 per cent. and the red corpuscles numbered 5,500,000.

This, then, was a case in which there had been a condition of gastric pain for seven years and in which the subacute and acute attacks responded little, if at all, to ordinary treatment. When serum was given an immediate improvement set in and was followed by complete recovery.

CASE 4. *Duodenal ulcer with hæmorrhage.*—In this case, seen by me in consultation, the medical man in charge kindly allowed me every facility and to his courtesy I am indebted for the notes of the case. The patient was an anæmic-looking woman, aged 32 years. For many years she had had constant dyspepsia and severe pain referred always to one spot in the epigastrium, which she found also frequently very tender. The pain had the following characteristics: it sometimes occurred during the swallowing of food and was frequently accompanied by a sense of soreness in the neighbourhood of the cardiac orifice; it disappeared after meals to reappear very constantly after one and a half hours; and it was at times very severe before meals. Constipation had never been troublesome and menstruation had always been normal. Until 12 months ago no evidence had been available as to the presence or the absence of occult hæmorrhage and the patient had never vomited blood or had melæna, but within the last three months both had occurred three times. On the last occasion she went about for three days with duodeno-stasis, still continuing until faintness and impending collapse compelled her to lie up. On examination slight gastrectasis and stasis were present and epigastric pain and tenderness, strictly localised, were elicited. The following treatment was adopted: rest in bed; small frequent meals of pounded chicken fish, brain, eggs, and stale bread, with strictly limited intake of milk, and serum in doses of 10 cubic centimetres given in milk on the fourth, sixth, eighth, tenth, twelfth, fourteenth, sixteenth, seventeenth, eighteenth, nineteenth, and twenty-first days. A control was, so to speak kept in this way. For ten days the patient was given no serum, though complete rest and the above diet were given. No improvement took place until the serum was given. From the first day of its exhibition improvement was marked and progressive. The pain and the vomiting rapidly disappeared, there was no trace of recurrence of hæmorrhage, and the dyspepsia of years had gone. On Oct. 30th the hæmoglobin content was 60 per cent. Serum was first given on Nov. 4th. On the 11th the hæmoglobin was 75 per cent. and on the 26th it was 92 per cent.

The blood counts have been taken for me in the above cases by Mr. E. Quant, F.C.S., of the South Devon Laboratory.

It may at first sight seem unreasonable to expect good results from the application of normal serum-therapy to such expectoration, and night sweats. She made application for admission to a sanatorium but was declined on the ground that her case was not sufficiently early. She has up to the present time had six injections of tuberculin. Her cough has practically gone, physical signs much less active, and she has gained nearly a stone in weight.

The case is still under treatment and I feel no doubt that she will eventually make a complete recovery.

CASE 10.—Man, aged 40 years, in Stage 1 of the disease. Tubercle bacilli found. Has had 11 injections and is steadily gaining weight.

CASE 11.—Male, aged 60 years. Phthisis involving both apices, physical signs most marked behind. He has a very distressing cough; has had two attacks of hæmoptysis. Under tuberculin he has made a little improvement but he does not seem to possess much natural resisting power so that it is rather difficult to produce immunity.

Although the patient is a little better I am not satisfied that he is making any great headway and I rather think of discontinuing the treatment.

CASE 12.—Male, aged 31 years, with active tubercle at the right apex. Had a severe hæmoptysis two months ago when he lost a large quantity of blood. Tubercle bacilli are present and it looked as if he was going to develop acute tuberculosis of both lungs. Things, however, settled down after two weeks' rest and tuberculin was commenced. From the very first injection he commenced to improve, his appetite returned, the cough became less, expectoration not tinged with blood and diminished, night sweats disappeared, and he gained over 18 pounds in weight. At the end of 12 injections he was transferred to our sanatorium where his recovery was completed and he left that institution two months ago with his disease completely arrested.

I examined this patient a few days ago and found him continuing his work with no symptoms at all to cause him any inconvenience. He has still retained all his weight and there are no tubercle bacilli found in the sputum.

CASE 13.—Male, aged 37 years, with tuberculosis of both apices with old pleurisy at the right base. He had been losing weight for two years and has not been able to follow his employment for that time. He came into hospital for the purpose of having injections and has progressed extremely well after ten injections of tuberculin. He has greatly improved, has gained weight, and cough has disappeared.

The case is still under treatment and although I do not hope for cure yet there is certainly great improvement.

CASE 14.—Male, aged 35 years. Tuberculosis at right apex, erratic temperature, quick pulse, night sweats, and emaciation. He was treated for one month on ordinary hygienic principles, with complete rest in the open air—such as we have in Mill Road Infirmary—which had a good effect. Injections were commenced four months ago and although he has only had 10 yet he appears to be greatly benefited and expresses himself as being quite a different man.

I think in this case the disease will be arrested.

CASE 15.—Female, aged 21 years, two sisters having died from phthisis within the last three months. She had only complained for six weeks of cough and expectoration. Temperature was high at night; pulse 120, with progressive emaciation. Under treatment she has made wonderful recovery, although no marked improvement was observed until after the seventh injection. She has now had 13 injections. Her temperature is normal at all times; pulse 90. She has gained 15 pounds in weight and says she is better than she ever was in her life.

The physical signs in this case were limited to the left apex but were evidently of an acute and progressing character. The girl herself had practically no resisting power, consequently she would have very soon been destroyed by the tubercle bacilli. This is an example of the excellent effects of tuberculin.

CASE 16.—Female, aged 19 years, strong, sturdy physique. Hæmoptysis three months ago, temperature raised one degree each night, and the physical signs limited to the right apex above the clavicle; in fact, a typical example of Class I. in Turban's classification. There were no tubercle bacilli found. After 12 injections of tuberculin no signs or symptoms could be detected. She has gained 8 pounds, cough has disappeared, and she has left the hospital apparently cured.

From this series of cases of phthisis pulmonalis, the results of which I will publish in the course of another 12 months, I am convinced beyond any shadow of doubt that a tuberculin prepared from bovine sources has a most marked and curative effect in tuberculous affections of the lung, but my experience teaches me that, first, the patient must have a certain amount of natural resistance to the organism. If this is not present at the time of observation endeavours must be made by feeding and general tonics to raise the resistance somewhat before the tuberculin treatment is commenced. If it is found impossible with the aid of pure air, nutritious food, blood tonics, &c., to improve the resisting power I have come to the conclusion that tuberculin itself will not be of much avail. Secondly, the tuberculous infection must be limited either to one lobe of a lung or to two small areas of two lungs. If the disease has progressed to the formation of cavities and general constitutional infection, tuberculin has little or no lasting effects, although it improves the patient for a time. Thirdly, the age of the patient is of great importance; the younger the patients the more readily do they respond to tuberculin, and I have found that after the age of 50 it is very difficult to produce good effects with it, although it is quite common, of course, to see patients of that age recover from an early infection of tubercle of the lungs. Fourthly, if there is any concurrent disease, such as kidney trouble, tuberculin seems to have little or no effect.

I intend to continue the treatment for another 100 cases and I will hope to have the pleasure of reporting to you on a future occasion on the total results. At present I am quite certain that every early case of phthisis under suitable conditions should be inoculated with bovine tuberculin.

TUBERCULOUS GLANDS.

Twenty-three cases of tuberculous glands of the neck and other parts of the body have been treated with tuberculin, with, in many instances, the most extraordinary results. Several cases of extensive disease, especially when localised in the neck, have completely recovered. The glands are noticed first of all to become softer, the peri-adenoid tissue seems to become more flaccid and less inflammatory, and the glands themselves rapidly diminish in size to vanishing point. I have noticed, however, that where there is a tendency to suppuration the tuberculin has no good effect and there is nothing for it but either to incise the glands or remove them altogether. In two instances of inflammatory glands where suppuration was threatening tuberculin seemed rather to increase the swelling than diminish it, so that from my experience of treating glands I would say that tuberculin is only indicated where the glands are enlarged and not caseating or suppurating.

LUPUS.

Twenty-four cases of lupus have been treated in the hospital, and it is here that the very best results of tuberculin are obtained. All stages of the disease seemed to respond rapidly to injections, and in all the cases in which I have used tuberculin, without any other treatment such as scraping or medication, the ulcerated surface has healed with a firm cicatrix and in only two instances so far has the disease recurred.

TUBERCULOUS JOINTS.

Twenty-seven cases of tuberculous joints, mostly of a chronic or subacute variety, have been inoculated; 15 diseases of the knee, 8 of the hip, and 4 of other joints. The cases where the best results were obtained were those in which there was some suppuration or sinus directly leading down to tuberculous disease. In the great majority of cases the suppuration ceased first and then the sinus closed. In cases of pulpy disease of the joints there was in many instances marked diminution of the size of the joints with absence of inflammation and more movement. I have not yet seen any case where fixed or ankylosed joints have been benefited.

TUBERCULOUS PERITONITIS.

Eight cases of tuberculous peritonitis have been treated; 4 of the plastic or dry variety and 4 associated with fluid in the abdomen. Every one of the cases has recovered and all have been discharged well after 12 injections each of tuberculin. I consider that tuberculin is an absolute specific in cases of tuberculous peritonitis where the disease is confined to the abdomen.

TUBERCULOUS MENINGITIS.

This, the most terrible of all diseases that we are called upon to treat, may possibly be deprived of its terrors by timely inoculation of tuberculin. Unfortunately, as a rule, in hospital practice the cases do not come until the disease is well advanced or where there is some intercurrent tuberculous lesion. In two cases of apparent tuberculous meningitis with all the classical signs the symptoms entirely disappeared after four injections of tuberculin and both children made rapid recovery. In other two instances tuberculin had no effect and the children died. Of course, it is impossible to be sure that the first two cases were of a tuberculous nature, as tubercle bacilli could not be recovered by lumbar puncture, but I have no doubt myself that they were.

TUBERCULOUS ABSCESSES AND SINUSES.

Eighteen cases were treated. In 13 of them no definite good results were obtained as they were of a chronic nature, but in five cases the sinuses closed and the patients soon got fat and apparently well.

The whole of these 104 cases of surgical tuberculosis have been, of course, treated by Koch's tuberculin R., which, as you know, is manufactured from tubercle bacilli obtained another cast as large as the first and a good deal of mucopurulent expectoration. The apex immediately returned nearly to its former position and was felt half an inch *inside* the left nipple line. As before, the whole left side became resonant, vocal resonance returned, the breath sounds became audible, and were accompanied with some rhonchus and crepitation. At the base behind, as before, there was still some dulness and the voice and breath sounds remained absent. The child was greatly relieved and slept peacefully afterwards for some time. In the course of the next few days the same series of events recurred, the heart gradually passed out again, dyspnœa and duskiness recurred, until on the 28th another cast of the same size and character as the others was coughed up with similar relief to the patient and with the return of the heart to its normal position. However, a few hours later it was evident that another cast was forming with considerable rapidity, for the heart was moving outwards again and the other physical signs were returning, and at midday on Feb. 1st another large cast appeared. On the 3rd several small casts were coughed up and on the 7th a large one, each event being accompanied by the same changes in physical signs as have been described. Up to this time the temperature had been very unstable, rising frequently to 103° and being generally at its highest just before the cast was expectorated. From the 7th convalescence proceeded without interruption. The temperature remained normal or subnormal. The heart continued in its normal place and the patient looked well. She was kept in the hospital for some time largely as a matter of charity and was discharged on May 7th perfectly well, with the heart and lungs in their normal position and without any physical signs in the chest. The casts were examined microscopically and bacteriologically but without any positive result.

The case is an ordinary one of plastic bronchitis and except for the size of the casts does not present any remarkable features. The point of interest is *the displacement of the heart and complementary dilatation of the opposite lung* which followed on the collapse of the affected lung, changes which could hardly have been greater with pneumothorax of the right side. I have once before observed this in a case of extensive broncho-pneumonia of the left lung in a small child, the apex beating half an inch outside the left nipple line and returning to its normal place as the collapse passed off. I have not met with any account of a similar case to the present, which therefore seems worth recording. Some considerations of physiological interest arise out of it. The processes by which the air is absorbed from the air vesicles on collapse or from the pleura in pneumothorax are not fully understood. So far as the O and CO_2 are concerned, these gases exist in the blood partly in solution and partly in loose chemical combination. So that we may fairly suppose that they are removed in these ways. The N presents greater difficulties, being so inert a chemical body. Yet it, too, is removed and often with considerable rapidity.

The forces under which the gases are removed are greater than the elasticity of the lung—i.e., 6–8 millimetres of Hg—otherwise there would be a tendency for air to collect spontaneously in the pleura, and this does not occur. But this case shows that the forces must be much greater than this, for they were sufficient to cause the opposite lung to expand to the maximum. No doubt the violent coughing increased the forces of expiration very considerably and thus favoured absorption during the time of coughing, but in the intervals between the attack of coughing the forces at work would have to be equal to the elastic tension of the lung in its condition of exaggerated stretching, which can hardly be less than 10 millimetres of Hg or 5 inches of water and is probably more, and it must be against this resistance at least that absorption of the air took place.

Wimpole street, W.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on Feb. 4th, Dr. C. E. Underhill, the President, being in the chair. Theodore Charles MacKenzie, M.B. Edin., F.R.C.P. Edin., was introduced and took his seat as a Fellow of the College. Patrick Hehir, M.D. Brux., M.R.C.P. Edin., Lansdowne, India; and Harold Sherman Ballantyne, M.B., C.M. Edin., M.R C.P. Edin., Dalkeith, were admitted by ballot to the Fellowship of the College. Lindsay Stephen Milne, M.B., Ch.B. Edin., Montrose, was admitted by ballot to the Membership of the College after examination. The Registrar reported that since the last quarterly meeting 27 persons had obtained the Licence of the College by examination.

AN ARTIFICIAL "AIR-WAY" FOR USE DURING ANÆSTHETISATION.

BY FREDERIC W. HEWITT, M.V.O., M.A., M.D. CANTAB.,
ANÆSTHETIST TO HIS MAJESTY THE KING; PHYSICIAN-ANÆSTHETIST TO ST. GEORGE'S HOSPITAL; CONSULTING ANÆSTHETIST AND EMERITUS LECTURER ON ANÆSTHETICS AT THE LONDON HOSPITAL.

ON several previous occasions, not only in the columns of THE LANCET but elsewhere, I have endeavoured to establish the proposition that in most of the cases in which difficulties arise during general anæsthesia these difficulties are directly dependent upon mechanically obstructed breathing and that this condition, occurring as an incident, introduces into administrations an auto-asphyxial element the true nature of which is frequently misunderstood. It has been pointed out that whilst there are many different varieties of mechanically obstructed breathing—i.e., many different ways in which the respiratory pump may be thrown out of gear independently of any defect in the nerve energy at its disposal—these varieties are capable of being arranged in two main groups. In Group 1 we have obstructive states dependent upon the operation of causes *within* the upper air-passages, and in Group 2 we have obstructive states dependent upon the operation of causes *external* to those passages. As an example of obstructed breathing of the former kind may be mentioned that arising from altered position, spasm, or swelling of the tongue. As an illustration of mechanically impeded breathing of the latter kind, that dependent upon spasm of the external respiratory muscles may be cited. On the present occasion I propose to deal only with the treatment of certain of the obstructive conditions of the first of these two groups and to confine my remarks to cases in which the respiration of semi-anæsthetised or anæsthetised patients becomes partially or completely obstructed owing to occlusion of the air-tract *above the larynx*.

Were it customary, as in physiological experiments, to introduce anæsthetic gases and vapours into the pulmonary passages through a tracheal cannula the text-book descriptions of the clinical phenomena of incipient and complete general surgical anæsthesia would markedly differ from those with which we are now familiar. Under such circumstances we should obtain far more equable results in our administrations and there would be much less intercurrent respiratory disturbance. But as it is necessary in surgical practice to introduce anæsthetics through the ever-varying nasal and oral passages this smoothness in anæsthetisation cannot be depended upon. The upper air-passages of all subjects are liable to alterations in their conformation and calibre during general anæsthesia. This is specially noticeable in certain subjects, e.g., the thick-set and plethoric, whose upper air-passages are naturally narrow; in certain postures, e.g., the Trendelenburg, in which the tongue gravitates towards the palate; and in certain operations, e.g., rectal, which have a tendency reflexly to produce spasmodic tongue retraction. Everyone who has paid much attention to the clinical aspects of general anæsthesia knows how frequently he has to adopt some means for preserving a free air-way. In some cases the jaw must be pressed forwards or the chin pulled up continuously; in others, a mouth-prop adjusted to meet the special peculiarities of the case is required; whilst in others again it is necessary to apply tongue forceps in order to insure free breathing.

The question here presents itself: Should anæsthetic gases and vapours be administered through the oral or through the nasal passages? It is interesting that the natural tendency towards nasal as opposed to oral respiration persists in a marked and often in an inconvenient degree during general anæsthesia. Even though a patient, obeying instructions, commence to breathe orally he will tend, as anæsthesia deepens, towards purely nasal respiration, and this nasal respiration frequently proves inadequate. Whilst nasal breathing is undoubtedly of paramount importance in everyday life it is, as a rule, inferior to oral breathing during the induction and maintenance of general anæsthesia. Suffocative sensations during induction are generally due to nasal respiration, the nasal passages being of insufficient calibre to allow of that quantity of oxygen reaching the lungs per minute which is essential to full blood oxygenation, and hence to the patient's comfort during incipient anæsthesia. It is true that when anæsthesia has become established nasal respiration may in arriving at the conclusion that the patient was suffering from one of the less common types of this affection, the motor nerve-supply of almost the whole muscular system of the trunk as well as that of the limbs being affected in greater or less degree.

THE BACTERIOLOGICAL INVESTIGATION.

Four specimens of the patient's cerebro-spinal fluid were obtained by lumbar puncture on the following dates: Specimen I. on Nov. 22nd, 1906; Specimen II. on Dec. 14th, 1906; Specimen III. on March 25th, 1907; and Specimen IV. on April 17th, 1907. The fluid was clear when withdrawn, but on standing threw down a small greyish sediment which microscopically consisted of lymphocytes.

Cytological examination of the cerebro-spinal fluid.—The deposit obtained on centrifugation of the fluid apparently consisted entirely of mononuclear cells (lymphocytes); no polymorphonuclear leucocytes were seen. In this respect, it may be noted, the fluid resembled that obtained by Geirsvold[1] from 12 cases occurring during an epidemic of acute poliomyelitis which happened in Norway in 1905. Geirsvold found that the deposit from the spinal fluid in his cases consisted chiefly of mononuclear cells and very rarely contained any polymorphonuclear leucocytes.

Bacteriological examination of the cerebro-spinal fluid.—A micrococcus with an obvious arrangement in pairs was recognised in stained preparations of the fluid drawn off by lumbar puncture on Nov. 22nd and on Dec. 14th, but could not be found in the specimens of the fluid which were drawn off on the two later dates. In most of the cover-glass preparations made from the two earlier specimens of fluid a few widely scattered diplococci could be distinguished unmistakeably; in one or two observed instances two pairs were grouped as tetrads. The cocci were of comparatively large size and in this respect were equally comparable with micrococcus pneumoniæ; there was some indication of a capsule, but this was not so distinct as it was with the diplococci which were found in the cerebro-spinal fluid of the experimental rabbits. The diplococci were always found free in the fluid, no intracellular forms occurred. We were unable to obtain a culture of this diplococcus on artificial media; media of every description were inoculated with the fluid and incubated both aerobically and anaerobically, but in no instance was growth of any kind obtained.

Animal experiments.—Altogether nine rabbits were inoculated with cerebro-spinal fluid obtained from the case, seven being inoculated intracranially, one intraperitoneally, and one subcutaneously. Sundry other rabbits were inoculated intracranially with an emulsion of cerebro-spinal substance and fluid from certain of the first series of experimental animals. The intracranial inoculations were carried out by means of a fine hypodermic syringe through a small trephine opening in the frontal region; in the case of the first series of animals a cubic centimetre of cerebro-spinal fluid from the patient was injected into the subdural space. One animal (Rabbit 4) died as the direct result of the operation; all the others apparently recovered quickly and completely from the immediate effects of the operation. The results of our experiments were as follows.

Rabbit 1, inoculated from the specimen of spinal fluid drawn off on Nov. 22nd, was found dead on the twenty-second day afterwards and diplococci similar to those identified in the patient's fluid were found in its spinal sac. This animal had not been under close observation during the week which preceded its death and consequently we are unable to say whether there had been any paralyses.

Two rabbits (Nos. 2 and 3) were inoculated with an emulsion of the cerebro-spinal substance and fluid of Rabbit 1. Rabbit 2 died on the eleventh day after the inoculation and Rabbit 3 was killed under chloroform on the following day. Both animals were apparently quite well up to the time of death; no cause for the death of the former could be found, and the appearances in each after death were quite normal, nor were any micro-organisms found in the cerebro-spinal sac of either.

Two rabbits (Nos. 4 and 5) were inoculated with the specimen of fluid drawn off on Dec. 14th. Rabbit 4 died within 24 hours from an intracranial hæmorrhage the result of the operation. Rabbit 5 remained apparently well for more than six weeks, but on the fiftieth day after inoculation it was noticed that the hind limbs were partially paralysed. Two days later the hind limbs were completely paralysed and the fore limbs partially paralysed; the animal meanwhile had been eating well and, except for the paralysis, was not obviously ill. Death occurred on the fifty-third day after the inoculation, and a fair number of diplococci were found in the animal's cerebro-spinal fluid.

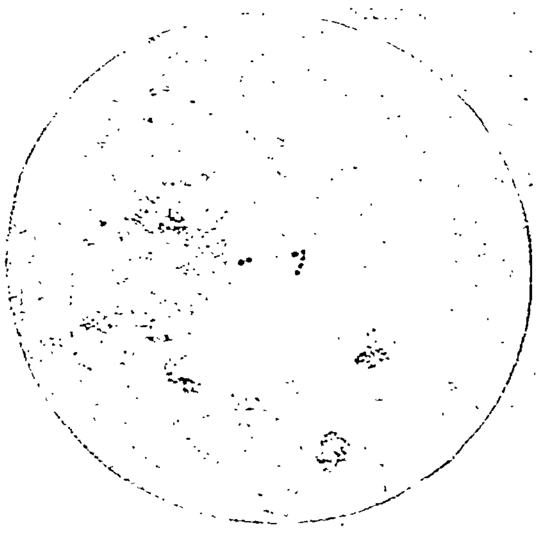
Two rabbits (Nos. 6 and 7) were inoculated with an emulsion of the cerebro-spinal substance and fluid from Rabbit 5. Of these, Rabbit 6 was killed under chloroform on the forty-first day after the inoculation, the animal being then apparently healthy, and no diplococci could be found in the cerebro-spinal sac. Rabbit 7 was found to have complete paralysis of the hind limbs on the forty-seventh day after the inoculation, followed rapidly by a paralysis of the fore limbs which was very plainly obvious on the forty-ninth day. The animal was killed on the fiftieth day after the inoculation and diplococci were found in the cerebro-spinal sac.

Rabbits 10 and 11 were inoculated with an emulsion of the cerebro-spinal fluid and substance from Rabbit 7. One died on the fourth day after inoculation, but the cause of death could not be ascertained; the other did not suffer from any apparent ill-effects and was alive and well four months afterwards.

Diplococci had been seen in the specimens of spinal fluid from the patient from which these rabbits had been inoculated, but none were seen in the specimens withdrawn on March 25th and April 17th, 1907, with which the remaining animals (Rabbits 8, 9, 12, 13, 14, and 15) were inoculated, and none of these animals suffered apparently from the inoculation.

In the case of each animal that either died naturally or was killed under chloroform a careful examination was made of stained specimens of the cerebro-spinal fluid, the heart blood and the juice from the spinal cord, the spleen, and other organs, but in no case were any diplococci found except in those instances in which we have noted its presence in the cerebro-spinal fluid. Culture media of the most varied description were inoculated also from the cerebro-spinal fluid, the heart blood, and various tissue juices in every case. But except for occasional growth, which was obviously due to accidental causes, all the media used remained sterile on incubation; and, in particular, no growth of any kind was obtained on any of the media inoculated with the cerebro-spinal fluid from Rabbits 1, 5, and 7, in which we had been able on microscopical examination to demonstrate clearly the presence of the diplococci.

Except in the case of the rabbit which died from an accident of the inoculation operation, and Rabbits 14 and 15, which died from coccidiosis, no macroscopic morbid change was found after death—in every case the meningeal membranes appeared perfectly natural and healthy, nor was any excess or other abnormality of the cerebro-spinal fluid noticed.



Microphotograph showing cocci in cerebro-spinal fluid of Rabbit No. 1 dying on twenty-second day after inoculation.

Unfortunately, no adequate histological examination of the spinal cords of the rabbits was made. Small portions of the cervical, dorsal, and lumbar cord from Rabbit 7 only were

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[1] Geirsvold: Tidsskrift for den Norske Lægeforening, No. 20, 190

CASES OF OPERATION FOR ACUTE APPENDICITIS.

TABLE I.—EARLY OPERATIONS (*i e., within 48 hours*). PRIVATE CASES.

No.	Under the care of—	Date of operation.	Sex.	Years of age.	Approximate duration of symptoms	Pulse and temperature at time of operation.		Suppuration.	Removal of appendix.	Condition of appendix.	Result.
						P.	T.				
	Dr. F. R. Mallett (Bolton).	1906. Feb. 1st.	M.	29.	48 hours.	88	100°	Localised.	Yes.	Small perforation; inflamed and very friable; three concretions.	Recovered.
2	Dr. Helene Goldberg-Saul (Withington).	June 18th.	M.	19	19 ,,	110	103°	Absent.	,,	Lumen completely occluded, distal portion distended with pus; three concretions.	,,
3	Mr. J. T. Finlay (Rawtenstall).	July 14th.	M.	7	42 ,,	124	105°	,,	,,	Mucous membrane inflamed; two patches of superficial ulceration.	,,
4	Dr. D. Macmillan (Prestwich).	,, 21st.	F.	30	48 ,,	108	104°	,,	,,	Intensely injected, coated with flaky lymph; mucous membrane ulcerated.	,,
5	Mr. R. A. Shelton Daly (Manchester).	Nov. 3rd.	M.	38	42 ,,	120–130	—	Localised	,,	Gangrenous and perforated.	,,
6	Mr. J. T. Finlay (Rawtenstall).	,, 19th.	F.	24	18 ,,	118	99°	Absent.	,,	Intensely congested.	,,
7	Dr. D. Macmillan (Prestwich).	,, 21st.	F.	25	24 ,,	96	100°	,,	,,	Acutely inflamed, and roughened from deposit of lymph.	,,
8	Mr. G. M. Drury (Cheadle Heath).	1907. Jan. 13th.	F.	20	42 ,,	120	101°	Localised.	,,	Gangrenous and perforated; concretion.	,,
9	Dr. A. A. Mumford (Chorlton-cum-Hardy).	,, 15th.	M.	24	12 ,,	108	100°	Absent.	,,	Intensely congested and of purplish colour, becoming gangrenous; distended with dark fluid and on point of rupture; concretion.	,,
10	Mr. A. P. Walker (Hadfield).	Feb. 9th.	M.	54	43 ,,	88	99·6°	Localised.	,,	Small perforation, with extensive patch of gangrenous mucous membrane; concretion.	,,

Number of cases 10. Died, 0. Mortality, *nil.*

TABLE II.—INTERMEDIATE OPERATIONS (*i.e., third to fifth day*). PRIVATE CASES.

1	Dr. J. Mason (Windermere).	1906. Feb. 19th.	M.	8	5 days.	116	101°	Encysted.	No.	Not seen.	Recovered.
2	Mr. J. T. Finlay (Rawtenstall).	April 16th.	F.	20	3 ,,	140	99·6°	General.	,,	,,	Died.
3	Dr. D. J. Mackenzie (Glossop).	Oct. 3rd.	F.	25	3 ,,	120	104°	Localised.	Yes.	Gangrenous and perforated; concretion.	Recovered.

Number of cases, 3. Died, 1. Mortality, 33 per cent.

TABLE III.—LATE OPERATIONS (*i.e., after fifth day*). PRIVATE CASES.

1	Mr. Edmund Lee (Manchester).	1906. March 28th.	F.	8	12 days.	—	—	Encysted.	No.	Not seen.	Recovered.
2	Dr. G. F. Waterston (Bolton).	May 1st.	F.	23	14 ,,	110	101·2°	,,	,,	,,	,,

Number of cases, 2. Died, 0. Mortality, *nil.*

and "late" stages no fewer than eight died, giving a mortality of 30 per cent. Five private patients were operated upon during the "intermediate" and "late" stages with one death, giving a mortality of 20 per cent. (Tables II. and III.). If all the cases are considered together the result is as follows:—

	Cases.		Died.		Mortality.
"Early" operation	10	...	0	...	*Nil.*
"Intermediate" operation ...	17	...	8	...	47 per cent.
"Late" operation	14	...	1	...	7 ,,
Total	41	...	9	...	22 ,,

It is worthy of note that in eight out of the nine fatal cases there was general suppuration throughout the peritoneal cavity at the time of operation. Judging by the condition found in four of the cases recorded in Table I (Cases 1, 5, 8, and 10), where there was localised suppuration and where success attended the "early" operation, it is probable that a similar result would also have followed earlier surgical intervention in the fatal cases—that is to say, if the peritoneal cavity had been opened and drained before the suppuration had spread and become general. In the remaining fatal case (Table IV., Case 14), though suppuration had not taken place, the appendix was becoming gangrenous at the time of operation; in this instance death was due to infective endocarditis with pericardial effusion.

As regards the indications for early operative interference in acute appendicitis, the difficulty that we often meet with at the onset is that it is impossible to foretell the course which the inflammatory process will take—viz., whether the attack will be of the simple or of the destructive variety. For it is a recognised fact that the early symptoms may be of a very mild character, even when grave lesions are taking place in the appendix.

The temperature and pulse-rate bear no constant relation to the severity of the attack. They may both be increased in the simple form, while in the destructive variety—even when perforation and gangrene are impending or have taken place—there may be very little rise in either (as in Table I., Case 10), or they may remain normal or even become subnormal. A rapid pulse, however—e.g., over 100, and especially if above 120, in the early stage—is always suggestive of serious mischief and points to a probable termination in suppuration. The same applies to a high temperature—e.g., 103° or the examination of the fluid removed by lumbar puncture in 10 cases of anterior poliomyelitis; nine of the cases were examined by bacteriological methods, and the pneumococcus was found in two cases and the meningococcus in a third. Looft and Dethloft[12] isolated from the spinal fluid of two cases an organism which is described as resembling Heubner's type of meningococcus. And, finally, Engel[13] obtained staphylococcus albus on media inoculated with the spinal fluid of a boy with acute anterior poliomyelitis, disease of the middle ear, and osteo-myelitis of the clavicle. To these bacteriological observations mentioned by Looft may be added the experience of Barnes and Miller[14] who found staphylococcus pyogenes citreus and staphylococcus albus in a case examined after death.

The results of bacteriological work so far are not of any particular value for the elucidation of the causation of cases of acute poliomyelitis; in some cases it is highly probable that the organism obtained on culture media came from accidental contamination during the bacteriological procedure. In other cases question arises as to clinical diagnosis, and in no case is any evidence brought forward that the organism obtained in culture had any causative relationship to the disease.

The results obtained by Geirsvold, on the other hand, were consistent and afford the strongest presumptive evidence that he was successful in isolating a diplococcus which stood in causative relationship to the disease which was under investigation. Geirsvold examined the cerebro-spinal fluid obtained either by lumbar puncture during life or after death from cases of the epidemic disease which has recently prevailed in Norway. It does not appear how many cases were examined, but in 12 cases Geirsvold obtained in pure culture a diplo- or tetro-coccus which readily produced chains of four or six elements when growing in nutrient broth.

On solid media the growth of the organism was slow at first and scanty, resulting in sparsely scattered, small, greyish colonies having the appearance of dewdrops, but in subsequent subcultures a more vigorous growth was obtained. After growing for some time on agar the colonies acquired a toughish consistence; in nutrient broth the growth formed a coherent sediment; in peptone water growth was scanty, and in this medium "degenerate" forms of the micrococcus were seen. Some growth was obtained on potato and in milk, the latter medium being coagulated after some days. Growth was obtained occasionally on gelatin and then the medium became liquefied. The organism stained by Gram's method. The organism was pathogenic for mice; some of the animals inoculated died within 24 hours and in some cases showed signs of muscular paralysis before death; other mice appeared to recover from the inoculation but developed paralysis later. Rabbits also were susceptible, sudden paresis of the hind limbs developing after a prolonged incubation period. Geirsvold notes that in order to obtain cultures of the micrococcus large quantities of the spinal fluid must be incubated. He very rarely obtained cultures after the tenth or twelfth day of the disease, although diplococci could be seen in the fluid withdrawn from the spinal sac, an experience which has a bearing on our own failure to obtain any growth of the organism which could be seen in spinal fluid withdrawn on about the twelfth day after the onset of illness and again later.

CONCLUSIONS.

It appears to us that Geirsvold's investigations have established beyond question the existence of a specific infective disease of which acute poliomyelitis is a frequent and prominent, but not essential, feature. And we believe that the case which we now record represents a sporadic case of the disease which Geirsvold investigated under epidemic circumstances. From the somewhat scanty information at our disposal it would appear that this specific disease has no clearly distinguishing primary features to enable one to differentiate it by its clinical symptoms from many other febrile conditions of probably infective origin which are frequently met with in practice but which may not have sufficiently distinctive symptoms to enable a definite diagnosis to be arrived at. And so whilst the serious complication of acute poliomyelitis when it has occurred has been at once recognised, the primary disease has not been differentiated hitherto but has in fact usually been altogether overlooked. That the disease is not confined to man is suggested by an epidemic of some 160 cases of what appears to have been acute anterior poliomyelitis which has been recorded by Dana,[15] and in which cases of paralysis were observed amongst lower animals in the locality in which the human cases occurred.

It would be unprofitable, again because of the insufficient information at our disposal, to attempt to discuss the exact pathology of the acute poliomyelitis which is one of the results of this infection. Neither our own experience nor Geirsvold's much more extensive investigation throws any light upon the question as to whether the affection of the nervous system is merely a casual incident of what may be termed broadly a general infection or whether, having gained an entrance into the tissues, the infecting parasite has, as diplococcus intracellularis of Weichselbaum apparently has, a special tendency to locate itself in the cerebro-spinal sac. Nor are we at present in a position to consider whether the poliomyelitis is due to a direct and localised action of the diplococci which are seen in the spinal fluid or whether it results from the action of toxins circulating in solution in the lymph or blood, which may have an affinity, such as that of the toxins of the tetanus bacillus, for nerve-cell substances. It must not be forgotten that although the diplococcus has hitherto been recognised only in the cerebro-spinal fluid there is no reason for assuming that it is specially localised in the sac of the central nervous system. We failed in the case of our experimental rabbits to obtain cultures of the organism from either the cerebro-spinal fluid or from the blood and other tissue juices, and the fact that the organism was identified in very small numbers only in the almost clear cerebro-spinal fluid in which its recognition would be comparatively easy did not preclude its existence in the blood, where its presence would be much more difficult of demonstration by merely microscopic methods without corroborative cultivation experiments.

In conclusion, we would suggest that there is not sufficient reason for assuming that acute poliomyelitis is always a result of this particular diplococcal infection. The symptoms by which acute poliomyelitis is recognised in clinical practice are the consequences of a constitutional alteration of certain cells of the central nervous system which causes an impairment of their functional efficiency. That this constitutional alteration is necessarily produced by only one specific cause appears to us to be highly improbable. We think rather that it is probable that the cell changes which result in the symptoms of acute poliomyelitis may be caused also by the toxins produced in other infective processes, and we may refer to the experience of so good an observer as Trevelyan[16] who found that out of 50 cases of infantile paralysis which he had treated the symptoms had followed immediately on measles in two cases, in one case had come on after typhoid fever, and in another case after acute rheumatic fever.

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THE THERAPEUTIC USES OF NORMAL SERUM.

BY E. C. HORT, B.A., B.SC. UNIV. PARIS, M.R.C.P. EDIN.

IN THE LANCET of Dec. 21st, 1907, p. 1744, I mentioned that during the last 12 months I had been treating with most encouraging results a number of morbid conditions by the administration of normal serum. Amongst the diseases that I have treated, and am proposing to treat, in this way are the following conditions: gastric and duodenal ulcer, with and without hæmorrhage; chlorosis and other forms of anæmia; hæmophilia; purpura hæmorrhagica; tuberculous peritonitis; hæmoptysis; ulcerations of all kinds; pulmonary œdema; pneumonias, &c. In addition to these Dr. Arthur Latham has, at my suggestion, employed normal serum in a number of similar and other cases and has most kindly allowed me access to his notes.

My attention was first drawn to the subject by the work of Dr. Emil Weil of Paris on the treatment, by fresh animal serums, of hæmophilia and allied conditions, and by Dr. Perthes's observations on hæmophilia. It appears that these observers, believing that a deficiency in coagulation power was an important factor in the blood in such diseases as hæmophilia, sought to remedy this by giving an artificial supply of fibrin ferment. With this object Weil gave intravenously or subcutaneously injections of various animal cases, even when the initial symptoms are of a mild character and point to the attack being of the "simple" form, for it is never possible to predict with certainty what course the inflammatory process will take, and there is always the risk of a termination in suppuration. Supposing, however, that this does not take place and the appendix is allowed to remain, it will probably be left more or less thickened and contracted or bound down by adhesions, and therefore in such a condition that sooner or later the attacks will almost certainly recur. If all cases of appendicitis are operated upon in the early stage, as soon as the diagnosis is established, I believe that the danger will not be any greater than that which attends removal of the appendix in the quiescent period following one or more attacks. In the latter circumstances appendectomy is frequently a complicated operation owing to the presence of adhesions, the result of the previous attacks, and the appendix may be so fixed and buried in these adhesions that its recognition, as well as its removal, are often attended with considerable difficulty.

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[12] Looft and Dethloft: Medicinsk Revue, 1901.

[13] F. Engel: Prager Medicinische Wochenschrift, No. 12, 1900.

[14] Barnes and Miller: Brain, 1907.

[15] C. L. Dana: Boston Medical and Surgical Journal, vol. cxxxii., Jan. 3rd, 1895.

[16] E. F. Trevelyan: British Journal of Children's Diseases, April, 1906.

As regards the after-treatment in the cases recorded in the accompanying tables drainage was employed in every instance and even when suppuration had not taken place a small tube was left in the wound for 36 or 48 hours, perhaps rather as a safeguard than because it was absolutely necessary. When there was an encysted abscess or localised suppuration larger tubes and strips of gauze were inserted and a counter-opening was usually made in the loin, or through the vagina in females, when the pus tracked down into the pelvis. Care was always taken to disturb the parts around the area of suppuration as little as possible, so as not to break down any protective adhesions which might be forming. When the suppuration was general one or more openings were also made in the middle line or on the opposite side of the abdomen; and under the same conditions Fowler's position, and Murphy's method of saline injections into the rectum, were employed in some of the cases.

Manchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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By JOHN A. C. MACEWEN, M.B., C.M., B.Sc. GLASG., F.F.P.S. GLASG.,

SURGEON TO THE ELDER HOSPITAL, GOVAN; ASSISTANT SURGEON, GLASGOW ROYAL INFIRMARY; SENIOR ASSISTANT TO REGIUS PROFESSOR OF SURGERY, UNIVERSITY OF GLASGOW.

MY attention was first directed to the above mode of treatment by a paper on the subject by my friend Dr. Gavin McCallum of Geelong, Australia, in which he reported one or two cases in which highly satisfactory results were obtained by the method to be described.

The patient, a weakly girl, 15 months old, was first seen by me at the Elder Hospital in May, 1905, suffering from a large cavernous nævus of the right side of the face which occupied the whole substance of the cheek, being covered superficially by a layer of thin, white skin resembling that which is seen covering scars which have stretched, while internally it projected slightly into the cavity of the mouth, being covered by the mucous membrane which appeared healthy and of normal texture. The tumour was larger than a walnut normally, but increased considerably in size when the patient cried, while it diminished slightly on digital pressure. Slight arterial pulsation was felt. The patient was first operated on in July, 1905, then in January, 1906, and, lastly, in July, 1906, so that a period of six months elapsed between each application. After the first operation the tumour increased in size for a few days succeeding the operation, became firmer, and conveyed a sensation of increased warmth to the touch. It then gradually decreased in size and became distinctly firmer, presenting more definite outline than it previously had done. Similar results followed the other two operations, but after the third operation I was still doubtful as to the entire success of the treatment; the tumour had become distinctly smaller and firmer, but I was still uncertain whether some tumour tissue did not remain. The patient became ill shortly after the third operation, so that I did not see her again until November, 1907—over a year since the third operation—when I again had an opportunity of examining her. I now found that the tumour had entirely disappeared, the cheek presenting, on palpation, a thickening over the site of the tumour, due doubtless to the connective tissue which had formed as a result of the treatment. Not only had no scar resulted from the treatment but the skin over the surface, which it will be remembered was of a very unsatisfactory character when first seen, had slightly improved.

The mode of treatment, which I modified slightly, consisted in preparing several needles out from magnesium ribbon. These were sterilised by boiling and were introduced by pushing with a pair of forceps into the substance of the tumour through a slight puncture in the surface made with a bistoury. The needles were entirely buried in the substance of the tumour, no part being left projecting on the surface, and care being taken to prevent perforation of the mucous membrane on the inner surface. Some six or eight needles were introduced on each occasion into various parts of the tumour, strict asepsis being observed throughout, and the surface operated on was covered by a film of gauze with celloidin to exclude contamination after operation. The magnesium ribbon is a little troublesome to manipulate owing to its being both soft and brittle, but with a little patience these difficulties are overcome. I do not know of any other method which would have yielded an equally satisfactory result in this case, where the tumour was large and situated on the most prominent part of the face where scarring or change of contour would at once attract attention.

The beneficial action which the magnesium needles exert in such cases is probably due to two causes. In the first place, the needles exert a mechanically irritating effect on the walls of the vessels with which they come in contact, a constant movement being kept up both by the pulsation of the little arteries and by movements of the cheek. In consequence of this movement the endothelial lining of these vessels will be abraded and a white thrombus will form; as has been demonstrated by Sir William Macewen to occur when an aneurysm is treated by his method of needling. This is the more important action. In the second place, magnesium, as is well known, is very readily oxidised, and this process of oxidation appears to take place very rapidly in the tissues; indeed, so rapid was the process in the case here reported that it was difficult to detect the presence of the needles in the tissues some three or four days after their introduction. This, of course, is an important point in this method of treatment, as it enables one to bury the needles at the outset, thus permitting rapid healing of the minute surface wound, and the needle is removed after a few days by the oxidising action of the blood and probably the leucocytes. During the oxidising process, however, the magnesium probably causes the formation of small red thrombi, in addition to the white ones mentioned above. The embryonic fixed tissue cells in the white thrombi will rapidly become converted into adult connective tissue, while the red thrombi will to some extent be replaced by similar fibroblasts which will also become converted later into adult connective tissue. The connective tissue so formed will occlude the vessels in connexion with which it grew, and, by its subsequent contraction, will obliterate the vessels in its neighbourhood. Thus the ultimate result is occlusion of all the vessels of the tumour by fibrous tissue formation, which ultimately will greatly diminish in bulk.

Glasgow.

A NOTE ON THREE CASES OF PLAGUE TREATED BY YERSIN'S SERUM.

By AUSTIN C. DIXON, L.R.C.P. LOND., M.R.C.S. ENG.,

CHIEF MEDICAL OFFICER OF THE ANTOFAGASTA HOSPITAL.

IN the fourth Croonian lecture by Professor W. J. R. Simpson, reported in THE LANCET of July 27th, 1907, the following remarks are made: "Great expectations were raised on the introduction of Yersin's serum but they have not been realised and a serum has yet to be discovered which while being germicidal in its action also possesses antitoxic properties." I must acknowledge that up to now widely different conditions as, for example, hæmophilia and tuberculous caseation of lung or other tissue. But it is not impossible that there is a common basis of autocytolysis in these and in a vast number of other conditions characterised by destruction of epithelial, endothelial, hæmic, or other cell, and that such autolysis can be inhibited by normal serum. It appears from the results that I have obtained by the oral administration of serum that subcutaneous or intravenous injections are not at all necessary. I found at the same time that T.R. tuberculin and antistaphylococcal vaccines and other vaccines may be given in the same way, and apparently the clinical results are in no way impaired. This will of course require confirmation. Since writing this paper I learn that in Australia a number of diseases have been treated by Dr. Montgomerie Paton with antidiphtheritic and other serums administered by the mouth. The cases he has published seem to confirm amply the value of normal serum-therapy that I have independently arrived at.

Harley-street, W.

PLASTIC BRONCHITIS

IN A GIRL, AGED 11 YEARS, THE SEVENTH ATTACK IN FOUR YEARS, THE FIRST OCCURRING AT THE AGE OF SEVEN YEARS: EXTREME DISPLACEMENT OF THE HEART AND MEDIASTINUM, PRODUCED BY COLLAPSE OF THE LUNG, DISAPPEARING WITH EXPECTORATION OF THE CAST, BUT RECURRING AS EACH FRESH CAST FORMED.

BY SAMUEL WEST, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO, AND LECTURER ON MEDICINE AT, ST. BARTHOLOMEW'S HOSPITAL.

A GIRL, aged 11 years, was admitted into St. Bartholomew's Hospital with plastic bronchitis. The first attack was at the age of seven years; since then she had had six attacks, this being the seventh. She had been in this hospital for the previous three attacks. The present attack began on Jan. 14th, 1907, with headache and cough. On the 15th she was at school, but on the 16th she was too unwell to leave bed. She had slept badly, had much headache, vomited several times, complained of a "lump in the throat," and brought up some blood-stained sputum. The patient was a well-developed child, but she looked ill, was somewhat dusky, had a tight cough, and expectorated a little blood-streaked sputum. The temperature was 99° F., the pulse was 140, and the respirations were 36. She complained of feeling a "lump in the chest" in the upper part of the left side in front. The percussion note was greatly impaired over the whole left side, back and front, and at the base behind was almost dull. The vocal resonance and breath-sounds were absent everywhere except in the left interscapular space, where they were somewhat exaggerated. The stony dulness here almost suggested fluid, but there was no displacement of the heart to the opposite side; on the contrary, the apex beat was an inch to the left of the left nipple line in the fifth space and the resonance of the right lung extended across the sternum and reached an inch to the left of the edge of the sternum along the third rib. Corresponding with this the respiratory sounds changed from the somewhat exaggerated sounds of the right lung to the defective sounds of the left. It was evident that the left lung was contracted and the right expanded. This was thought to be due to collapse of the left lung consequent on the occlusion of the left main bronchus by a cast. On Jan. 18th the condition was much the same but the breath was shorter and the duskiness more marked. On the 19th, at 4 A.M., a large cast was coughed up two and a half inches long and the stem was nearly one-third of an inch in diameter. It was brought up after much coughing and great distress. The temperature the evening before reached 103° but on the morning after the cast had been expectorated it fell to 99·8°. On the 20th several more pieces of casts of smaller size were brought up along with some muco-purulent sputum. The apex of the heart returned to the left nipple line—i.e., moved two inches towards its proper place. The upper part of the left lung became resonant and the breath sounds there distinct and accompanied with a little crepitation. The base behind, however, continued *in statu quo* with dulness to percussion and absent breath sounds. The patient was now placed upon ten grains of iodide of potassium three times a day. Gradually the physical signs became much as they were on admission, and the heart's apex returned to its former place outside the left nipple line. The patient became more dusky and drowsy, and on the evening of the 22nd she brought up

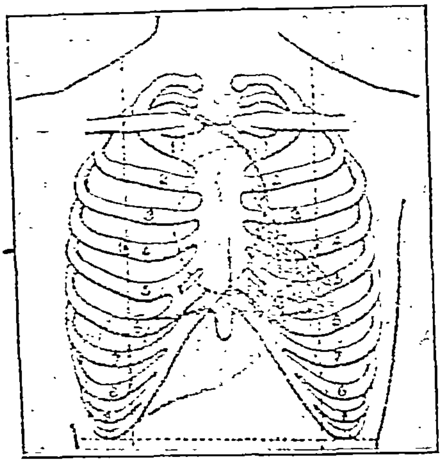

Diagram showing the displacement of organs before the expulsion of the cast.

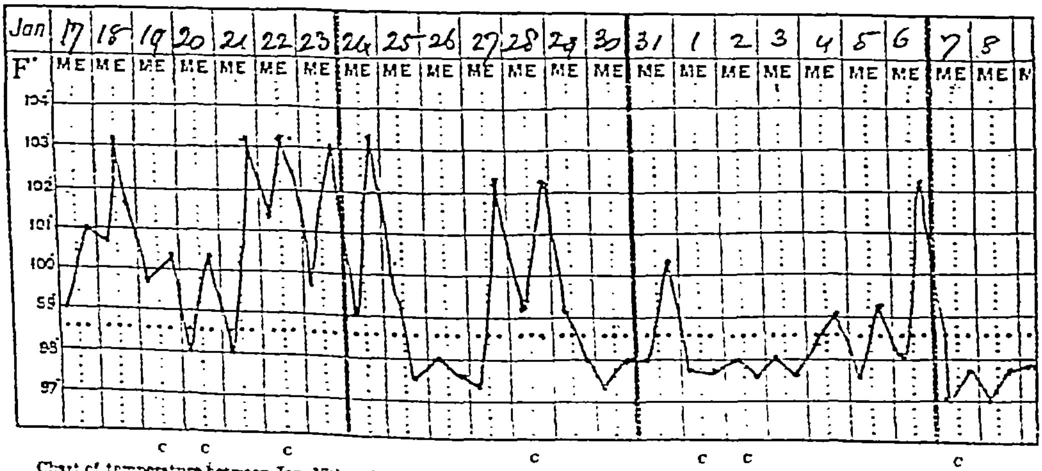

Chart of temperature between Jan. 17th and Feb. 8th. On the dates indicated below by the letter C casts were expectorated.

cases, even when the initial symptoms are of a mild character and point to the attack being of the "simple" form, for it is never possible to predict with certainty what course the inflammatory process will take, and there is always the risk of a termination in suppuration. Supposing, however, that this does not take place and the appendix is allowed to remain, it will probably be left more or less thickened and contracted or bound down by adhesions, and therefore in such a condition that sooner or later the attacks will almost certainly recur. If all cases of appendicitis are operated upon in the early stage, as soon as the diagnosis is established, I believe that the danger will not be any greater than that which attends removal of the appendix in the quiescent period following one or more attacks. In the latter circumstances appendectomy is frequently a complicated operation owing to the presence of adhesions, the result of the previous attacks, and the appendix may be so fixed and buried in these adhesions that its recognition, as well as its removal, are often attended with considerable difficulty.

As regards the after-treatment in the cases recorded in the accompanying tables drainage was employed in every instance and even when suppuration had not taken place a small tube was left in the wound for 36 or 48 hours, perhaps rather as a safeguard than because it was absolutely necessary. When there was an encysted abscess or localised suppuration larger tubes and strips of gauze were inserted and a counter-opening was usually made in the loin, or through the vagina in females, when the pus tracked down into the pelvis. Care was always taken to disturb the parts around the area of suppuration as little as possible, so as not to break down any protective adhesions which might be forming. When the suppuration was general one or more openings were also made in the middle line or on the opposite side of the abdomen; and under the same conditions Fowler's position, and Murphy's method of saline injections into the rectum, were employed in some of the cases.

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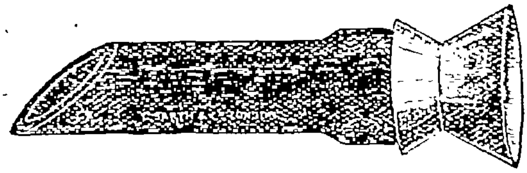
In order to secure free and exclusively oral respiration when administering anæsthetics it is necessary (1) to keep the teeth or gums apart; (2) to keep the tongue away from the palate and pharynx; and (3) to block the nasal channels. The little appliance here figured effects this in most cases —not, perhaps, in all, because of the great variations which exist in the conformation of the upper air passages of different subjects. It consists of a circular metal ring, with an internal diameter of half an inch, and with a deep groove in its outer circumference to allow of the ring being held firmly by the teeth. The two flanges which result from the presence of this circular groove or trough are of unequal size, the smaller projecting within the mouth and the larger outside the teeth or gums. From the inner circumference of the ring there also projects into the mouth a short metal collar carrying a portion of indiarubber tubing the free end of which is cut obliquely or whistle-shaped, as shown in the figure. The tubing should have a maximum length of about three and a quarter inches, a clear internal bore of half an inch, and its wall should be sufficiently thick to prevent kinking. By a simple screw adjustment in the collar the rubber tube may, if desired, be removed from the metal ring which will then act as a mouth prop.



The artificial "air-way" is not intended for use in every case. It is principally serviceable in those cases in which respiration is performed with some embarrassment or difficulty owing to the upper air-tract being more or less obstructed. If at the conclusion of the induction period, when the patient should be settling down into smooth and deep anæsthesia, the breathing be laboured and noisy, with sniffing or snorting sounds—if, in other words, the patient be "taking the anæsthetic badly" or "breathing badly"—the jaws should be separated and the whistle-shaped end of the "air-way" passed backwards into the pharynx, so that the oblique opening of the rubber tube faces the laryngeal orifice, and the metal ring adjusted so that it is grasped by the teeth or gums. The substitution of free oral for imperfect nasal or oral respiration will, in the great majority of cases, immediately be followed by slower and quieter breathing, an improvement in colour, and greater muscular relaxation; in fact, by an altogether better type of anæsthesia. Should there be much jaw spasm at the moment when it is desired to introduce the "air-way" it may be necessary to separate the teeth by means of a Mason's gag. It is advisable to secure a fairly deep anæsthesia before the instrument is placed *in situ*, otherwise inconvenient reflex retching and coughing may be excited. The appliance is, in fact, only suitable for cases in which it is desired to maintain a fairly deep anæsthesia. As regards the administration after the introduction of the "air-way," it must be remembered that with the more free intake of atmospheric air less anæsthetic will be required. In cases in which partial occlusion of the upper air-tract exists much of the vapour which is presented to the patient never actually gains access to the pulmonary passages. If, therefore, a certain rate of administration has been in force during the period of hampered breathing this rate must be reduced when the insertion of the "air-way" has secured free respiration, otherwise an unnecessarily deep anæsthesia will result. As the air-way does not project beyond the lips it may be used either during the administration of ether, chloroform, or chloroform mixtures. The writer finds it of great value when anæsthetising patients in the Trendelenburg posture, for in this posture the swollen tongue frequently obstructs breathing.

Messrs. Barth and Co. of 54, Poland-street, Oxford-street, London, W., are the makers of this artificial "air-way." I am indebted to them for having made other experimental appliances for me whilst working at this subject.

Queen Anne-street, W.

THE "EARLY" OPERATION IN ACUTE APPENDICITIS: THE INDICATIONS FOR ITS PERFORMANCE AND ITS ADVANTAGES.[1]

BY F. A. SOUTHAM, M.B. OXON., F.R.C.S. ENG.,
SURGEON TO THE MANCHESTER ROYAL INFIRMARY; PROFESSOR OF CLINICAL SURGERY, MANCHESTER UNIVERSITY.

THE advisability of early surgical interference in cases of acute appendicitis is becoming more and more recognised every day and instead of waiting for indications of suppuration, as was formerly the practice, we now attempt to forestall this complication by operating at a much earlier stage in the course of an attack.

For clinical purposes we may divide cases of acute appendicitis into two classes—viz., simple and destructive. In the first variety there is a simple or catarrhal inflammation of the mucous membrane which does not run on to suppuration or perforation but terminates in resolution, though often leaving the appendix in a somewhat altered or damaged condition with a tendency to recurrent attacks. In the destructive form serious changes result, either a localised perforation or more or less extensive gangrene of the walls of the appendix, both conditions being usually accompanied by suppuration. This may take the form of an encysted abscess or there may be a formation of pus either localised, i.e., at first confined to the region of the appendix, though not encysted or surrounded by a barrier of lymph, but soon spreading and becoming more or less general, i.e., diffused throughout the peritoneal cavity ("diffuse suppurative peritonitis"), if the case is allowed to run its course.

It has recently become the custom to divide the course of an attack into three stages—viz., (1) the "early" stage, which includes the first 48 hours; (2) the "intermediate" stage, which extends from the third to the fifth day; and (3) the "late" stage, which extends from the fifth day until the termination of the case. Operations are now classified as "*early*," "*intermediate*," and "*late*," according to the corresponding stage in which they are performed.

During the past year it has been my practice, when possible, to operate at a much earlier period than formerly, i.e., in the "early" stage, in all cases where the initial symptoms were of a grave nature and indicating that destructive changes were taking place, or were likely to do so, in the walls of the appendix. So far the results have been most satisfactory, and I append a brief record (Table I.) of ten cases, all operated upon in the "early" stage, viz., within 48 hours, the onset of abdominal pain or sickness being taken as the initial symptom. In each instance the appendix was removed at the same time and all the patients made a good recovery. These cases all occurred in private practice, it being unusual to obtain the opportunity of such early operation in hospital patients. That this is so is proved by a reference to Tables IV. and V., which include all the acute cases, 26 in number, admitted into my wards at the Manchester Royal Infirmary during the same period. Some of these were operated upon by myself, the others by the honorary assistant surgeons (Mr. J. W. Smith, Mr. A. H. Burgess, and Mr. J. H. Ray), or by the resident surgical officer (Mr. P. R. Wrigley). None of the 26 cases were admitted in the "early" stage and therefore operative interference was not possible within the first 48 hours. The contrast in the result is striking, for of the 26 hospital patients operated upon in the "intermediate" she displayed the symptoms described.—Professor CUSHNY replied.

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[1] A paper read before the Manchester Medical Society on March 27th, 1907, in a discussion on the Diagnosis and Treatment of Acute Appendicitis.

Professor W. E. DIXON dealt with Arterio-Sclerosis and its Causation. He referred to two theories of causation—(*a*) raising of blood pressure and (*b*) toxic influences, and showed that it had been established conclusively by experiment that arterio-sclerosis could be produced in the lower animals by simply compressing the abdominal aorta for one minute once or twice a day for a comparatively short period. The changes consisted in a drawing out of the elastic fibres and degeneration of the muscular coat, plaques of calcareous material being formed. He explained how this might be brought about in man owing to violent exercise, and more especially was this likely to occur as man grew older, as the rise of blood pressure was then greater after exertion than in youth. Professor Dixon also spoke of the effect of nicotine on the blood pressure, comparing the sudden high rise in the young non-smoker after his first cigar with the slight rise in the moderate smoker and the absence of effect in the habitual smoker. He concluded by stating that man produced a ferment, probably in his liver, which counteracted the effect of nicotine.—Professor CUSHNY hoped that the study of this subject might lead to some advance in treatment. He did not think that the raising of blood pressure in man by the administration, for example, of digitalis would give rise to these changes.—Dr. SAVILL stated that he was surprised to hear that the compression of the abdominal aorta for such short periods in small animals should give rise to so serious changes in the aortic arch as had been described by Professor Dixon.—Mr. MABEN also spoke.

OTOLOGICAL SECTION.

Ménière's Disease.—Primary Epithelioma (?) of the Tympanum.—Exhibition of Cases and Specimens.

A MEETING of this section was held on Feb. 8th, Dr. PETER MCBRIDE, the President, being in the chair.

Mr. H. TILLEY showed a case of Extensive Development of Keloid in the Line of Incision made for Mastoid Operation. Various suggestions with regard to the occurrence of keloid were put forward by members of the section and also methods of treatment. Mr. Tilley proposed to try the x rays and, if not successful, to excise the scar freely.

Dr. D. R. PATERSON showed an unusual case of Cerebellar Abscess in a boy, aged 11 years, who had only been ill three weeks without any apparent sign of middle-ear suppuration. The chief symptoms were tenderness along the posterior border of the mastoid and optic neuritis. The abscess was opened by operation and the patient made an uneventful recovery without impairment of hearing.

Mr. SYDNEY R. SCOTT showed an interesting series of Histological Preparations of the Human Cochlea.

Mr. ARTHUR H. CHEATLE showed a specimen of the Right Temporal Bone of a Man in which, owing to the anatomical arrangement of the cells, it was possible for pus in the antrum to reach the neck without passing through the mastoid process.

Mr. RICHARD LAKE read the notes of a case of Ménière's Disease in a girl aged 14 years.—It was suggested by several members of the section that the cause of the symptoms might be due to congenital syphilis.

Mr. R. STURGEON COOKE showed a Case for Diagnosis—namely, a girl, aged eight years, in whose left mastoid region was situated a hard swelling of about half the size of a pigeon's egg, which had gradually increased in size since it was first noticed 15 months ago.—The members could not agree to a definite diagnosis, which was variously given as a calcified gland, a bony growth, an enchondroma, a solid dermoid, or a new growth. Mr. Cooke was asked to report the result found at operation at the next meeting of the section.

Mr. HUNTER F. TOD showed the following: 1. A case of Vertigo in a man in whom the coördination tests, as suggested by von Stein, demonstrated a definite lesion of the semicircular canals on the right side. 2. An unusually interesting case of Lateral Sinus Thrombosis occurring in a boy aged eight years. A few days after the operation there were facial paralysis on the opposite side, paresis of the sixth nerve on both sides, and optic neuritis on the affected side. For a considerable period the boy was very ill and showed definite signs of basal meningitis. Convalescence was slow and with this complete recovery of all the symptoms. Two months later optic atrophy was noticed on the left (the opposite) side which was now well marked; otherwise the boy was restored to complete health.

Mr. A. L. WHITEHEAD read notes of a case of Primary Epithelioma (?) of the Tympanum, following chronic suppurative otitis media. The first symptom of the disease was an aural polypus which was very vascular and which recurred on removal. Eventually the mastoid operation was performed and the growth was found to extend deeply into the cochlea and petrous bone and forwards involving the orifice of the Eustachian tube. The hæmorrhage during the operation was so profuse as to be almost alarming but was arrested by pressure. Eight weeks after the operation the wound cavity was dry and covered with epithelium. There had been no recurrence since the operation, performed 12 months ago. The pathologist's report stated that the growth had the structure of an atypical carcinoma. A microscopical section was referred to the Morbid Growths Committee for further examination.

Dr. J. BARRY BALL showed a case of a Pulsating Growth in the Left External Auditory Meatus in a man aged 73 years. The patient had consulted Dr. McBride ten years ago who noticed a small growth in the meatus. Since then it had increased slowly and occasionally there had been a sharp attack of hæmorrhage. The growth filled the meatus and protruded slightly from the orifice; there was a distinct expansile pulsation in it which was communicated to the auricle and the pre-auricular region. The growth was presumably angeiomatous in nature.—The question of tying the external carotid artery was discussed but the opinion of the section was that owing to the age of the patient and the duration of the growth it would be wiser to do nothing.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Feb. 10th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Dr. F. DE HAVILLAND HALL showed a case of Ascites treated by Epiplopexy. The patient, a man aged 35 years, was admitted into the Westminster Hospital on Nov. 7th, 1907, complaining of swelling of the abdomen. He gave a history of a chancre five years ago; four years ago he had right-sided pleurisy and was at home for eight weeks. He stated that he was a heavy drinker until about the age of 30; since then he had drunk on an average four or five pints of beer daily and occasionally spirits. About 12 months ago he noticed that he was getting thinner and since that time there had been gradual loss of flesh. Four months ago he noticed that he was getting fuller about the abdomen and the swelling had steadily increased up to the time of admission. On admission the patient was thin and sallow. The liver was palpable for about four fingers' breadth below the costal margin; the surface was hard and irregular. There was no jaundice. The abdomen was distended with free fluid. On Nov. 11th and 26th and Dec. 17th the patient was tapped and 9 pints 5 ounces, 10 pints 8 ounces, and 16 pints respectively were drawn off. On Jan. 7th Mr. W. G. Spencer made a vertical incision about two inches long three inches below the ensiform cartilage. The liver was examined and presented white lumps which were regarded as either of syphilitic or malignant origin, probably the former. Another incision was made in the median line below the umbilicus and a drainage-tube inserted; a portion of the great omentum was sutured to the upper wound. On the next day a large quantity of fluid escaped through the drainage-tube; the tube was removed five days later. Since the operation the patient had been treated with liquor hydrargyri perchloridi and iodide of potassium.—In answer to a question by the PRESIDENT, Mr. SPENCER said that patients who had been thus operated on showed enlargement of the superficial veins, sometimes to such an extent that a photograph could be taken of the veins.

Mr. W. H. BATTLE showed a case of Diffuse Cancellous Osteoma of the Femur following Fracture in a boy, aged three and a half years. He was admitted to the Rochester Hospital for a fracture of the right femur on July 11th, 1907. The fracture, which was situated slightly below the middle of the shaft, was caused by a fall from a fence. On August 1st it was noticed that there was an unusual amount of swelling of the thigh; on the 11th this had increased and extended the whole length of the shaft of the femur and measured 14 inches in circumference. On the 14th an examination of the growth was made under an anæsthetic and a piece was removed. This was examined and consisted

TABLE IV.—INTERMEDIATE OPERATIONS (*i.e., third to fifth day*). HOSPITAL CASES.

No.	Date of operation.	Sex.	Years of age.	Duration of symptoms.	Suppuration.	Removal of appendix.	Condition of appendix.	Result.
1	Jan. 24th, 1906.	F.	24	5 days.	Encysted.	No.	—	Recovered.
2	Feb. 23rd "	M.	12	4 "	General.	Yes.	Gangrenous and perforated.	Died.
3	March 25th "	M.	30	5 "	"	No.	—	"
4	April 18th "	M.	9	3 "	"	"	Gangrenous and perforated.	"
5	May 16th "	M.	8	4 "	"	"	—	"
6	" 20th "	M.	15	3 "	Encysted.	"	—	Recovered.
7	July 13th "	M.	23	5 "	"	Yes.	Gangrenous and perforated.	"
8	August 8th "	F.	29	4 "	Localised.	"	Gangrenous and perforated; concretion.	"
9	Sept. 9th "	M.	19	3 "	Encysted.	No.	—	"
10	" 29th "	M.	19	5 "	General.	"	—	Died.
11	Nov. 4th "	F.	16	5 "	Encysted.	Yes.	Contained concretion.	Recovered.
12	Dec. 28th "	F.	25	3 "	General.	"	Gangrenous and perforated.	"
13	Jan. 21st, 1907.	M.	19	4 "	"	"	Gangrenous and perforated; concretion.	Died.
14	" 23rd "	M.	26	3 "	Absent.	"	Gangrenous; not perforated.	"

Number of cases, 14. Died, 7. Mortality, 50 per cent.

TABLE V.—LATE OPERATIONS (*i.e., after fifth day*). HOSPITAL CASES.

1	Jan. 26th, 1906.	M.	64	4 weeks (?)	Encysted.	No.	—	Recovered.
2	Feb. 21st "	M.	12	7 days.	General.	"	—	"
3	22nd "	F.	13	8 "	Encysted.	Yes.	Acute inflammation; concretion.	"
4	April 8th "	F.	10	7 "	"	No.	—	"
5	June 17th "	F.	37	12 "	"	"	—	"
6	Sept. 4th "	M.	7	7 "	General.	Yes.	Gangrenous.	"
7	" 21st "	M.	39	10 "	"	"	"	Died.
8	Oct. 2nd "	M.	28	14 "	Encysted.	No.	—	Recovered.
9	" 3rd "	M.	23	14 "	"	"	—	"
10	" 31st "	F.	34	9 "	"	"	—	"
11	Dec. 2nd "	F.	24	10 "	"	"	—	"
12	Jan. 23rd, 1907.	M.	26	6 "	"	Yes.	Gangrenous.	"

Number of cases, 12. Died, 1. Mortality, 8 per cent.

104° F. On the other hand, a subnormal temperature, especially if the fall has been sudden, often indicates that perforation has taken place, and the pulse-rate may not be increased under the same conditions. A high temperature and a slow pulse, or *vice versâ*, are always unfavourable symptoms. An initial rigor is always a grave symptom and should be regarded as a danger-signal. Urgent vomiting or acute pain at the onset renders it probable that the attack will be a severe one. Painful rigidity of the abdominal wall, especially if general, when well marked in the early stage, is always a most important indication of the gravity of the attack and generally symptomatic of the existence of acute peritonitis.

Another early symptom upon which I place great importance as indicative of the latter condition and pointing to the onset or the presence of the destructive form of appendicitis is the absence of abdominal respiration, the breathing being mainly or entirely thoracic. If the patient is told to take a deep inspiration, the abdomen being freely exposed to view, it will be found that there is either no movement whatever of the abdominal wall or only a very slight expansion at its upper part—viz., immediately below the sternum and lower margin of the ribs. Even this amount of movement is frequently absent and occasionally there may be noticed a slight in-drawing of the abdominal wall in this situation if the pain does not prevent the patient from taking a deep breath. When this state of the abdomen is present at the onset of the attack and there are in addition the three cardinal symptoms of appendicitis, viz., pain, tenderness, and rigidity of the abdominal wall, most marked over the region of the appendix, together with quickened pulse and increased temperature, or even without much alteration in pulse and temperature, it is probable that the attack is, or will be, of a severe character—i.e., of the destructive type. This motionless condition of the abdomen during respiration was observed in all the cases recorded in Table I. and it was the main indication which induced me to advise immediate operation even when there was little increase in the pulse-rate or temperature (as in Cases 1, 7, 9, and 10). I believe it is always indicative of the presence of peritonitis, and a reference to the cases in Table I. will show that in these circumstances serious changes were commencing, or had already taken place, in the walls of the appendix.

The advantages of surgical interference in the early stage of acute appendicitis are as follows: 1. The infective centre—i e., the appendix—can be removed in many cases before suppuration has taken place, and if it has not perforated or become gangrenous the operation is practically an aseptic one. 2 If pus has formed, even though not encysted and surrounded by a barrier of lymph, it will usually be found to be localised as yet to the neighbourhood of the appendix and small in quantity (Table I., Cases 1, 5, 8, and 10). In these circumstances its evacuation, together with the removal of the appendix, if followed by free drainage, will usually check the spread of the suppuration which otherwise so often tends to become general. 3. The operation being performed before the onset of general toxæmia, the common cause of death in fatal cases, is usually well borne by the patient. 4. The risks of the later complications of acute appendicitis, viz., subphrenic and hepatic abscess, empyema, parotitis, phlebitis, and infections in other parts of the body, are greatly minimised. In past years I have met with instances of all the secondary complications just mentioned. 5. In the early stage the appendix—unless bound down by adhesions the result of a previous attack—lies quite free and is therefore easily removeable. In the later stages, especially in the less acute cases, it is often surrounded and imbedded in a deposit of lymph, which may form part of the wall of an abscess when the pus is encysted. In these circumstances, it is often not easy to recognise the appendix, and its removal is frequently difficult or impossible without breaking down this barrier of lymph, and thus running the risk of infecting the general peritoneal cavity.

It is a question whether the rule of early operation in acute appendicitis might not with advantage be extended to all

Dr. EDMUND CAUTLEY read a paper on the Pathology of Congenital Hypertrophy of the Pylorus in Relation to Treatment. Accepting the view that there is such an affection as pyloric spasm and that the action of the pylorus is that of the closed door which only opens in response to duodenal stimuli, he argued that there was no evidence that spasm could cause hypertrophy. Almost all physicians had found antispasmodic drugs of no value in treating pyloric hypertrophy, a remarkable fact if the symptoms were due to spasm grafted on to, or causing, hypertrophy. Moreover, spasm might occur at any age, and yet these cases of hypertrophy were peculiar to the first few months of life, and there was no evidence of spasm at a later age causing hypertrophy. Recovery from pyloric spasm under medical treatment, in cases mistaken for true hypertrophy, had led to an unduly favourable estimate of the value of medical treatment in true hypertrophy. The latter affection varied from a degree of hyperplasia which was fatal unless treated surgically, down to a slight hyperplasia which was compatible with life, if no secondary effects occurred. These effects—viz., dilatation of the stomach, gastric catarrh, and occasionally acute œdema of the pyloric mucosa—were due to contraction of the muscle. In mild cases the degree of contraction might prevent sufficient nutritive food passing through the pylorus and yet not set up the secondary symptoms. Three of his cases had been of this type and under medical treatment had succumbed to marasmus, although food was present in the intestines after death. It was these cases in particular that made a person critical of the assumed value of diet and lavage. Drugs he had found useless. A diet of whey or albumin water, carefully regulated, would suit such cases for a time but as soon as the strength of the food was increased the secondary symptoms arose. On the assumption that the condition was induced by hyperchlorhydria cases had been treated by undiluted cow's milk. Such a food had proved useless in his hands and he suspected that the successful cases were due to pyloric spasm. Recent observations by Miller and Willcox supported the view that there is no excess of acid in these cases and all clinical and pathological evidence was in favour of the weak nutritive fluid rather than undiluted milk. Lavage would be useful in hyperchlorhydria and pyloric spasm but could hardly be expected to be of value in cases of mild hypertrophy without secondary symptoms. It seemed unnecessary if food was passing through the pylorus, if vomiting was absent, and if there was little or no dilatation. There were undoubted cases of this type. It was of great value in curing secondary dilatation and gastritis, but it only cured these secondary effects and not the hypertrophy and might place the child in the *status quo ante*. Then if the degree of hypertrophy and contraction was compatible with life the child might recover. He regarded it as of vital importance to differentiate spasm from hypertrophy and thought that the medical treatment of true hypertrophy should not be unduly prolonged. The greater the degree of marasmus previously to operation the smaller was the chance of the child's recovery.

Dr. G. A. SUTHERLAND protested against the assumption that if pyloric stenosis were cured medically it must have been in such a mild form that it would have recovered without treatment. Operation was a very serious matter and many infants who had stood the operation died afterwards from bowel trouble of some sort. He did not think that for a complete diagnosis one should be able to feel a pyloric tumour, as the pylorus was a very uncertain thing to feel in an infant. The diagnosis could be made if vomiting, constipation, wasting, and marked visible peristalsis were present. Where trouble arose when breast milk was given the fault was not with the milk but with the manner of feeding. Small feeds of the most digestible materials were required and if there was a residue of food left in the stomach after washing out for a day or two the infant was not having suitable food.

Mr. J. P. LOCKHART MUMMERY said that it was scarcely possible to have a more unsuitable subject for a severe operation. The child was very young and badly nourished and had probably been vomiting all the nourishment given for some days before. Very few cases died on the table. The only patients in whom the prospect of operation was good were those seen early before there had been wasting and in whom there was a fair amount of fat.

Dr. CHARLES W. CHAPMAN said that in the condition under discussion there was a great deal of irritation causing the closure and he was therefore surprised that no one had suggested the administration of carbonate of bismuth. It might be given freely in as much as teaspoonful doses.

Mr. HUGH LETT said that the members were much indebted to the readers of the papers as the subject was one of great importance. Surgical treatment was a very serious matter and in many cases by the time the surgeon was called in the condition was practically hopeless. The physician should be clear at the beginning of his treatment how long he would continue medical measures, lest by unduly prolonging them the prospects of operation were affected. He advocated the claims of gastro-enterostomy as being simpler than pyloroplasty and safer than Loreta's operation.

Dr. REGINALD H. MILLER suggested that the symptoms of pyloric stenosis were entirely referable to spasm. First, because of the onset of the disease. At the Clinical Society of London last year 40 cases were collected and in 70 per cent. of them the onset did not occur until the third or fourth week of life. He had a case in which diarrhœa preceded the onset of the symptoms. It was true that many babies vomited from birth but not sufficiently to cause wasting, and the well-marked constipation was frequently absent during the first two or three weeks of life. That suggested that there was not marked blocking at the pylorus as a congenital lesion. Again, even though the baby were not saved by lavage and careful dieting, he or she usually died from diarrhœa, showing that the pylorus was once again patent and that something had happened, for presumably the spasm had been relaxed. Such cases strongly simulated the real condition which Dr. Cautley referred to, and he (Dr. Miller) thought that they were quite identical. It was difficult to say what was the cause of the spasm, but he thought that it was due to a congenital defect in the gastric juice, and he had tried to find what that defect was in the observations alluded to by Dr. Cautley; he believed the so-called hyperacidity was not the cause. It would be a very engaging idea if it were so. Hyperacidity was found in babies who ran a different course, generally getting well in a few weeks. The hyperacidity of pyloric spasm occurred in older and less wasted children, the tongue was clean, and there was no true peristalsis so that the viscus stood up on palpation. There was Mr. Clinton T. Dent's well-known fœtus in which the pylorus was found hypertrophied. He regarded spasm of the pylorus as the entire cause of the symptoms of the condition, if not of the disease itself.

Dr. T. R. WHIPHAM showed a case of Congenital Heart Disease in a girl, aged 17 years, who showed no cyanosis or clubbing.

Dr. J. PORTER PARKINSON showed a case of Synovitis of the Knee-joint without pain or tenderness in a boy, aged seven years. The patient was the subject of congenital syphilis and the effusion followed periostitis of both tibiæ.

Dr. SUTHERLAND showed: 1. A case of Cretinism. The patient, a boy, aged nine years, was seen in November, 1907, when typical signs of cretinism were present. He improved markedly under thyroid treatment. Growth in the long bones was very delayed and pituitary extract had been given without any benefit so far. 2. A case of Tuberculous Peritonitis in a girl nine years old. When first seen in September, 1907, the case seemed hopeless. There had been signs of tuberculous peritonitis for five months. The patient, who was wasted and in a stuporous condition, suffered from diarrhœa and had delirium at night and hallucinations during the day. She was now convalescent and the signs of active tuberculosis had subsided, although the abdomen was still distended.

Dr. MCMASTER (for Dr. L. G. GUTHRIE) showed a case of Acute Polioencephalitis following Measles. The patient, a girl, aged five years, was well nourished and intelligent but had spastic diplegia. There were no ocular symptoms. There was weakness of the muscles of the back so that she could not sit upright and could not hold her head up. The condition simulated one of congenital spastic diplegia.

Mr. LOCKHART MUMMERY showed a case of Supernumerary Auricles in an infant, on both sides of the head, situated just in front of the external auditory meatus in the position of the inter-maxillary cleft.

LIVERPOOL MEDICAL INSTITUTION.

The Physics of the Mitral Regurgitant Murmur.

A MEETING of this society was held on Jan. 16th, Mr. THOMAS H. BICKERTON, the President, being in the chair.

Dr. T. R. BRADSHAW read a paper on the Physics of the Mitral Regurgitant Murmur, especially with regard to its audibility at the heart's apex. He assumed the correctness of

I have not what one might call an extensive personal experience of plague, as most of my cases are sent into the lazaretto here and then I lose sight of them, but I should like to report the effect of Yersin's serum in the few cases of foreigners that I have treated myself as I feel sure that this serum is maligned.

CASE 1.—The patient was a woman, aged 22 years. I was called to see her about 4 P.M. Her temperature was 103° F. Her face was flushed and she was feeling very ill. I visited her at 8 A.M. on the following day when her temperature was 105°. I called in the medical officer of health who confirmed my opinion that it was a case of bubonic plague. At 12 noon we gave an intravenous injection of Yersin's serum, the dose being 80 cubic centimetres. About two hours later the patient had a rigor. On the day after there was no fever and she was feeling much better. In this case the patient completely recovered except that she suffered from rheumatism about 14 days later, the effects of the injection.

CASE 2.—The patient, a man, aged 50 years, was admitted to hospital as a case of typhoid fever (?). His temperature was 102° F., the pulse was dicrotic, and the spleen was palpable. Two days later a bubo appeared in the left groin. The patient was given 40 cubic centimetres of serum intravenously with the effect that the temperature fell to normal, but he had no rigor. Two days afterwards the temperature again rose to 102°; the same dose was repeated and the temperature fell to 100°. The man died, however, in a comatose condition, and I believe that in this case I gave insufficient serum but was advised not to increase the doses.

CASE 3.—The patient, a man, aged 25 years, was seen at 12 noon. His temperature was 106° F. in the rectum. He had been quite well the day before. I called in the medical officer of health who agreed that the man was suffering from bubonic plague. The patient was given an intravenous injection of 80 cubic centimetres of serum. His temperature on the next morning was normal. On the following day the temperature in the rectum was 104°. The dose was repeated and the temperature fell to 100° and kept so for two days, when he began to cough and to expectorate pneumonic sputum. This was examined microscopically and was found to contain numbers of bubonic bacilli. On examination the right apex was found to be consolidated. I then thought the case almost hopeless and gave the patient an intravenous injection of 130 cubic centimetres of Yersin's serum. Two hours later he had a *severe* rigor. The temperature on the following day was normal, there were much less cough and sputum, and the lung was better. After this the patient made an uninterrupted recovery except that about ten days later he had rheumatism and fever, no doubt due to the injections.

These are the three cases that I myself have attended and they seem to me to show that: (1) unless the patient has a rigor after the injections they have not had a large enough dose; (2) that the doses advised are not nearly large enough for severe cases; and (3) that there is no ill effect from large intravenous injections of Yersin's serum.

I am unaware what dosage is generally used in India, but I presume from about 20 to 40 cubic centimetres as per instructions. At the same time I am aware that three cases are insufficient to judge from, but I was anxious to give only those that I myself could vouch for, although I could get plenty more examples of large doses from the Chilian lazaretto in this town with excellent results.

Antofagasta, Chili.

NOTE ON A CASE OF SEPTICÆMIA DUE TO PNEUMOCOCCUS; DEATH.

By JOHN BELL, L.R.C.P. LOND., M.R.C.S. ENG.,

SUPERINTENDENT OF THE GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

AN Indian male, aged 22 years, was admitted to hospital under my care on Dec. 1st last, with a fluctuating swelling just below the left clavicle which he attributed to having tried to raise a very heavy box a few days previously. The abscess, containing about two ounces of pus, was opened on the next day and the case progressed well up to the 12th when there was still a small sinus about one inch in depth. The patient was most anxious to leave the hospital but he was kept in until the wound was completely closed. On the next day he complained of feeling chilly with pains all over and there were a few fine crepitations at the base of the right lung. His temperature in the morning was 99° F. and in the evening it was 100°. On the 14th he felt better, the temperature in the morning being 98·4° and in the evening 100·8°. On the 15th he was very seriously ill. He had much pain and discomfort all over the abdomen, especially over the bladder, where there was a diffuse swelling extending to the flanks. There was slight delirium, the tongue was very dry and furred, and there were hæmorrhages under the conjunctivæ and petechial eruption all over the body. The temperature was 100·6° and the pulse was very small and quick. The wound looked well. A blood slide showed no plague bacilli or malarial parasites, but was full of normoblasts. The patient was not anæmic. He rapidly succumbed and died in the afternoon.

Post mortem, the abdominal swelling consisted of a large extravasation of blood between the skin and the peritoneum through all the muscular layers and extending on both sides to the back to the level of the pelvic brim. Smears from this were full of typical pneumococci. The heart was covered with small petechiæ, and the blood from the ventricle showed almost a pure growth of capsulated pneumococci. All the other organs were healthy and the wound was normal, though a scraping from the sinus also showed pneumococci. Dr. C. M. Heanley, Government bacteriologist, who was present at the time, kindly saw the slides and agreed with the diagnosis of septicæmia due to pneumococcus.

The patient was a healthy, well-nourished Indian and the abscess was quite superficial and was treated throughout aseptically. It is difficult to understand why, when he was practically well, such a serious disease should arise which carried him off in 48 hours.

Hong-Kong.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Nutmeg Poisoning.—Arterio-sclerosis and its Causation.

A MEETING of this section was held at the Apothecaries' Hall, Blackfriars, on Jan. 28th, Dr. T. E. BURTON BROWN, the President, being in the chair.

Professor A. R. CUSHNY gave an address on Nutmeg Poisoning. He referred to the scanty recognition of this in English medical literature and noted the work of his former assistant, Dr. Wallace, in America, who found that cases of poisoning occurred exclusively from the use of the crude nutmeg or mace; in many instances it had been used as an abortifacient, although it does not appear to have this action. As far back as 1576 Lobelius relates a case in which a woman was rendered delirious by nutmeg. The symptoms are drowsiness, stupor, diplopia; delirium frequently is present, and sometimes the first symptom is burning pain in the stomach, præcordial anxiety, or giddiness. One case of death in a boy occurred after eating two nutmegs. The symptoms resembled those caused by cannabis indica. Professor Cushny showed how the powerful poison was contained in the oil of nutmeg and it was the fraction which came over at 150° C. under 14 millimetres mercury pressure; from this several bodies have been isolated—e.g., myristicin. From experimental work Professor Cushny came to the conclusion that the symptoms were to be attributed to the action on the central nervous system, which was depressed but exhibited some indications of stimulation in the form of restlessness, slight convulsive movements, and tremor. The oil also had a marked local irritant action, whether given by the mouth or hypodermically. The stomach wall was found red and injected, the urine often containing albumin.—Dr. POWER (introduced by Professor Cushny) said that he had been working on the chemistry of oil of nutmeg, which he found a very complex mixture. He had isolated large quantities of myristicin which did not conform in its features with the substance described by Semmler under that name. He drew attention to the very small amount of myristicin contained in the quantity of nutmeg necessary to induce poisoning, this suggesting a doubt to his mind whether the symptoms were entirely due to this body.—Dr. J. GRAY DUNCANSON mentioned the case of a woman who aborted after taking, amongst other things, a ground nutmeg in gin;

of the bowel, and peritonitis was present. An end-to-end anastomosis of the resected gut was performed but the patient only lived 36 hours after the operation.

Mr. F. T. PAUL and Mr. FRANK A. G. JEANS showed: 1. Hydatid Cyst of Retrorenal Tissue. The kidney, which was stretched over the cyst, was removed with it. There were no urinary symptoms. 2. A Chronic Ileo-colic Intussusception from a man, aged 23 years. The operation involved removal of the ileum, cæcum, the ascending, and half the transverse, colon. 3. A Carcinoma of the Transverse Colon. An immediate end-to-end anastomosis had been attempted with fatal result.

Dr. R. J. M. BUCHANAN showed specimens of Myelocytes from a case of Myelogenous Leukæmia. The cells had been washed twice with sodium citrate solution and once with normal saline solution in the centrifuge. On staining the films with Leishmann's stain the myelocytes showed long flagella projecting from the surface and were more granular, the granules responding to the stain in the same manner as the nuclei. In some of the flagella a few granules could be seen, while into others strands of nuclear chromatin extended. These flagella did not resemble pseudopodia and the cells in which they occurred were slightly if at all amœboid.

Professor A. M. PATERSON exhibited Specimens and Models illustrating the Normal Form of the Stomach, and variations from the normal type, including several examples of "hour-glass" stomach resulting from hypertrophy of the circular muscular coat of the organ between the cardiac and pyloric portions.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

The Treatment of Gastric Ulcer.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Jan. 31st, Dr. J. ALLAN, the President, being in the chair.

Dr. A. G. BARRS and Mr. B. G. A. MOYNIHAN opened a discussion on the Treatment of Gastric Ulcer.

Dr. BARRS said that the rapid rise and striking success of the surgical treatment of gastric ulcer had invested the subject with a new interest and a greater importance, whilst the responsibility of the physician had proportionately increased, for with him still rested, and very properly so, the duty of determining in any given case whether medical or surgical treatment should be adopted, and it was only by maintaining him in his position of judge of first instance that unnecessary, and therefore unjustifiable, operations were to be avoided. The first and by far the most important question the physician had to decide in the treatment of any case of gastric ulcer was whether the case was one for medical treatment at all. He said that was a question to which he had up to a *certain point no difficulty* in making an answer which he thought would be generally accepted. The following cases, he thought, should be handed over to the surgeon without delay: (1) all perforations or suspected perforations; (2) all cases in which visible and palpable signs were present, due either to perigastritis or dilatation; (3) probably all male cases; (4) many of the older female cases, in which gastric ulcer was rarely got rid of without operation and in which duodenal ulcer was not infrequently present; and (5) all cases which, though having no visible or palpable signs, resist prolonged and efficient medical treatment, especially those with repeated hæmatemesis, even though the hæmatemesis was small in quantity. Where no definite lesion in the stomach was detected when the abdomen was opened he would suggest that no gastro-enterostomy should be done. No cases of first hæmatemesis should be treated by operation and he thought that in no case of repeated hæmatemesis should an operation be performed during the actual bleeding. He said this because the surgeon's present method of dealing with hæmatemesis was not scientific. He (the surgeon) could not help it but it was usually impossible for him to deal directly with the bleeding point. When all these had been disposed of the physician was left with a large class of cases, represented most commonly by the young unmarried woman, frequently a domestic servant but rarely a *cook*, whose complaint was of months, or possibly years, of great suffering (frequently with striking intermissions) from severe gastric pains which were usually, but not always, aggravated by food and relieved by vomiting, with or without occasional and profuse hæmatemesis along with profound anæmia and cachexia. These young women were, as a rule, poor meat-eaters by nature, and many of them had had their teeth destroyed by the medicinal use of iron. Of physical signs in the abdomen in these cases there were none save superficial sensitiveness in Head's gastric area and tenderness on pressure in the epigastrium. The area of tenderness was, as a rule, quite definite and easily covered by the end of a thumb. This was the type of case which it was customary to treat by medical means and apparently with much success. Almost all of these patients were entered as "cured" when they left the hospital. But gastric ulcer was a very inveterate and long-drawn-out disorder, and many of the so-called "cures" were, he was afraid, very temporary affairs. Patients returned again and again, especially the older ones, until, as a last resort, gastro-enterostomy had to be done; so that in regard to these cases he would say that medical treatment should always be tried for a reasonably long period of time; but if frequent relapses occurred and above all if frequent hæmorrhages—large or small—occurred gastro-enterostomy should be done. But his experience of the surgical treatment of the intractable cases of this class, without definite physical signs, had not been *without its* disappointments, for it was obvious that the more definitely mechanical the causes of the symptoms were the more certainly were they relieved by the purely mechanical procedures of the surgeon; that was to say, surgery was most successful in cases where the ulcer had produced mechanical defects in the stomach. What then should be regarded as efficient medical treatment? The most essential part of medical treatment was prolonged and complete rest in bed; without that all other means were of no avail whatever. To make a diagnosis of gastric ulcer, whether it turned out to be right or wrong, and, at the same time, to allow the patient to be out of bed, was, to his mind, an unpardonable *inconsistency*. The moment a patient was even suspected of gastric ulcer she should be put to bed. He was not permitted to enter into the question of diagnosis but he would like to say that they ought *not* to insist upon *the presence* of hæmatemesis or even of vomiting before making a working diagnosis of gastric ulcer. Having put the patient to bed what next was to be done? The general public, and possibly *many of the profession*, still thought that diet was the most important thing in the treatment of gastric disorders. As time went on his system of dietetics became simpler and simpler, and he thought that any adult patient (except perhaps a diabetic subject) who could not take ordinary articles of diet—that *is, solid food*—had better take no food at all and lie in bed and drink water until he could. He never ordered milk for patients with gastric ulcer; he repudiated entirely the old practice of saying to a patient with gastric ulcer, "A milk diet or your life." He wished they could see the *same reduction* in the milk bills of the hospitals as recent years had seen in their alcohol bills. He could not *understand how* they as a profession could go on countenancing milk drinking in bulk by adult patients and the public at large, *knowing* as they did that it was probably the surest way of introducing the tubercle bacillus as well as other pathogenic organisms into their bodies. Bulk was a much more important consideration in the food of a patient suffering from gastric ulcer than *kind*, and small meals of meat and stale bread (if they could be taken *without pain and not unless*), along with water in any *reasonable quantity* to drink, was the food which he usually suggested, but if there were vomiting no food should be given, *only* plain fresh water to drink. He never used nutrient enemata or nutrient suppositories, but if vomiting prevented the taking of water *by the mouth* normal saline injections or injections of a solution of glucose should be employed. Enemata of any kind were not infrequently very distressing to patients and might induce vomiting. No patient with gastric ulcer *should* be allowed to leave her bed until she had taken ordinary mixed solid food at the ordinary meal times for ten days *at least*, ten days of food not only without pain but with enjoyment. He never ordered any *form of* artificial or artificially *digested* food for anybody, or any of the so-called digestives. For medicine he had great faith in bismuth carbonate in large doses given in plain water and not in the gummy mixtures which were at one time in vogue. *It should* be given 20 minutes before food was taken into the stomach. If there was very much pain a little morphine—say five or ten minims of the solution of morphine—could be given along with the at one end of well-formed bone, at the other of young connective tissue, and in the middle showed newly formed cartilage in process of ossification. The swelling continued to grow until the beginning of December when it measured 19 inches; since that time there had been diminution in size. The patient had made no complaint of pain. The tumour was a large fusiform swelling of the right thigh which tapered off below but had a more marked ending above. The bone was completely surrounded but the tumour was less marked posteriorly. It was of stony hardness and of even surface throughout. The thigh measured 14¾ inches at its greatest circumference, the left limb only measuring 7¾ inches. There was slight apparent lengthening. The boy was rather thin but not unhealthy-looking and presented no signs of tumour elsewhere. In the Transactions of the Society, Vol. XXV., p. 327 (1902), there was a reproduction of a photograph of a similar tumour which developed in an older brother, also as a result of fracture of the femur (left). The thigh was amputated at the hip-joint. Rapid recovery followed. In 1903 he had a tumour of the right femur, of the size of an orange and of the same structure as the original growth, as shown by the x rays. In 1907 the femoral tumour had disappeared, but he had a similar tumour of the right tibia. The original growth was found to be of pure bone without sarcomatous elements.

Dr. C. E. **BEEVOR** showed a case of Prolonged Ataxy after Diphtheria. The patient was a boy, aged 15 years, who on April 10th last was detained at a Metropolitan Asylums Board hospital for four weeks suffering from diphtheria. In the third week of illness the patient had occasional difficulty in swallowing and fluids regurgitated through the nose. This lasted for one week. On leaving the hospital he was very weak in the legs. He had diplopia for a day or two after leaving the hospital. He had had some dyspnœa and palpitation on exertion. There was some "incoördination" in the arms. In the upper extremities there were relative anæsthesia to cotton-wool and relative analgesia to pin-prick extending from the fingers to the elbows and shading off on passing up the limb. In the lower extremities there was stocking type of relative anæsthesia and analgesia. The "joint sense" and muscle pain sense were impaired. The upper extremity tendon-jerks were absent. The knee-jerks and ankle-jerks were absent. The gait was ataxic, the line of progression deviating equally to right and left. The gait was stumbling; the feet were lifted rather high and brought down flat with considerable force. He was unable to stand with the eyes closed when the feet were together. The case was very unusual for the length of time (ten months) from the attack of diphtheria that the symptoms had lasted, and such cases were rare. At the present time there was no definite paralysis but marked ataxy.

Mr. C. **GORDON WATSON** showed a patient, aged 11 years, who had been operated on for Perforation in Enteric Fever. The patient was admitted on Feb. 19th, 1907, to the Metropolitan Hospital on the fifth day of the disease under the care of Dr. Cautley. Perforation took place on the twenty-sixth day of the disease at 2.10 P.M. Laparotomy was performed within an hour. There were free gas and intestinal contents in the peritoneal cavity. The perforation was about 18 inches from the ileo-cæcal valve; it was closed and a second ulcer on the point of perforating was sutured over. The operation was completed in 21 minutes. Marked general improvement followed the operation.—Dr. **BERTRAND DAWSON** deprecated too far-reaching conclusions being drawn from one case. In the event of perforation taking place it had to be considered that the patient might get well without operation.—Dr. F. J. **POYNTON** described a case of enteric fever in which the abdomen was opened where no perforation had occurred but the abdomen was full of fluid swarming with typhoid bacilli.—Dr. E. **CAUTLEY** said that the advisability of operating for perforation in enteric fever must depend in each instance on the particular circumstances of any given case.

Dr. W. **ESSEX WYNTER** showed a case of Partial Obstruction of the Superior Vena Cava in a man, aged 43 years. There were cyanosis and venous engorgement of the head and arms, with well-marked clubbing of the fingers, and the liver was enlarged. There was no recognisable affection of the lungs or heart and the urine was normal. A loss of weight of 7 pounds was made good during a month's stay in hospital. The condition appeared to be referable to partial obstruction of the superior vena cava, either by thrombosis or some dilatation of the first part of the aortic arch, though the local signs were not obvious. Polycythæmia had been considered but it was hardly supported by the blood count.

Mr. H. J. **WARING** showed a case of Traumatic Myositis Ossificans. The patient, a boy, aged 17 years, was admitted to St. Bartholomew's Hospital on account of backward dislocation of both bones of the right forearm. The dislocation was reduced and an internal angular splint applied. Subsequently there was considerable limitation of movement at the right elbow-joint and a distinct hard swelling was discovered in the right antecubital fossa, on the deep aspect of the biceps and brachialis anticus, the brachial artery being pushed to the inner side. On operation this was removed from the deep aspect of the brachialis anticus and was not found attached to the bone.—The case was discussed by Dr. **CAUTLEY**, Mr. F. C. **WALLIS**, and Mr. **WATSON** who referred to the 87 cases of osseous formations in and about muscles due to injury described by Mr. Robert Jones and Mr. David J. Morgan.

Mr. **WALLIS** showed a case of Tumour treated by X Rays. The patient, a woman, aged 39 years, was admitted to Charing Cross Hospital suffering from respiratory obstruction due to pressure on the trachea caused by a growth. The growth was first noticed six months previously to admission and she felt some pain at the root of the neck and there was also some swelling. This increased until she had some difficulty in breathing. She also had great difficulty in swallowing and was losing flesh. When admitted her breathing was difficult and distressing. She sat up in bed, leaning well forward and having an anxious expression. There was a large swelling above the mediastinum, making the chest and throat one continuous line. There was another swelling in the left supraclavicular fossa and the trachea was pushed over to the right side for nearly one and a half inches. The cephalic vein in the left arm was very prominent and the glands in both axillæ were large, moveable, and hard. Percussion showed that the growth extended into the anterior mediastinum as far as the second intercostal space and the breath sounds in both lungs were generally deficient. The movements of the vocal cords were normal. The patient commenced x ray treatment on Jan. 15th and this was continued daily for over 14 days. Since Feb. 1st she had had three exposures a week with marked beneficial results which became obvious after the first week and a steady improvement had continued ever since, so that the woman could now breathe easily in the semi-prone position and could lie on her side. She slept well and could swallow and the growth was rapidly disappearing. A blood count showed that the patient was not suffering from splenic leukæmia and the growth in the opinion of Mr. Wallis was a lymphosarcoma. The growth had not been examined microscopically.—Dr. J. H. **DRYSDALE** related a case of sarcoma that improved under x ray treatment but eventually resulted fatally. He thought that the tumour described by Mr. Wallis might be a lymphadenoma.—Dr. R. C. B. **WALL** discussed the case from the point of view of Hodgkin's disease, and after Dr. W. H. **WILLCOX** had suggested that the tuberculin reaction might have been tried Mr. **WALLIS** replied.

Mr. **WALLIS** also showed a case of Ununited Fracture of the Femur with a Hoefftoke's splint applied.

Dr. **ROBERT HUTCHISON** showed a case of Splenomegalic Polycythæmia and Dr. **WILLCOX** a boy with Symmetrical Polyarthritis of the Hands.

Dr. **WALL** showed a case of Syphilitic Infiltration of the Superior Mediastinum.

Dr. **MORGAN DOCKRELL** showed three cases of Ulerythema.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

Congenital Hypertrophic Stenosis of the Pylorus.—Exhibition of Cases.

A MEETING of this society was held on Jan. 17th, Mr. **SYDNEY STEPHENSON** being in the chair.

Dr. **GEORGE CARPENTER** read notes of a case of Congenital Hypertrophic Stenosis of the Pylorus which he had treated in conjunction with Dr. D. J. Munro of Brixton and which had recovered under medical treatment, dieting, lavage, and drugs being the methods employed. He described the course of the case fully and then discussed the pathology and treatment of the condition. He considered that hypertrophic stenosis of the pylorus was a congenital abnormality of development and not a secondary muscular spasm, and maintained that similar cases should receive more thorough medical and dietetic treatment and that surgical intervention should not be invoked in the early stages. We hope to publish Dr. Carpenter's paper in full in a future issue.

eight to ten layers of the lint cut a very little larger than the size of the ulcer should be soaked in a 5 per cent. solution of zinc sulphate. The positive electrode (of zinc) must be connected with this and the negative pole to a basin of salt water into which the patient's hand is placed. The current must be gradually raised to from 40 to 60 milliampères or as much as the patient can bear conveniently and continued for 30 minutes. At the end of this time the surface of the ulcer would be whitened and dry. Another application might be made in a week or a fortnight. Many cases had been successfully treated by Dr. Turner in this way. Chronic ulcers were also amenable to the zinc ion. In fibrous ankylosis and sclerosis the chlorine ion or hydroxyl OH would be found of service. A case of Dupuytren's contraction of the fingers of 15 years' duration which had yielded to this treatment was shown. Even sclerosis of the spinal cord could be attacked and cases of spastic paralysis which had been treated by Dr. Turner in this way had benefited remarkably. A case of tic douloureux which had proved refractory to other remedies yielded to the electrolytic introduction of the salicylic ion.—Dr. A. D. Webster and Dr. Hunter took part in the discussion.

Mr. Albert E. Morison read a paper on 100 Consecutive Cases of Empyema. As regards the physics of pleural effusions he said: 1. That the intrapleural pressure was positive in purulent effusions, while in normal conditions the pressure was negative. 2. That an effusion into the pleural cavity first showed itself as an area of dulness (*a*) just below the angle of the scapula, (*b*) in the left axilla between the fifth and eighth ribs, (*c*) in obliteration of Traube's semilunar tympanitic space, and (*d*) in the right front near the angle made by the cardiac and hepatic lines of dulness. 3. That a disappearing effusion was last manifest in the axillary line between the fifth and eighth ribs. 4. That the root of the lung was its fixed point, and that with increasing effusion the lung became compressed round it. 5. That the re-expanding lung last touched the chest wall at a point diagonally farthest from its fixed point—i.e., in the axilla about the fifth interspace. This was the point of election for incision and drainage in cases of general purulent effusion and was the site of natural evacuation in cases of empyema necessitatis. 6. The lung did not tend to collapse on its fixed point when air was admitted into the pleural cavity, the intrapulmonary pressure being quite sufficient to maintain the two layers of pleura in contact, except for a small area round the point of entrance of the air. As regards the causes of empyema he said that: 1. Pleuro-pneumonia caused 91 per cent. of his cases. 2. Pleuritis was the cause in 4 per cent. It was generally agreed that if pleural effusions became purulent septic infection through dirty needles was almost invariably the cause. 3. Tubercle of the lungs was the cause in 3 per cent. and empyema followed a pneumothorax. 4. Septic disease of the abdominal organs accounted for only one case. 5. Streptococcic or staphylococcic infection of the lung. One case, due to osteomyelitis of the ribs, had occurred in his practice. Mr. Morison discussed at length the diagnosis of empyema and then considered the prognosis. This, he said, was as a rule good so far as life was concerned, the mortality in his series of cases being only 3 per cent. Natural cure might take place by: 1. Absorption of pus; this occurred in one case in which the parents of a child refused operation, the case being verified by puncture. 2. Spontaneous evacuation through a bronchus resulted in the cure of two cases, while in ten cases large quantities of pus had been expectorated prior to operation. 3. Discharge of pus into organs adjacent to the pleura (œsophagus and stomach). This could only occur where the accumulation was large and the disease prolonged. 4. Spontaneous evacuation through the chest wall (empyema necessitatis) occurred in five cases, subsequent operation being required. This was the most unsatisfactory of all forms of spontaneous evacuation. It usually occurred through or above the fifth interspace and œdema of the chest wall was a common signal. Recovery might follow in a few cases but the majority died from exhaustion or waxy disease. Four of these cases were cured by Estlander's operation, and the fifth by ordinary incision and drainage. 5. Surgical treatment offered the best results both immediate and remote. Mr. Morison's cases proved that uncomplicated empyema treated with proper surgical care was not a serious disease. Death in his three fatal cases was due to bronchitis, marasmus, and cerebro-spinal meningitis respectively. The perfect recovery of those operated on was also most satisfactory and months afterwards when examined, except for the scar, it was impossible to say which side had been affected. The average duration of treatment from the date of incision to the completion of healing was 32 days. In the treatment aspiration was only of service where the dyspnœa was great or where some complication rendered operative interference inadvisable. Whenever these were overcome operation should be performed. As regards operation it was advisable to administer a general anæsthetic to children while adults might be operated on with much greater safety under the influence of local anæsthesia. Chloroform was the best anæsthetic but the patient must never be moved from the dorsal position. The position of the pus should first be located by the needle and the site of incision which Mr. Morison usually selected was in the sixth interspace just in front of the posterior axillary line. A vertical incision was made through the skin and a horizontal one through the muscles along the upper border of the seventh rib into the pleural cavity; sinus forceps were then introduced and the wound was dilated by withdrawing them open. An indiarubber tube a quarter of an inch in diameter and two inches long was introduced and prevented from slipping in by a safety-pin being passed through its free extremity. As soon as the discharge became small the tube was cut in half. The wound was dressed with corrosive sublimate wool and changed twice or thrice during the first day and subsequently once daily, and later every second day. Resection of the rib was needful in some cases but generally was meddlesome surgery. As helping the expansion of the lung the patient was encouraged, as soon as out of bed, to make inspiratory efforts (running upstairs, playing wind instruments, &c.). The conclusions to be drawn were that (1) pleuro-pneumonia was the most frequent cause of empyema; (2) that empyema rarely followed pleurisy with effusion; (3) that in adults empyema was more likely than in children to be secondary to serious lung disease; (4) that the diagnosis of empyema was not always easy; (5) that the exploring needle should be used in all doubtful cases and in more than one situation; (6) that there was no danger in using the needle with proper care; (7) that the immediate prognosis in uncomplicated empyema by incision and drainage was good; (8) that the remote prognosis was excellent, no deformity following and no sequelæ resulting; (9) that careful asepsis must be carried out; and (10) that resection of the rib was needful in some neglected cases but generally was meddlesome surgery.—Dr. J. O. Affleck expressed his approval in the main of Mr. Morison's contentions.—Dr. W. Russell said that he was glad Mr. Morison did not remove a portion of rib in operating and yet got such good results. Mr. Morison had not referred to one special means of investigating difficult cases following pneumonia—namely, the leucocyte count. When a pneumonia was succeeded by empyema there was a great bound upwards in the number of leucocytes; in his last case there was a sudden rise from 25,000 to 40,000 or 45,000. It was not always easy to be satisfied that there was *not* pus in the pleural cavity. Dr. Russell did not think that bronchial breathing was ever heard over fluid, but it was present over compressed lung immediately above fluid. As regards acute fœtid empyema, he did not think that it was necessarily secondary to an abdominal lesion. The majority of acute fœtid empyemata occurred on the left side and commenced as cases of diaphragmatic pleurisy and owed their fœtor to the proximity of the colon on the *left side*.—Mr. Caird said that in the case of children it was obviously wise to use a general anæsthetic and it was rarely necessary to excise a portion of rib in such patients. In the case of adults it was better to employ a local anæsthetic and to remove a portion of rib.—Dr. Alexander James said that physical signs were of little importance if the empyema were small and localised, but he advocated the use of the exploring needle frequently. He thought that a great many cases of empyema discharged through a bronchus and cured themselves naturally.—Dr. Alexander Goodall and Dr. Hunter took part in the discussion.—In his reply Mr. Morison said that he never resected the rib unless the case was septic and that he obtained quite sufficient drainage without this. He thought that bronchial breathing could be heard, and especially in children, when the layer of fluid was thin. He had met with cases of fœtid empyema on the right side and was of opinion that they were the result of lymphatic infection from abdominal abscesses. It was much more common to meet with a mixed infection in adults, and such the views held by George Balfour, Chaveau, Marey, and others that murmurs were due to the vibrations of the "fluid veins" formed in the space beyond the narrowing. The difficulty in explaining the mitral regurgitant murmur on this theory was that it was heard at a point (the apex) in the opposite direction to the "fluid vein," which was directed towards the auricle; no explanation quite satisfactory had ever been offered. Dr. Bradshaw's explanation was that the sonorous "fluid vein" lay between the two curtains of the mitral valve and that its vibrations transmitted to the cone of blood passed through the thin walls without damping and set up vibrations in the ventricle. The vibrations were heard best at the apex, because the walls of the ventricles were thinned at this spot and this spot was most accessible to auscultation. He exhibited an apparatus constructed to show that sonorous vibrations could under similar conditions be conducted in a retrograde manner.—The paper was discussed by the PRESIDENT, Sir JAMES BARR, Professor L. R. WILBERFORCE, Dr. J. LLOYD ROBERTS, and Dr. R. J. M. BUCHANAN, and Dr. BRADSHAW replied.

The Production of Pseudo-arthrosis at the Hip-joint.—Volkmann's Ischæmic Paralysis.—Paralytic Calcaneo-cavus.—The Diagnosis and Treatment of Ectopic Gestation.

A MEETING of this society was held on Jan. 30th, the PRESIDENT being in the chair.

Mr. ROBERT JONES described his operation for the Production of Pseudo-arthrosis at the Hip joint without disarticulation of the femoral head. The great trochanter was first separated from the shaft by a broad osteotome and the neck of the femur either divided or removed, and the trochanter was screwed on to the head of the femur which lay in the acetabulum. The operation might be employed in all varieties of bony ankylosis but was eminently suited for old people with malum coxæ senilis where the shock of disarticulation was serious. Mr. Jones also described his procedure in the treatment of Volkmann's Ischæmic Paralysis and his operation in Paralytic Calcaneo-cavus.—The communication was discussed by the PRESIDENT, Mr. W. T. THOMAS, Mr. G. P. NEWBOLT, and Dr. J. H. ABRAM, and Mr. JONES replied.

Dr. H. BRIGGS read a paper on the Diagnosis and Treatment of Ectopic Gestation mainly founded upon a clinical study of 124 cases of interrupted early gestation marked by physical signs and symptoms at or before the end of the second month. Deducted from an inclusive total of 139 cases, all of them treated by operation, the 124 cases left 15 others, nine at from two to six months, two at six months, three about the full term, and one nine years after the full term, not included in the paper. The earliest disturbances amongst the 124 early ectopic gestation sacs occurred after intervals of six, 10, and 18 days beyond the cessation of a previous normal and regular menstruation. For the group of clinical symptoms and signs indicative of these disturbances Dr. Briggs 15 years ago had instituted and since adopted the term *peritoneal crisis*. He maintained that the symptoms and signs of sudden onset were often moderate or mild and that even trivial, locally recurrent pains, together with slight, irregular menstrual and intermenstrual blood loss, were not to be construed as harmless or insignificant until the physical signs had been closely watched or waited for. A more prompt appreciation of their significance and of what may lie before the patient would lead to earlier and easier and safer operations and to the more frequent recognition (with the Trendelenburg position for operation) of "unruptured tubes" and a little free intraperitoneal blood even in cases where the acute peritoneal crisis had been recent and severe. To postpone operation was to incur adhesions and hæmatocele sacs in their various forms. The peritubal (Sänger and Taylor) and the paratubal (Sampson Handley) hæmatocele sacs for their intact removal must be in a suitable physical condition; earlier and later in their course the physical conditions might defy intact removal. Intact removal was not indispensable, but the handling of organised and organising tissues, especially of adherent blood clots, or simply draining them, did not diminish the post-operative risks. Localised hæmatocele sacs as intraperitoneal formations subsequently to originally free intraperitoneal hæmorrhages possessed a stage at which there was both free and localised blood; the free blood outside the hæmatocele sac in process of absorption might be accepted as evidence of secondary rupture of the tubal or hæmatocele sac. Dr. Briggs believed that the older statistics of the prevalence of tubal rupture were inaccurate in consequence of the frequency with which gestation sacs were torn or ruptured by the fingers of the operator. In the future the continued use of the Trendelenburg posture, lending sight and light to the lower abdomen, would show, as it had shown in his more recent experience, that gestation sacs before operation were rarely ruptured. Werth and Taylor and Bland-Sutton had established their respective contributions to the process of tubal abortion. Dr. Briggs produced old gestation sacs, nine years old downwards, to demonstrate what may remain in a latent or an active form in the patient after apparently successful expectant treatment. During the first ten years up to the end of 1897 one vaginal and 20 abdominal sections, compared with the second ten years 17 vaginal and 101 abdominal sections, denoted a change from expectant to operative methods in his practice. He showed from nine of his cases bilateral lesions, on one side a tubal gestation sac and on the other a pyosalpinx once; a small ovarian cyst twice; and old, adherent, inflamed tubes six times, masking the diagnosis of ectopic gestation from the symptoms. A three years old and a recent tubal pregnancy on opposite sides coexisted in one case. A second tubal pregnancy on the opposite side had been treated by a second operation in three of his patients. Dr. Briggs referred to a paper which he himself read in 1897 in which he had produced evidence that intraperitoneal hæmorrhage and hæmatocele were occasionally associated with lesions other than those of ectopic pregnancy. The very rare rapid fatalities associated with tubal rupture formed a very small class of their own; operative treatment if at hand was almost excluded by the brief space of time available. "To operate," says Dr. F. H. Champneys, "during the state of shock is in many cases to kill the patient." Dr. Briggs said that he had invariably acted on this principle and he showed a series of ectopic sacs successfully removed from patients after they had recovered partially or wholly from a peritoneal crisis. The severity of a peritoneal crisis was no certain measure of the amount of hæmorrhage. He was of opinion that, with this exception, delay in the operative treatment of ectopic gestation increased its dangers. There were two deaths following operative treatment amongst his 124 cases: (*a*) after an unusually troublesome and risky operation amidst dense adhesions in a patient who had refused operation for appendage disease three months previously; and (*b*) after the operation for abdominal drainage of a very large hæmatocele in a very anæmic woman; death resulted from anæmia.—The paper was discussed by the PRESIDENT, Dr. T. B. GRIMSDALE, and Dr. J. GEMMELL, and Dr. BRIGGS replied.

Ascites and Tumours of the Ovary.—Exhibition of Specimens.

A MEETING of the pathological section of this society was held on Feb. 6th, the PRESIDENT being in the chair.

Dr. E. EMRYS-ROBERTS read a paper upon Ascites and Tumours of the Ovary. After a brief historical sketch of the subject he pointed out that the tendency of modern investigation was to assign to the cells of the peritoneum a more active rôle in the production of ascites than was formerly thought to be the case. Malignant disease of the peritoneum might possess an irritative or toxic property and the ascites might be called a peritonitic exudation as truly as in the case of infective peritonitis. In certain cases the ascites might possibly be the product of the cancerous growth. Ascites accompanying tumours of the ovary might result from certain necrotic changes in the tumours or from torsion of their pedicles. At other times the fluid might be accounted for by concurrent disease, while in certain tumours the ascites was actually the product of the epithelium of these new growths, as, for example, superficial papillomata and cystomata with ruptured walls.—Dr. H. BRIGGS thought that the needful work in reference to hydroperitoneum and papillomatous growths had yet to be done. So far the evidence was inconclusive.

Dr. JOHN HAY showed a Saccular Aneurysm of the Aorta of the size of a small orange situated beyond the origin of the left subclavian artery. Death was due to rupture into the left pleural cavity. Blood had previously leaked into the anterior wall of the pericardial sac forming a large hæmatoma in the tissues of the pericardium and leading to dyspnœa. The patient survived the rupture for four days.

Mr. G. P. NEWBOLT showed a Volvulus of the Small Intestine removed from a boy, aged 10 years, who was admitted with symptoms of intestinal obstruction. The upper part of the jejunum was twisted around a large caseous mesenteric gland which had been torn open by the torsion the uterus are mainly to be found in the connective-tissue sheaths of the vessels. The description given of the anatomy and etiology of prolapse of the pelvic organs is founded on a careful examination of no less than 40 specimens of this condition, all of which were very exhaustively studied either by means of sections or of dissections. A large part of the work consists of 60 plates illustrating 34 of these cases. These full-page plates, many of them coloured, are beautifully reproduced and are of the highest artistic and scientific value.

The anatomical changes which occur in all the various structures involved in cases of prolapse are considered in full detail and then the authors pass on to the most interesting part of their work—namely, that dealing with the etiology of this common condition in the female. As a result of their anatomical and other researches the authors favour the following explanation of the occurrence of prolapse of the uterus. They believe that a prolapse will occur when the opening normally existing in the pelvic floor is insufficiently closed so that it forms what may be termed a "hernial aperture." Any increase in the intra-abdominal pressure tends to force through this aperture all those organs or parts of organs which may be situated over it or in its immediate neighbourhood. If, for example, the whole of the uterus is placed over the opening, total prolapse of that organ will result from such increased intra-abdominal pressure; while if a part only of the uterus is so situated some form of partial prolapse is likely to occur. The intra-abdominal pressure tends to force through the imperfectly closed opening in the pelvic floor that part of the uterus lying over it, but the rest of the organ by the same pressure will be firmly pressed against its underlying supports and so retained in its position. The natural resistance to any descent of the pelvic organs is derived from the support which they receive from the bony walls of the pelvis and the muscular pelvic diaphragm. Any injury leading to stretching of these soft parts and insufficiency of their normal power of supporting the pelvic organs and closing the aperture in the pelvic floor will inevitably produce a tendency to prolapse, as will also a deficiency in the bony walls of the pelvis, as is exemplified in cases of split pelvis in which secondary prolapse is not uncommon. On such a theory not only can all the common forms of prolapse be readily explained but the anatomical changes which are found in the different tissues affected can be adequately accounted for. It accounts for the elongation of the cervix and of the body of the uterus which is so often met with, for the different degrees of descent of the anterior and posterior vaginal walls, for the varying degrees of hypertrophy of the anterior or posterior lips of the cervix, and for the occurrence of congenital prolapse, especially when associated with spina bifida.

The book must be read to appreciate the large amount of evidence which is adduced in support of the theory put forward; for this we must refer our readers to the work itself and to a careful study of the illustrations of actual cases and dissections. Finally, after a chapter on the experimental study of the causation of prolapse of the uterus the authors consider shortly its treatment by pessaries and various operative methods.

The book is one of great interest and value, the amount of work which it embodies is prodigious, the illustrations are most excellent, and the whole work is worthy of the high reputation of the writers.

The Standard Family Physician. Three volumes. London and New York: Funk and Wagnalls Company. 1907.

THE title page to this publication is so striking that we have not copied its contents under the title of the work as is our usual custom when considering books sent to us for review. The work is termed "A Practical International Encyclopædia of Medicine and Hygiene, especially prepared for the Household." It is stated to have been "edited by" Sir James Crichton-Browne, M.D., LL.D., F.R.S., Sir William H. Broadbent, Bart., K.C.V.O., M.D., F.R.S., Dr. Alfred T. Schofield, Professor Karl Reissig (Hamburg), and Dr. Smith Ely Jelliffe (New York), "with the assistance of many European and American specialists in the treatment of diseases and experts in medicine and surgery." Reproductions of photographs of Sir James Crichton-Browne, the late Sir William Broadbent, and Dr. Schofield respectively appear as frontispieces to the three volumes into which the work is divided. The work commences with an unsigned article on "The Family Physician"; then follows a paper by Dr. Schofield entitled "The Journey of Life and the Laws of Health"; next appears a reprint of Sir James Crichton-Browne's Cavendish lecture on "Dreamy Mental States"; and next a contribution by the late Sir William Broadbent on the Prevention of Consumption and Other Forms of Tuberculosis, written in a popular manner and containing information likely to be useful to lay readers.

The next portion of the work is taken up with an article entitled "Structure and Functions of the Healthy Human Body." The information contained therein would be redundant to a medical practitioner and useless to a lay reader. The remainder of the publication is devoted to a sort of medical dictionary, stated (in an advertisement) to be "the greatest international work of medical reference for the home that has ever been produced." Perhaps the less said about this strange production the better. We admit that some of the information given may be useful "in the home," but a large portion is likely to be only misleading and to give rise to unnecessary alarm to those not acquainted with medical science. Some of the directions given are peculiar. For instance, under the heading "Death" we find the following: "Quiet and consolation should surround the dying person. He should be kept clean and comfortable until he has drawn his last breath, and even after that."

The volumes are profusely illustrated. Many of the diagrams are, in our opinion, totally unsuited for a work "for the home," and some are liable to give rise to false impressions, especially the diagrams supposed to illustrate "areas of pain." The books when sent to THE LANCET Offices were accompanied by an advertisement. We feel sure that the physicians whose names appear on it could not have been cognisant of the manner in which their participation in the publication would be made use of.

The Hygiene of Armies (Περὶ Ὑγιεινῆς τῶν Στρατευμάτων). By S. K. ZAVITZIANOS, M.D. Corfu: A. Lantza. Pp. 253.

Dr. Zavitzianos deals in this interesting book very thoroughly with the numerous aspects of an important subject. Though written in Greek, and more especially in relation to the Greek army, the book may be said to be of general interest, a careful and minute study of records and official reports having enabled the author to marshal a great array of facts and statistics in relation to the practical working of the Army Medical Services in all European countries, as well as in Japan, Persia, Siam, and the United States, from about the time of the Crimean war to the present day. The author's survey of the hygienic conditions prevailing in the different armies in peace and war time, but especially the latter, and his study of the subject generally have resulted in a firm conviction on his part that no great measure of success can be obtained in the medical treatment of troops by the system of employing a medical staff exclusively devoted to military service and unsupported by civilian coöperation. Basing his statement on known events in almost all recent wars, he affirms that no army medical service organised in this way has been, or is bismuth powder. If there was constipation, and there usually was, a rhubarb pill or some other simple vegetable laxative might be given twice or three times daily after food, so as to insure a natural action of the bowels once daily without straining and without purging. He did not give saline purges in gastric ulcer. Local applications of heat to the abdomen gave ease to the patient. All severe forms of counter irritation, such as blisters and mustard poultices, he never used; iron was most undesirable for patients suffering from gastric ulcer, however anæmic they might be. In the treatment of hæmatemesis he adopted the same plan: absolute rest of body and mind, by morphine if necessary, and water drinking sufficient to allay thirst, not by teaspoonfuls but three or four ounces at a time He had no faith in so-called hæmostatic drugs in internal bleeding, but saw no objection to the use of such harmless and tasteless things as chloride of calcium, for example. Suprarenal extract might be, perhaps should be, used, but it was a powerful substance and should be given with care. Patients suffering from recent and severe hæmatemesis were never hungry and therefore did not require food. After three clear days from the cessation of the hæmatemesis food such as meat, eggs, and stale bread might be given, if the patient wished but not otherwise. After hæmatemesis the patient should be kept in bed until the anæmia had largely, if not entirely, disappeared.

Mr. MOYNIHAN dealt with the Surgical Treatment of Gastric Ulcer. He differentiated between acute ulcer, in which only the mucous surface of the stomach was as a rule involved, and chronic ulcer, in which the destructive and reparative processes had together involved all the coats of the stomach, so that the ulcer was a visible, palpable, and demonstrable lesion. In acute ulceration surgical treatment was never necessary on account of hæmorrhage and rarely on account of perforation. In his own series of 37 cases of perforating ulcer there was only one in which the ulcer was acute; in the remainder it was a chronic ulcer, the symptoms of which had been present for months or years and had been recently more acute. Gastro-enterostomy in addition to closure of the ulcer was called for if there were other ulcers or if the closure of the ulcer was likely to cause obstruction. Hæmorrhage in chronic ulcer rarely called for urgent operation; an interval of freedom from bleeding should be chosen. Excision of the ulcer, or its infolding, the vessels supplying the ulcer being secured, and gastro-enterostomy were usually to be practised. Chronic ulcer of the stomach or of the duodenum was held to be a condition which should in all cases be treated by operation. The difficulty in some cases in arriving at a diagnosis was referred to and the opinion expressed that in most cases an exact diagnosis was attainable, and that in many the position of the ulcer could be predicted. If, however, after the abdomen had been opened, an inspection of it revealed no lesion, there was no indication for any operation upon the stomach itself. In no circumstances whatever and in compliance with no persuasion, however insistent, should the surgeon consent to perform gastro-enterostomy in the absence of definite demonstrable organic disease. If an ulcer were found near the pylorus, on either side, gastro-enterostomy should be performed, and, if possible, the ulcer should be infolded, to prevent perforation or hæmorrhage, both of which had occurred after gastro-enterostomy. If the ulcer was on the lesser curvature in the cardiac half of the stomach it should be excised; gastro-enterostomy in such cases gave only slight and temporary relief. When multiple ulcers were present in the pyloric region, or when a doubt existed as to the malignancy of the condition, Rodman's operation, excision of the ulcer-bearing area, was indicated. The method of gastro-enterostomy which gave the best results was the posterior operation, the jejunum being applied almost vertically to the stomach, and the anastomosis being made as close to the flexure as possible.

The PRESIDENT, Dr. J. E. EDDISON, Mr. E. SOLLY, Mr. W. R BATES, Mr. J. STEWART, Mr R. LAWFORD KNAGGS, Mr. N. PORRITT, Dr. A. CHRISTIE WILSON, Dr. E. S. LEWER, Mr. H. COLLINSON, Mr. H. H. GREENWOOD, and Dr. H. SECKER WALKER took part in the discussion, and Dr. BARRS and Mr. MOYNIHAN replied.

Mr. H. LITTLEWOOD showed: 1. A patient suffering from Pyloric Stenosis on whom gastro-enterostomy had been performed in June, 1907. The patient's weight before operation was 3 stones 7 pounds, and the present weight was 7 stones 12½ pounds. 2. A specimen of Thrombosis of some Vessels in part of the Transverse Colon producing Intestinal Obstruction. 3. A Gall-bladder, with Stones, removed from a girl 18 years of age. The gall-bladder was contained in a complete mesentery extending from the liver to the colon.

Dr. J. B. HELLIER showed a Sarcomatous Growth removed from an Old Abdominal Cicatrix.

Mr. J. F. DOBSON showed a specimen from a case of Abscess in the Great Omentum with Diffuse Peritonitis. Almost the whole of the omentum was removed.

Specimens and cases were also shown by Mr. WALTER THOMPSON, Dr. CARLTON OLDFIELD, Mr. E. WARD, Mr. KNAGGS, the PRESIDENT, and Mr. MOYNIHAN.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Removal of Submaxillary Gland.—Electrolysis in Medicine and Surgery.—Empyema.

A MEETING of this society was held on Feb. 5th, Dr. GEORGE HUNTER, *Vice-President, being in the chair.*

Mr. F. M. CAIRD demonstrated a patient after removal of a Submaxillary Gland. The patient had been shown at the previous meeting as one from whom Mr. Caird had removed one half of the tongue for carcinoma. The submaxillary gland after this became enlarged and cirrhotic but Mr. Caird did not think that it was the seat of cancer. Most of the surgeons present at the meeting recommended removal as they thought that it was malignant. The gland was removed and though examined carefully by pathologists no trace of malignant disease was found. It was merely an inflamed and cirrhotic gland. This was important as regards the prognosis.

Dr. DAWSON F. D. TURNER read a paper on Electrolysis in Medicine and Surgery. He said that the human body was an electrolyte, and electrical currents were only conveyed through it by the migration of ions (electrified particles of matter). Only those drugs which broke up into ions could be made use of—e.g., aqueous solutions. Oils, alcohols, and glycerines did not form ions; the spiritus chloroformi and the glycerinum acidi carbolici could not be introduced electrolytically; for this reason they were more toxic in aqueous solutions when taken by the mouth. If an individual were to place each hand in a separate basin of salt water, and if these were connected with the terminals of a source of electric supply, then at the anode or basin connected to the + pole the body would lose its anions and receive cations, while at the cathode or basin connected with the – pole the body would lose its cations and receive anions. The anions were constituted by the acid radicle or elements and the cations by the metallic radicle or metals. Thus oxygen, chlorine, sulphion, and hydroxyl were anions; while hydrogen, sodium, and copper were cations. When sodium chloride was dissolved in water its molecules dissociated into ions or particles with opposite electrical charges; the anions were charged negatively and would therefore be attracted to the anode, and the cations were charged positively and would be attracted to the negative pole or cathode. In this case Na + was the cation and Cl – was the anion. At the anode the body would yield up chlorine and receive sodium, while at the cathode it would give up sodium and receive chlorine. Between each electrode there would be a migration of ions, the Cl – ions would be moving to the anode and the Na + ions to the cathode. If a piece of raw beef were taken and electrodes applied to either side with some blotting paper soaked in a solution of potassium iodide under the – electrode and some blotting paper soaked in starch between the + electrode and the beef, it would be found that on passing a current the blotting paper at the + pole would become blue, showing that iodine had been carried through the beef. In the same way metallic ions might be conveyed into the tissues of living beings. A rabbit might be poisoned by having strychnine carried into its tissues from the anode moistened with the salt of this alkaloid. To what useful purposes could this introduction of ions into the body be put? Rodent ulcer, parasitic affections, sinus and fistula, ankylosis, sclerosis, fibrous adhesions, stricture, tic douloureux, neuralgia, sciatica, and rheumatic and gouty conditions were all benefited by this treatment. Leduc reported the complete cure at a single sitting of a case of rodent ulcer by the introduction of the zinc ion from sulphate of zinc. As a rule, however, more than one application was necessary. The ulcer should be cleaned and from which we have recently reviewed. It is a pleasure to find that the book remains essentially the same as in the first edition. It has not been overweighted with new matter and it still, better than most books, enables the reader to distinguish between facts and the inordinate accretions of conjecture. No better introduction to the subject could be placed in the student's hands.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. I., Nos. 2 and 3.—The excellent start which the Royal Society of Medicine made with the first number of its proceedings has been well maintained in its successors. It is not our purpose to review these publications at any length as the papers and cases with which they deal have as a rule been reported in our columns before their appearance in the society's literature. The second number records many interesting cases in the Clinical, Dermatological, and Laryngological Sections, the last part of the important debate on Pneumonia, followed by a paper on the Pathology of Epilepsy, by Dr. Alfred E. Russell, with the subsequent discussion, in the Medical Section, and in the remaining sections the following cases: The X Ray Diagnosis of Renal and Ureteral Calculi, by Dr. G. Harrison Orton; Medical Inspection in Schools: the Gloucestershire System, by Dr. Myer Coplans; Pubiotomy, by Dr. Thomas Wilson; An Analysis of 274 Additional Cases of Goitre Removed by Operation, by Mr. James Berry; the Therapeutics of Indigestion, by Dr. William Murray; Some Tropical Diseases and the Remedies required for their Treatment and Prophylaxis, by Mr. James Cantlie; A Contribution to the Study of the Relationship between Avian and Human Tuberculosis, by Mr. S. G. Shattock, Dr. C. G. Seligmann, Mr. L. S. Dudgeon, and Dr. P. N. Panton; Some Experiences with the Tuberculin Ophthalmic Reaction, by Mr. L. J. Austin and Dr. Otto Grünbaum; Abscess of Bone caused by an Intermediate Bacillus (P.) allied to B. Paratyphosus, by Dr. F. G. Bushnell; Some Notes on the Growth of the Jaws, by Mr. J. T. Carter; and the Effects of Chronic Suppuration in the Molar of a Horse, by Mr. J. G. Turner. In the January number (No. 3) there are reports of cases and specimens from the Clinical, Dermatological, Laryngological, Obstetrical, Otological, and Surgical Sections; a Presidential Address to the Otological Section, by Dr. Peter McBride, dealing with the development of aural surgery; a discussion on the Diagnostic Value of the Roentgen Rays in Diseases of the Chest, introduced by Dr. A. Stanley Green, and amongst the papers are the following: On the Present Means of Combating the Plague, by Professor W. M. Haffkine, C.I.E., and Protection of India from Invasion by Bubonic Plague, by Dr. J. Ashburton Thompson; Some Peculiarities of Cerebral Gummata, by Dr. J. S. Collier; the Supports of the Pelvic Viscera, by Dr. W. E. Fothergill; a Case of Complete Gastrectomy, by Mr. B. G. A. Moynihan; Cases of Cholecystectomy, by Mr. J. D. Malcolm; the Action of Digitalis on the Human Heart, by Dr. James Mackenzie; and the Reminiscences of an Apprentice Fifty Years Ago, by Mr. W. Soper.

The Journal of Nervous and Mental Diseases (New York).—In the December, 1907, issue of this journal there is an interesting paper by Dr. Lewellys Barker and Dr. Frank J. Sladen of Baltimore on Acrocyanosis Chronica Anæsthetica with Gangrene; its Relations to Other Diseases, especially to Erythromelalgia and Raynaud's Disease. Also among the proceedings of the American Neurological Association reported in this number will be found a discussion on Heredity in Diseases of the Nervous System, in which many well-known authorities expressed their opinions. The subject is viewed from a wide standpoint and the report of the proceedings will be found instructive to anyone collecting data on this topic. The account of the New York Neurological Society contains a discussion on the Antisyphilitic Treatment of Tabes and Paresis, and most of the speakers were agreed that this form of treatment was very unsatisfactory in these diseases and indeed that in many instances it aggravated rather than relieved the symptoms; further, that probably in most of those cases in which permanent good was derived the condition was rather one of pseudo-paresis than the true disease. This number also contains other matter of instruction and interest.

New Inventions.

X RAY PLATES.

We are glad to find that at last a really serious effort is being made to produce a satisfactory x ray plate in this country. We have received from Ilford, Limited, Ilford, London, E., samples of x ray plates which as regards the ultimate result quite equal and even excel that of any imported plate we have ever tried. They give full density, plenty of contrast, and abundant detail. It must be admitted, however, that they require a rather longer exposure than some plates of foreign make. While the length of exposure is a matter of secondary importance in most cases, there is no doubt that other things being equal radiographers will unquestionably use those plates which require the least exposure, not only as an extra precaution against any undesired epilation or dermatitis but in the radiography of fidgety people and children, the saving of time generally, and on account of the reduced wear and tear of x ray tubes. No doubt in due course emulsions will be prepared having a greater sensitiveness to the x rays.

There would appear to be some confusion in the minds of the makers as to the relation that exists in the sensitiveness of the haloid salts of silver to ordinary daylight and to the rays from an x ray tube. As a matter of practical experience we have found that all ordinary photographic plates, whether "process," "slow," "extra rapid," or by whatever term they are described, have about an equal sensitiveness to the x rays, the "rapid" varieties not necessarily being more rapid than the slower grades. Another noteworthy fact is that it is difficult, and at times impossible, to get sufficient density when an ordinary photographic plate is used for radiographic purposes. This seems to be due to the thinness of the coating, which, though thick enough for the purposes of ordinary photography, does not react correspondingly under the influence of the x rays. To get over this difficulty thicker coatings have been used, and while this scheme answers up to a certain point the fact remains that some x ray plates of foreign manufacture produce results with comparatively brief exposures such as we have been unable to obtain with plates of British manufacture. In justice to the Ilford x ray plates we should say that in every case where we have used both an Ilford plate and one of the best obtainable plates of foreign origin upon the same part of the same patient and under exactly similar conditions except the length of exposure, the resulting negative has been better in the case of the Ilford. In all cases the plates were fully exposed, so that longer exposure in either case would have been detrimental. We welcome and recommend the Ilford x ray plates. Ilford, Limited, appear to be working along the proper lines and we fully expect that before very long we shall have available an x ray plate of home manufacture at least the equal of any other.

University of Cambridge.—The following appointments have been made:—Electors to the following Professorships: Anatomy, Dr. D. MacAlister; Medicine (Downing), Sir Lauder Brunton; Physiology, Dr. W. H. Gaskell; Surgery, Mr. H. H. Clutton; and Pathology, Dr. L. Humphry.—Dr. Humphry has been coöpted a member of the degree committee of the Special Board for Medicine.—Mr. Raymond Johnson, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed an Examiner in Surgery for the Third M.B. in place of Mr. H. G. Barling who is unable to examine.—Mr. J. S. Gardiner, M.A. of Caius College, has been reappointed demonstrator in animal morphology for five years.

were not so rapidly recovered from as those due to simple pneumococcal infection.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Jan. 29th, at 20, Hanover-square, London, Dr. A. F. Street (Westgate-on-Sea) being in the chair.—Dr. R. *Fortescue Fox re-introduced* the adjourned discussion on the paper of Dr. W. Edgecombe (Harrogate), on Blood Pressure in Spa Practice, which was read on Dec. 11th, 1907. He dwelt upon the importance of vaso-motor tone as a factor in arterial blood pressure. Abnormalities of pressure were, in fact, in the first instance nervous disorders, and balneological treatment, here as elsewhere, took effect to a large extent through the nerve centres. The effect of baths (sub-thermal) at a temperature between that of the blood and the skin was unquestionable in reducing excessive vaso-constriction and therefore blood pressure. Dr. Fox described a hereditary type of "poor circulation" in gouty families, for which hyper-thermal spa baths afforded the best treatment. In middle and later life a judicious course of cooler baths relaxed arterial spasm and delayed for many years the development of incurable high tension. In disorders of the climacteric and other vaso-motor ataxias spa treatment was usually efficient, but sub-thermal baths must be employed with a sedative effect in view.—Mr. J. P. Lockhart Mummery said that he had done a lot of experimental work upon blood pressure and that in his opinion it was advisable to use only the pulse obliteration point (systolic pressure) and that the so-called diastolic pressure was quite useless and untrustworthy, and there was no proof that it was diastolic pressure; in fact, experimental evidence was opposed to its being diastolic pressure. He gave the figures from a series of experiments showing that the systolic pressure as estimated by the Riva-Rocci instrument is correct to within two millimetres of Hg. He also pointed out that the Riva-Rocci instrument with a straight manometer tube is the most trustworthy, and that with the U tube any error of reading was doubled.—Dr. Alfred Mantle (Harrogate) said that disturbances of the peripheral circulation materially affected the general blood pressure. Several types of circulation were noticeable. Cold subjects having a tendency to an abnormal contraction of the peripheral circulation were met with, and as a result of a diminished quantity of blood in the cutaneous reservoir, there was an increased amount in the splanchnic and other areas which in time might produce gastric, hepatic, renal, or cardiac complications. In another type the periphery was dilated, and such people were always warm, and he had observed them to be more subject to cutaneous diseases, also to glycosuria. The importance of what might be called the "skin heart" in regulating the blood pressure was too little appreciated.—*Dr. William Ewart referred* to the prevailing view that the tortuosity of arteries is the result of long-continued high pressure. In his experience tortuosity sometimes occurred in *hypotensive subjects* and should not therefore be accepted as positive evidence of high tension.—Dr. Street said *that* abnormalities of blood pressure were undoubtedly due to vaso-motor disorder, but peripheral vaso-motor abnormality did not connote serious disturbance. The wide variation of individual *vaso-motor* control in man was illustrated by a consideration of the *functions of the* vaso-motor system in the woodpecker, the sloth, and marine mammalia generally. If arterial tortuosity was the result of high tension, what was the cause of the tortuosity common in superficial veins in the lower extremity?—Mr. C. W. *Buckley* (Buxton) said that the treatment of the early stages of high blood pressure by sub-thermal baths, as suggested by Dr. Fox, was most important and at certain continental spas had been made a speciality. The treatment of gout in Buxton for generations had followed those lines, showing that empirical methods were based on sound principles. Referring to the remarks of another speaker, he pointed out that there were many English springs of great value as diuretics and that it was not necessary to go abroad for such waters.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 7th, Dr. W. *Langdon* Brown, *the President*, being in the chair.—Dr. T. G. Stevens read a paper on the Nature and Treatment of Puerperal Eclampsia. After defining the condition and enumerating its classical symptoms he said that scanty urine and a low urea coefficient were more important signs than the amount of albumin. As regards pathology, the most widely accepted view was that of auto-intoxication, the mother poisoning herself by the effects of constipation and by the *products of metabolism. The liver failed* to alter the toxins formed by metabolism and the kidneys were unable to excrete them, so albuminuria and eclampsia were produced. Post mortem, there was necrosis of the renal epithelium with fatty and granular degeneration—i.e., the kind of kidney found in diphtheritic poisoning. The liver nearly always showed small hæmorrhages and patches of necrosis and a fatty degeneration as seen in acute yellow atrophy. Death might be directly due to the toxins, to œdema of the lungs, to sepsis as the result of operation, or to poisoning by such drugs as strychnine, morphine, and pilocarpine The prognosis was bad if the fits were more than 15 in number, if the temperature progressively rose, if the urine was almost *suppressed*, and *if delivery* could not be quickly performed. In the treatment of fits morphine was the best method and it should be given in large doses as there was no danger to the kidneys, for morphine dilated the renal blood-vessels and caused diuresis. Half a grain *hypodermically* should be given at once, and if in two hours the patient was not under its influence another quarter of a grain should be given. Chloroform did not abolish fits but only decreased their violence. The toxæmia ought to be treated by infusion of saline solution, croton oil, washing out the *stomach* and the colon, and venesection in a *full-blooded* plethoric patient. Delivery stopped the fits in 54 per cent. of the cases, so if the patient was in labour she should be delivered as soon as possible.—Dr. Eardley L. Holland, *who* took part in the discussion, advised the German method of immediate rapid delivery, whatever the stage of labour, without any preliminary palliative measures. The cervix could be rapidly dilated with Bossi's dilator, but if it were still intact vaginal Cæsarean section should be performed. He laid it down as a rule that if the first convulsion were severe rapid *delivery ought to be done*, but if the first convulsion were mild then palliative measures might be tried.

Reviews and Notices of Books.

Anatomie und Aetiologie der Genitalprolapse beim Weibe. (Anatomy and Etiology of Prolapse of the Female Genital Organs.) By Dr. JOSEF HALBAN and Professor JULIUS TANDLER. With 60 plates and 44 figures in the text. Vienna and Leipsic: Wilhelm Braumüller. 1907. Pp. 273. Price, paper, M.18; M.15. Bound, M.21; M.17.50.

THE work already published by *Professor* Julius Tandler and Dr. Josef Halban on the "Topography of the Ureters" is of so high an order of merit that we began the perusal of this work with a feeling that it was sure to be of great value and interest. Nor are we at all disappointed. The *book* contains a very full and extremely able account of the anatomy and etiology of prolapse of the uterus, preceded by a description of the normal position and means of *support* of the female pelvic organs, and followed by some considerations *on the treatment* of prolapse of the uterus by pessaries and by operations.

From their anatomical researches the authors come to the conclusion which anyone who has studied the subject would expect—namely, that all the tissues connected on the one side to the uterus and on the other to the pelvic walls play a part in the fixation of the pelvic organs. The structures, however, which overcome the tendency to prolapse of the pelvic organs resulting from an increase in the intra-abdominal pressure, and which play the most important part in maintaining the position of the pelvic contents, are the muscles of the pelvic floor. How important a part they play is well illustrated by the conditions met with in cases of *congenital* prolapse dependent on the presence of a spina bifida in which the fourth sacral nerve is involved. We need hardly say that the conclusions arrived at *do not* in any way favour the theory which has recently been put forward that the supports of and carried out by Major GEORGE LAMB, I.M.S., Captain W. GLEN LISTON, I.M.S., and the other members of the working commission of the committee both by means of plague-stricken rats kept in experimental "go-downs" and by observations in private houses. These experiments proved conclusively that the rat does spread plague through the agency of the fleas which have bitten it. The other piece of evidence has been brought forward by Dr. J. ASHBURTON THOMPSON, the permanent head of the Department of Public Health in New South Wales, whose report on the mode of spread and prevention of plague in Australia appeared in abstract in THE LANCET of Oct. 19th, 1907, p. 1104. He demonstrated that in the Sydney epidemics there has always been a close association between plague in rats and man, the one preceding the other, and that the chronicity of the epizootic is an important clue to the recurrence of the disease in man. Dr. THOMPSON does not consider the common European rat, Mus decumanus, immune from the possibility of acquiring plague but fully accepts the doctrine of the spread of plague by the fleas which infest the rat. Another disease which has been certainly laid to the score of Mus decumanus is trichinosis which is fortunately very rarely seen in this country but is a serious menace to those peoples who habitually eat half-raw and often rat-fed pork.

The chief indictment which Sir JAMES CRICHTON-BROWNE brought against the English rat was the economic one when he said:—

> No more destructive animal existed. Nothing came amiss to its chiselling teeth and insatiable maw. It made heavy depredations on fields of corn, on stack-yards, granaries, and ship cargoes; it devoured eggs, killed poultry and game, made unwelcome visits to dairies and pantries, butchers' shops, and bakeries; it gnawed through lead pipes, causing household floods, and it was even suspected of arson by nibbling the insulating material on crossing electric wires and so short-circuiting them.

This is doubtless all very true and even the most tender-hearted of animal lovers would scarcely urge as a serious excuse for such conduct that the rat must gnaw not only for food but in order to keep down his rapidly growing incisor teeth which otherwise might kill him by a literal lock-jaw; but to our minds the indictment of the rat on the score of his menace to public health is far heavier than any that can be brought on the score of his mischievous propensities. It is interesting to note that the rat has not been always an object of execration. Amongst Scandinavian and Teutonic races rats and mice were reverenced as being the souls of the dead, while BARING-GOULD in his paper on the famous Bishop HATTO myth, shows that the army of rats which devoured the unfortunate prelate undoubtedly symbolised the host of poor wretches burnt by him in the barn. He points out, however, that Bishop HATTO was a most maligned and kind-hearted man, and that stories of similar character have been told of prominent personages in Scandinavia, Switzerland, Bavaria, Poland, and even Asia. BARING-GOULD thinks the origin of them may have been human sacrifices of chieftains by savage tribes in time of famine, the victims being given as a propitiation to be devoured by hungry rats. If rats were not liked in ancient days they would seem to have been respected, and this feeling still obtains among primitive or superstitious folk. It is certainly present in India, to her misfortune.

We consider that the public attention which has been called by modern scientific work to the peril which rats form to a community is a matter of great importance to our Empire, and we welcome the formation of a league for their extermination, hoping that the public mind will not relegate the scheme to the ranks of the faddists. But the new association has an enormous task before it if its members seek to exterminate the countless millions of rats, of which most are inaccessible, in the British Empire. An agressive policy has, it is true, been successfully carried out in places. In THE LANCET of Oct. 19th, 1907, p. 1099, we commented on the observations of Lieutenant-Colonel A. BUCHANAN, I.M.S., on the relation between the keeping of cats and the incidence of plague in Indian villages. He is convinced that cat-keeping abolishes the rats and consequently plague. The rat-catcher and his dog are time-honoured means of aggression, and another instance of the militant method has been successfully adopted in Jamaica where mongooses have been imported and have completely cleared the sugar plantations of rats by destroying their young, thereby saving a large proportion of the sugar crop. The experiments of the Plague Commission and the experience of Dr. THOMPSON, which he has laid before the Epidemiological Section of the Royal Society of Medicine,[1] tend to show that the most necessary means of meeting the rats in fighting plague is prophylactic and consists in rendering dwellings, and especially food-stores, rat-proof. Captain V. B. NESFIELD, I.M.S., has recently supplemented this suggestion by another, that the winter store of grain should be kept in detached granaries and not in native dwelling-houses. The crusade against rats, however, will not rest content with entrenching itself against the enemy's hordes, and it seems likely that science has provided us with a most potent weapon of offence in the form of a bacteriological virus intensely fatal to rats which readily feed on bait which has been charged with their doom. We have before us the prospectuses and testimonials of two preparations which are said to be poisonous to rats, setting up a quickly fatal disease, but to be harmless to man and the domestic animals. There is certainly a good deal of evidence adduced in their favour but an extended series of observations will be necessary before the efficacy of such measures can be proved.

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Pelvic Contraction.

IT is a matter for congratulation that amongst the women of this country cases of contraction of the pelvic measurements are not met with very frequently. Unfortunately, no recent investigations upon this point have been carried out by English observers in a sufficiently large number of cases to enable us to predict with certainty what percentage of such pelves will be met with in every 100 cases of labour. The marked discrepancies existing in the figures which have been collected by foreign observers are to be explained very largely by the fact that the definition of what constitutes a contracted pelvis is not a matter of entire agreement amongst obstetric writers. The one most commonly accepted is that which defines a pelvis as contracted when the degree of contraction is sufficient to interfere with the normal mechanism of labour although it may not retard the birth of ever likely to be, really efficient. The scheme proposed by Dr. Zavitzianos for the Greek army is to abolish the army medical service altogether and to organise a service of civilian medical men, to be called upon in time of war or whenever needed, not exclusively attached to the army but able to practise independently, and therefore with opportunities of keeping pace with new scientific developments and with liberty to specialise. This scheme is worked out and supported by many arguments, and the suggestion and discussion of it form the main purpose of the book which concludes with chapters on military buildings, on the food and clothing of troops, and on their intellectual development.

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[1] THE LANCET, Dec. 7th, 1907, p. 1611.

Dr. Zavitzianos intends to publish a French translation of his book shortly and we are glad to learn this from him. French is more or less known to most medical men and many of our readers would, we think, like to have the information in "The Hygiene of Armies" before them. The similarity of Dr. Zavitzianos's views with those expressed by the Director-General of the Royal Army Medical Corps, Sir Alfred H. Keogh, in so many medical centres is noticeable, though our circumstances and those in Greece are so different. Of course there can be no idea with us of dispensing with our excellent army medical service, the hope is to reinforce it by an adequate and economical reserve.

Immune Sera: A Concise Exposition of our Present Knowledge Concerning the Constitution and Mode of Action of Antitoxins, Agglutinins, Hæmolysins, Bacteriolysins, Precipitins, Cytotoxins, and Opsonins. By Dr. CHARLES FREDERICK BOLDUAN, Bacteriologist, Research Laboratory, Department of Health, City of New York. Second edition, rewritten. London: Chapman and Hall, Limited. New York: John Wiley and Sons. 1907. Pp. 154. Price $1.50.

THIS little book gives a very clear and satisfactory account of the various bodies which are known to exist in immune serums. It starts with a short historical account of the subject and then describes the mode of preparation of diphtheria antitoxin. Ehrlich's theories as to the relations of toxins and antitoxins are next set forth and also the opposing views of Arrhenius and of Bordet. It is very properly stated that at present the exact truth is not determined. Agglutinins, bacteriolysins, hæmolysins, and precipitins are next discussed and the practical applications of our knowledge of these bodies to the recognition of blood-stains. Some good diagrams are given to explain the nature of group-agglutinins. Cytotoxins are briefly dealt with and the value of opsonic determinations is criticised; the author is impressed with the degree of error inseparable from the methods employed and also with the divergence between the clinical course of many cases and the fluctuations of the opsonic index. Three pages are devoted to the subject of snake-venoms but no allusion is made to the interesting work of Kyes in isolating the lecithids of cobra poison, chemical compounds of lecithin with the copula or amboceptor present in the venom. The final section is devoted to a discussion of the phenomena of serum-sickness in man and of the allied, if not identical, condition termed anaphylaxis as observed in experiments on animals. Dr. Bolduan appears to greater advantage as an original author than as a translator and gives a very readable account of the difficult and highly technical matters with which he deals. We commend the book to all who are desirous of gaining a first acquaintance with recent work in the field of immunity.

LIBRARY TABLE.

A Text-book of Organic Chemistry. By A. F. HOLLEMAN, Ph.D., F.R.A. Amst. Translated from the third Dutch edition by A. JAMIESON WALKER, Ph.D. Heidelberg, B.A.; assisted by OWEN E. MOTT, Ph.D. Heidelberg. Second English edition rewritten. London: Chapman and Hall, Limited. New York: Wiley and Sons. 1907. Pp. 589. Price 10s. 6d. net.—The multiplicity of organic compounds is an invariable stumbling-block to the student commencing to read organic chemistry and he had far better take as a first course a book which, like the one under review, presents a limited number of facts and yet gives prominence to the theory underlying the subject than one in which so many apparently disconnected details are dealt with. Professor Holleman's text-book is deservedly popular, the original Dutch edition having been translated into an English, a German, a Russian, and an Italian edition respectively. The success which has so far attended its publication is due, we think, to the author's gift of discriminating between principles and facts which are immediately essential to the beginner's grasp of the subject and those which, at all events, in his early studies, only conspire to upset, so to speak, his mental digestion by reason of their wealth and intricacy. Throughout the story is told step by step in simple terms, and it is not easy to preserve, as is done in this text-book, a continuity of treatment with such a vast subject as the chemistry of the carbon compounds. The present edition also is in touch with the results of recent developments, for in the chapter on the constitution of benzene the recent researches on this subject are discussed, which would appear to show that not one of the graphic formulæ suggested affords a completely satisfactory explanation of observed facts. The chapter on pyrrol also has been made to fall into line with the fruits of investigation contributed by Professor Ciamician in a recent lecture before the German Chemical Society. The nature of reactions is interpreted in the light of the theory of "ions." The translation is ably done and we have only noted two misprints, one in the author's preface to the first edition and the other in the heading on p. 447. It may be remarked also that the translator has retained the word "proteids" which English physiologists and chemists have agreed to call "proteins."

Die Experimentelle Diagnostik, Serumtherapie und Prophylaxe der Infektionskrankheiten. (*Experimental Diagnosis, Serum-therapeutics and Prophylaxis of the Infectious Diseases.*) Von Stabsarzt Professor Dr. E. MARX. Second edition. Berlin: August Hirschwald. 1907. Pp. 398. Price 8 marks.—We are glad to welcome a second edition of Professor Marx's little book. The main features of the former edition are preserved but the author has added chapters dealing with the general principles of immunity and with infections due to the bacillus fusiformis and to trypanosomes. He has also added an index which materially increases the value of the volume. Advances in knowledge since the first edition appeared have been so great as to necessitate the rewriting of much of the contents and the size of the whole has increased by just 100 pages, or about one-third of its original bulk. The particular specimen before us is marred by the bad sewing which used to characterise nearly all foreign paper-bound books and which we hoped was becoming less common. Well bound in cloth it should make a handy book; the print is clear and the use of black type for headings facilitates reference.

Tests and Studies of the Ocular Muscles. By ERNEST E. MADDOX, M.D. Edin., F.R.C.S. Edin., Ophthalmic Surgeon to the Royal Victoria Hospital, Bournemouth. With 110 illustrations. Second edition. Philadelphia: The Keystone Publishing Company. 1907. Pp. 261.—We welcome the second edition of Dr. Maddox's well-known treatise on the ocular muscles. It is doubtless due to the exigencies of copyright that the book has been published in America. Whilst we regret the necessity it has the compensation of bringing more nearly to the notice of American ophthalmologists a level-headed presentation of the subject which contrasts favourably with the many indigenous productions, some of risk to the life of the mothers and of the children is considerable. We may hope that the new conditions which in the future will attend the clinical teaching of midwifery may render the training which the student receives in the practice of this important subject more nearly on an equality with that which he has received for many years in the subjects of medicine and surgery. Such teaching must include the care of the pregnant woman during her pregnancy and the necessity for a careful investigation of all the conditions which may influence her labour and the safety of herself and her child. No case of pelvic contraction or pelvic obstruction theoretically should be allowed to come into labour with the condition unrecognised and no patient should be allowed to pass through her pregnancy without having been examined, at any rate, by the abdomen and an attempt made to forecast the course of her delivery and to foresee any difficulties which are likely to arise. Such perfection in the practice of midwifery is, we well recognise, almost impossible of attainment, but if we do not aim at a high standard we shall not even attain to a low one. We hope that at any rate one of the chief features in the clinical teaching of midwifery, soon, we trust, to be made compulsory for all students, will be the great importance of the examination of such patients not only when their labour has come on but also some weeks beforehand, so that preventive medicine may be allowed to play a part and the delivery when it does take place may be conducted with the minimum of danger to the mother and the child. At the present time this is not done even in most of the extern lying-in charities attached to our medical schools but we look forward hopefully to the time when it will be considered just as neglectful to allow an expectant mother to run the risks of a labour with a contracted pelvis which has not been recognised because not looked for, as it would be to allow her to run the risk of acquiring some acute infectious disease from the contagion of which no attempt has been made to guard her.

Annotations.

"Ne quid nimis."

THE SALARY OF COUNTY MEDICAL OFFICERS OF HEALTH.

THE Norfolk county council, having decided recently to appoint a county medical officer of health, indulged in a lively debate as to what was a fair remuneration to pay that official. The committee which was appointed by the council to consider and to report on the matter made the recommendation that the salary should be £450 a year, rising by annual increments of £25 to a maximum of £600. Mr. S. Oldman told the council that this decision of the committee was practically unanimous, but the Earl of Kimberley said that his statement was absolutely incorrect and that he himself had fought desperately against it. Mr. Eustace Gurney moved that the salary should commence at £700, rising by annual increments of £25 to a maximum of £850. He pointed out that the new officer would be responsible for the sanitation of 300,000 people and have the supervision of the medical inspection of 55,000 school children. The county wanted a thoroughly experienced and practical man, and such a man would not be attracted by the terms which the council was asked to offer. The motion was strongly opposed by several members from the point of view of safeguarding the ratepayers' interests, although it was pointed out that their best interests would not be safeguarded unless a first-class man were secured for the post. The most interesting contribution that was made to this little squabble was a saying of Mr. Barrett-Lennard who is reported to have remarked that "he had come prepared to move that they paid a lower salary than was recommended. If they wanted a really good man they would have to offer a salary of from £2500 to £5000 a year. He thought a suitable medical officer could be obtained for £350 or £400 a year." Either Mr. Barrett-Lennard has a poor opinion of the chance of finding his ideal sanitarian or else he is more liberal in his views than in his practice in the matter of paying one when he has found him; in either case his argument seems a delightfully innocent *non sequitur*. After a considerable discussion, in which the party in favour of paying liberally fought a losing battle vigorously, it managed to get the committee's recommendation raised by £50. Several speakers alluded to the salaries paid to those officials by the few counties which employ a medical officer of health and it is interesting to compare some of them. Essex pays £1000 and special fees to an officer with charge of a county which includes the teeming district of West Ham and is responsible altogether for 816,500 people. Surrey, with 519,520, pays £800, as do Lancashire with 1,123,850 and the West Riding of Yorkshire with 1,460,860 people respectively, whilst Derbyshire, with 646,000, pays its medical officer £700. Only two county councils pay their medical officers a smaller sum than this last. If we are to compute the salary on a basis of population alone the offer of the Norfolk council seems fairly proportionate; but it must be considered that a county medical officer is a highly trained specialist in his own profession, and in addition has important and responsible administrative functions which recent legislation has made much more arduous, and, moreover, that his emoluments from the post are his only source of earned income. We are therefore in entire accordance with those gentlemen who tried to obtain a liberal remuneration for the new medical officer of a large county. They only lost their motion by 33 votes to 25.

AMALGAMATION OF THE HAMPSTEAD GENERAL HOSPITAL AND THE NORTH-WEST LONDON HOSPITAL.

As is well known to all our readers it has been suggested by King Edward's Hospital Fund that a staff of consulting physicians and surgeons should be appointed for the Hampstead Hospital. This course has been adopted after considerable negotiation, an account of which will be found in our columns, and although there are many circumstances in the situation which impel us to take a contrary view from that of King Edward's Fund we see no way out except that which is being taken by the governing body of the Hampstead Hospital. A further suggestion from the King's Fund of amalgamation between the Hampstead General Hospital and the North-West London Hospital, accompanied by an offer of substantial financial support for the amalgamated institution, has ultimately resulted in the amalgamation being agreed to. As a consequence of these changes vacancies have been declared for two physicians and two surgeons to have charge of the beds in the new building of the Hampstead Hospital. Mr. Edmund Owen, who is already consulting surgeon to the Hampstead Hospital, has consented, in response to a request made to him by the council of the amalgamated hospital, to accept the post of surgeon on the acting staff during the transitional period caused by the change in constitution of the medical staff, and there thus remain three posts to be filled up on the acting staff—two of physician and one of surgeon. The contributory

THE LANCET.

LONDON: SATURDAY, FEBRUARY 15, 1908.

The Children Bill.

PEOPLE of all shades of political opinion can hardly withhold a welcome from the first of the Government Bills for the present session, for it has been framed on lines of common humanity and not of partisanship; indeed, some may think that its utility has been impaired by the omission of all proposals regarding which there is likely to be any serious difference of opinion, but the Government has probably been well advised in doing what it could to insure the Bill an easy passage into the Statute-book. The object of the measure, as lucidly expounded by Mr. HERBERT SAMUEL who moved its first reading on Feb. 10th, is to "consolidate and amend the law relating to the protection of children and young persons, reformatory and industrial schools, and juvenile offenders, and otherwise to amend the law with respect to children and young persons." "Young persons" means those under 16 years of age and "children" those under 14 years. The question of education has, of course, been left for consideration in another measure and that of the admission of children to public-houses will be dealt with in the Licensing Bill. For the rest, the Bill is a notable attempt to codify all the existing Acts relating to child protection and to strengthen them by many new clauses. We do not propose to consider these now in detail but will allude briefly to the chief of them. Perhaps the most welcome are those which seek to exclude children and young persons from the police courts and the common gaols; which suggest the provision of special courts, which shall not be public, to try juvenile offenders; and which propose to prohibit the imprisonment of persons under 16 years of age, with very few special exceptions. It is also proposed to make parents bear the responsibility for rearing young criminals by being made in some instances to pay their fines. A section of the Bill deals with smoking by juveniles, and in accordance with the recommendation of the two committees which have considered the matter prohibits the sale of cigarettes or cigarette papers to persons under 16 years of age and makes it a punishable offence for such children to be caught smoking in the street. How the London policeman is to diagnose the age of the offending child is not suggested but whatever may be the difficulties of administration there is no doubt that it will benefit the whole community, except perhaps the cheap tobacco merchants. The fact that the evils of cigarette-smoking have been exaggerated by many worthy but unscientific folk must never blind us to two things—first, that any considerable amount of smoking is actually very bad for the young; and secondly, that the lad who wants to be perpetually smoking about the streets is modelling his manners upon a bad example and consequently running moral risks. An attempt is to be made to bring the children who are brought up in vagrancy within the reach of the education authorities and to give them some of the ordinary advantages of civilisation. The Act for the Prevention of Cruelty to Children is strengthened and parents are to be made punishable if their children are killed through their carelessness, either by overlying or burning, and we think that the rough and ready distinction thus indicated between accident and criminal negligence is quite a sound one. The penalty is to be light unless drunkenness can be proved.

An important section of the Bill deals with the protection of infant life. In a recent issue[1] we commented on the exemption from inspection under the present law of persons rearing one child only for gain. The Government proposes to appoint a select committee to take evidence on this point and hopes that the House will have received its report by the time when the Bill has reached its later stages. We have for some years given our readers evidence that leaves us in no doubt of the expediency of making compulsory the inspection of all children put out to nurse for a consideration. A smaller matter, but a useful one, is the proposal to legalise the State inspection of all charitable institutions and homes for destitute children. This is as it should be and we hope that in discussing the Bill Members will forget that it is being introduced by a party and thus will help the defenceless children of this country to a charter of their rights and liberties of which any country might be proud.

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Rats and Public Health.

AN association was recently formed to wage a war of extermination against rats, and we published at the time an abstract of the sermon of the modern PETER HERMIT, Sir JAMES CRICHTON-BROWNE, when preaching a crusade against a very ancient enemy. The address which he delivered at the meeting held under the chairmanship of Sir LAUDER BRUNTON was fervent and vigorous. He attacked rats as a personal enemy, giving voice to the powerful antipathy against these vermin which has been common to many men in other ages than our own. This dislike of rats, which nowadays appears to have so scientific a basis, depended in the first instance upon selfish and sentimental prejudices. Rats were hated on account of their bodily characters, their evil feeding habits, and their predatory nature; but now the tide of feeling runs high against them because they have been adjudged guilty of harbouring and disseminating the flea which is almost certainly an important means of propagating plague. It is hardly necessary to remind our readers of the case which has been made out against Mus rattus in this evil respect but we will briefly refer to the two chief pieces of evidence which have been recorded in these columns. In the issue of July 27th, 1907, p. 245, we published an abstract of the reports issued by the Advisory Committee appointed by the Secretary of State for India, the Royal Society, and the Lister Institute of Preventive Medicine regarding the causes and control of plague in India. This detailed the very clever and complete series of experiments devised so on, and to the provision of lavatory accommodation, the systematic cleaning of the workshops, and so forth. These special rules were extended in 1898 so as to include a compulsory medical examination once in each month by the certifying factory surgeon and the use of exhaust fans for the removal of dust was enforced. During the last ten years these rules have been in operation and with a most satisfactory result. The medical evidence brought before the Departmental Committee on Compensation for Industrial Diseases showed that fibrosis of the lungs among potters, including china scourers, is now a comparatively uncommon disease and is found only in isolated instances. It was admitted that china scouring was the occupation in which the operative might incur most risk of contracting this disease, but it speaks highly for the present conditions of employment when such a marked diminution in the number of cases of fibrotic lung is so evident. It has been a matter of considerable difficulty for some years past to obtain a typical pathological specimen of fibrosis of the lungs from a potter. The process of china scouring recently has undergone almost a revolutionary change by the introduction of a machine which will entirely dispense with hand labour. The machine consists of a steel cylinder, the interior of which is divided into recesses into which fit skeleton cages containing the ware which has to be scoured. The cages are similar in transverse section to the recesses in the front frame of the cylinder, but they vary in the interior to suit the size and shape of the pieces of ware to be carried in them. Previously to filling the machine with ware a weighed quantity of broken pitchers, ground and screened to a standard size, is placed in the cylinder. When the cylinder is filled it is caused to rotate about 15 revolutions per minute, and in this way the broken pitchers will be carried in a shower between the articles in the various cages and thus the ware will be thoroughly scoured. The fine dust produced in carrying out this procedure is drawn from the interior of the cylinder by an air-current through it which is induced by a centrifugal fan. This method has now been adopted by many of the largest china manufacturers in the country. The advantages of the machine, Dr. Shufflebotham concludes, are: (1) that it scours the ware more effectively than by the revolving brush and gives a smoother surface, and makes it easier to detect bad pieces of ware; (2) that it dispenses with the sand-papering process; (3) that it reduces the number of operatives engaged in this process (who have hitherto scoured with the revolving brush and sand-paper) by one-fourth; (4) that it is a more economical process; and (5) that the worker is not exposed in any way to dust. It may be regarded as an entirely harmless process. It can be applied to all kinds of ware except those of irregular shapes, which would be liable to break in the machine. These articles are best scoured by the sandblast.

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[1] THE LANCET, Jan. 25th, 1908, p. 244.

THE EXCLUSION OF FAT FROM THE DIET.

PHYSIOLOGICAL considerations would imply that many minor ills of the body would be avoided if only care were taken to include a sufficiency of fat in the diet. Fat, we know, is about the most compact form of fuel which we possess while it exercises a favourable effect upon the processes of the intestinal tract. In excessively cold countries a rich fatty diet is indispensable, for fat is the only food substance which will rapidly replace the heat lost by the body, and travellers in the Arctic regions have related that they could only be kept warm and comfortable by a generous supply of fatty food, in comparison with which the effect of extra clothing was inappreciable. The tendency of to-day in many quarters is to exclude as much as possible the fatty portions of animal foods. Pieces of fat are carefully cut off the slice of ham, mutton, or beef, and only the lean parts are eaten. Indeed, for some unaccountable reason the eating of fat is regarded by not a few as positively vulgar. Such an attitude, of course, displays an ignorance of physiological facts. Cold feet, hands, fingers, ears, and chilblains would in many instances be avoided under a generous diet of fatty food. A digestible fat favours nutrition considerably; it spares much waste of the tissue-forming elements of food. When lean meat alone is given large quantities are required in order that nutrition and waste may balance one another, but if fat be added the demand for flesh is less. Besides, therefore, giving an advantage in regard to making good the repair of the body, the use of fat is economical from the point of view of pounds, shillings, and pence. The absorption of large quantities of fatless meat again tends to overload the blood with nitrogenous waste products. In anæmic persons the partaking of an easily digested fat is commonly followed by the best results, nutrition is greatly improved, and the condition of the blood is often restored to normal. It is well known, again, that easily absorbable fats, such as butter, cream, cod-liver oil, bacon fat, and dripping, are especially valuable to sufferers from wasting diseases. The introduction of the old-fashioned and well-prepared suet pudding into the diet is in perfect accordance with scientific teaching, and from the dietetic point of view, especially in the feeding of young growing people, does probably a really beneficial service to the country. The assumed aversion to fat on the part of a great many people is silly and mischievous, for there can be little doubt that a reasonable proportion of fat in the diet is calculated to preserve the standard of health. Cases of true repugnance or intolerance do of course exist but on the whole they are rare.

THE INACCURATE DOSAGE OF MEDICINES.

THE *National Druggist* (an American journal) for December calls attention to the variation in capacity of ordinary medicine bottles, as shown by a careful examination of one dozen each of two, four, six, and eight-ounce oval bottles of best quality that were purchased on the American market. Each of these 48 bottles, when suitably filled, was found to hold more or less than the correct volume of liquid, the greatest error amounting to 18·3 per cent. of the correct volume. The two-ounce bottles held from 95 to 176 minims more than the reputed volume; in the case of the four-ounce bottles the excess varied from 77 to 190 minims; the six-ounce bottles held from 188 to 366 minims too much liquid; while the eight-ounce size showed a nearer approach to accuracy, ranging from a deficiency of 144 minims to an excess of 134 minims. It is noteworthy that the greatest variations were found in the smaller bottles, in which an error is of more consequence than in the larger sizes. In view of these facts it is evident that the pharmacist should select his prescription bottles with the greatest possible care or else abandon the prevalent custom of regarding the bottle as holding the proper quantity of liquid and filling directly into the bottle. The past three decades have witnessed great advances in the method of preparing and especially of standardising medicines, but this advantage is liable to be rendered nugatory by the failure to divide the ingredients of a prescription into the indicated number of doses. And this is only one of the sources of error incidental to the question of the dosage of medicines. It has often been pointed out in THE LANCET that the capacity of domestic spoons varies within very wide limits. Graduated medicine glasses are relatively seldom employed, with the result that the patient usually takes considerably more or less of the medicine than was intended by the physician. But the public will continue to use the domestic spoon so long as medicines are ordered to be taken the child. Even in different localities in the same country very striking differences in the frequency of the occurrence of such a pelvis may be met with. The statistics of the Rotunda Hospital in Dublin show that on an average 1 per cent. of the women confined at that institution have a contracted pelvis, while in Glasgow it has been computed that one in every ten women suffers from a defect of this kind. Foreign observations show a very wide difference, varying from a frequency of 6 per cent. in Greifswald to one of 22 per cent. in Königsberg. In America WHITRIDGE WILLIAMS computes that every tenth to fourteenth white and third to fifth black woman has an abnormal pelvis. The statistics we have quoted, insufficient though they be, show that this complication of labour is not a very common one in this country, yet it occurs often enough to be met with by every practitioner. It is, however, not the well-marked cases which are difficult to recognise and to treat; it is rather the lesser degrees of contraction, first suspected perhaps towards the end of a prolonged or obstructed labour, which so often lead to disaster. "To be forewarned is to be forearmed" is a maxim which holds with special force in this cause of delayed labour, for such a condition as a general rule can be easily recognised if looked for, and when found is not difficult to treat properly. It is, however, when it is not recognised, and attempts often wrong in principle have been made unsuccessfully to deliver the patient, that so much danger may ensue not only to the life of the mother but also to that of the child. The recognition of a bony deformity of the pelvis sufficient to alter the mechanism of labour or even to cause obstruction during delivery is not a matter of great difficulty to the properly trained practitioner, nor does it entail any unnecessary risk to the patient. A preliminary examination of the abdomen and the careful measurement of the external pelvic diameters, readily carried out without any pain or risk to the woman are usually sufficient to enable a fairly certain diagnosis to be made as to the presence or absence of any marked contraction of the bones of the pelvis. Not only can this be done, when the abdomen is examined, as it always should be about the end of the seventh month of pregnancy, but at the same time the practitioner can determine whether the fœtal head is engaged in the pelvic brim or not, a very valuable guide to the relative proportions of the pelvis and the head. There are, it is true, a few very uncommon causes of pelvic obstruction which cannot be recognised without an internal examination, such as tumours of the pelvic bones or, more important still in view of the great danger which they may cause to both mother and child, ovarian cysts or fibroid tumours in the pelvic cavity.

In a primiparous patient the measurements of the external diameters and the relation of the presenting part, especially when the head is over the pelvic brim, are of the utmost value and importance; this is also the case in a *multipara*, but here there is another important factor to be considered—namely, the obstetric history. It is, however, necessary to remember that this is not always a safe guide, since the degree of difficulty encountered in successive labours in the same patient may be of a very varied character, and especially is this the case in the lesser degrees of pelvic contraction, since it is more particularly in this type of case that a very slight alteration in the position or the shape of the presenting part of the fœtus may make all the difference between a comparatively simple and a difficult delivery. A considerable interest attaches to a review of the various methods which may be adopted in treating these cases not only because of their importance and the often difficult problems which have to be solved but also because such a survey reveals curious and unexpected differences in different countries in the treatment of what would appear to be identical conditions. A good example of this is to be seen in the favour which is extended to the operation of symphysiotomy in France and to a lesser degree in Germany and the disfavour with which this operation is regarded by most English obstetricians. The recent revival of the operation of pubiotomy has led to the publication of a large amount of literature on this branch of obstetric treatment, and it will be very interesting to see whether this operation makes better headway in this country than has the companion operation of symphysiotomy. English teachers of midwifery are accustomed to regard the treatment of cases of pelvic contraction by the induction of premature labour as a very good one, and yet in France this means of overcoming the difficulty meets with but little favour and it is not practised to the same extent in Germany that it is in this country. It is strange that on a matter upon which it might be surmised that there would not be any great difference of opinion the practice in these countries should vary to so large an extent. It is unlikely that obstetricians of different nationalities will ever look at such matters from precisely the same standpoint when even two practitioners of the same nationality may find it difficult to agree upon the same line of treatment. The operation of the induction of premature labour presents, it seems to us, many advantages; it is easy to carry out, entails but little risk to the mother, and if postponed to as late a date as possible in the pregnancy compatible with the delivery of a living child is attended with good results as regards the saving of the life of the child. It has been said that premature children do not grow up and if they do are not healthy, but we know of no well-founded grounds for any such statements. Obviously the mortality of premature children must not be compared with that of full-term children born of healthy mothers, but with that of children born of the same mother after the adoption of the various operative procedures which enter into competition with the induction of premature labour.

The final decision as to the best course to pursue in cases of this kind calls for an exact knowledge so far as it can be obtained of all the factors which have to be taken into account and each case must be judged separately. It is not our purpose to discuss the merits and demerits of the different procedures which may be necessary to effect delivery but rather to call attention to the great necessity for the recognition of this complication of labour and for carrying out an examination of the abdomen in all pregnant women at any rate once during the last two months of the pregnancy. The number of cases of pelvic contraction which are only recognised at the time when the difficulty occurs during the course of the labour must still be very numerous; indeed, we know it to be so, and the consequent reason adduced by M. Moens for publishing his plans in a form accessible to the public at large is said to be to bring about a closer contact of all such persons who value truth above everything and are willing to support all honest endeavours to find truth. Some Royal personages are stated already to have given financial support to this scheme and M. Moens apparently sees no reason for supposing that he will not receive the money for which he appeals. We need hardly say that we have no sympathy with any such work; the truth with regard to the descent of man is not to be proved by experiments of the kind suggested and the proposal to attempt them calls for the strongest condemnation.

INTERNATIONAL LARYNGO-RHINOLOGICAL CONGRESS.

THE first international laryngo-rhinological congress (Türck-Czermak Jubilee) will be held in Vienna from April 21st to 25th under the presidency of Hofrat Professor Dr. O. Chiari. April 22nd will be devoted to six discussions, the subjects of which, together with the names of the speakers introducing them, will be as follows: General Treatment of Local Lesions of the Upper Air Passages, Sir Felix Semon (London); Laryngology and Rhinology from the General Medical Point of View: Instruction and Examinations in those Specialties in Various Countries (Dr. B. Fränkel, Berlin, and Dr. Lermoyez, Paris); Treatment of Tuberculosis of the Upper Air Passages (Dr. Gleitsmann, New York, and Dr. Heryng, Warsaw); Diagnostic and Therapeutic Value of the Roentgen Rays and of Radium in Laryngology and Rhinology (Dr. Burger, Amsterdam, and Dr. Gradenigo, Turin); Connexion between Diseases of the Nose and Naso-pharynx and Diseases of the Eye (Dr. Onodi, Budapest, and Dr. Kuhnt, Königsberg); and International Laryngo-Rhinological Congresses (Dr. Jurasz, Heidelberg). The titles of 57 papers to be read on the following days are announced. The secretary of the Congress is Professor Dr. M. Grossmann, IX. Garnisongasse 10, Vienna.

MEDICAL EDUCATION IN PARIS.

A MOVEMENT for the introduction of "free teaching" (*enseignement libre de la médecine*) in the Paris hospitals has been in progress for about a year under the auspices of the Association d'Enseignement des Hôpitaux, and the inaugural meeting of this association was held on Jan. 19th in the amphitheatre of the Sociétés Savantes. Among those present were a number of important official personages and distinguished representatives of medicine and surgery. M. Lucas-Championnière, the president of the association, opened the proceedings with an address in which he commented on the insufficient utilisation of the teaching resources of the Paris hospitals, whereas in Germany, England, and America strenuous efforts were being made for the improvement of clinical instruction. He then said that the new association did not propose to set up a system of medical education in competition with that of the Paris Faculty of Medicine; its object was merely to extend and to develop the system of hospital teaching which had been in existence for a long time. The objects and methods of the association were fully described in a publication (*livret périodique*) which would be distributed on a considerable scale. The free teaching of the association and the official teaching of the Faculty of Medicine would supplement one another and would form a harmonious system. In conclusion, M. Lucas-Championnière commended M. Roux, M. Bucquoy, and M. Lannelongue, who had given what might be called extra-mural courses of instruction (*cours en dehors de la Faculté*). M. Paul Strauss, a member of the French Senate, said that in 1890, when he was President of the municipal commission of the Assistance Publique, he had endeavoured to bring together in a *libre école* under the patronage of the City of Paris certain hospital physicians and surgeons who were willing to give clinical instruction in their wards. Owing to the hostility of a section of the Faculty of Medicine the project as outlined at that time came to nothing but he anticipated that the present revival of it would be more successful. M. Ambroise Rendu, speaking on behalf of the municipal councillors of Paris, said that they would rejoice to see the medical staff of their hospitals teaching students similarly to the professors of the University. M. Mesureur, director of the Assistance Publique, said that he held views similar to those of the two previous speakers. He did not sympathise with the objections which had been raised against clinical teaching in hospitals and he believed that the patients received better attention when the physician or surgeon had an audience of students.

GREGOR JOHANN MENDEL.

IN a recent issue of the *Pharmaceutical Journal* some interesting particulars are given of Mendel, the discoverer of the law which bears his name. Gregor Johann Mendel was born in 1822 at Heinzendorf bei Odrau in Austrian Silesia. In 1843 he entered as a novice the "Königinkloster," an Augustinian foundation at Altbrünn, and three years later he was ordained priest. From 1851 to 1853 he studied physics and natural science at Vienna, and then, returning to the cloister, he became a teacher in the Realschule at Brünn. In the garden of the cloister he carried out his classic experiments on the edible pea, *Pisum sativum*, and gave the results in the form of a paper which was read to the Brünn Society in 1865 under the title of "Experiments in Plant Hybridisation." An English translation of this paper was subsequently made by the Royal Horticultural Society. In 1869 he published the only other paper which he wrote on natural history, entitled "On Hieracium Hybrids obtained by Artificial Fertilisation." His work appeared at an unfavourable time and both Mendel and the principles of heredity which he enunciated remained unnoticed for 35 years. Mendel was also interested in meteorology and in sun spots. He ultimately became Abbot of Brünn and was greatly liked and respected. He died from Bright's disease in 1884, at the age of 61 years. Further details of the life and work of this interesting priest and man of science are given in "Mendel's Principles of Heredity: A Defence," by W. Bateson (1902), a work which now is probably out of print, and "Mendelism," by R. C. Punnett (1907), published by Macmillan.

LIPOMA OF THE UTERUS.

LIPOMA of the uterus is so rare as to be a pathological curiosity but undoubted instances are on record. Dr. A. G. Ellis, in an interesting paper published in the *Proceedings of the Pathological Society of Philadelphia*, No. 8, 1906, records an example in a woman, aged 60 years, who died in the Philadelphia Hospital from cerebral hæmorrhage, with fatty heart, arterio-sclerosis, chronic endocarditis, and contracted kidneys. The uterus showed a globular swelling occupying the fundus and anterior portion of the body. This tumour was softer than the usual uterine fibroid and was regarded before section as a soft myoma with degenerative changes in its interior. On section, however, it proved to be a mass of yellow fat with a lamellar arrangement like that commonly seen in lipomata. The mass was eight centimetres in its vertical diameter and 6·5 centimetres broad; it was placed interstitially and possessed a thin greyish capsule. On microscopical examination the appearances were characteristic of a lipoma; the fat cells were round or polygonal in outline and were larger than those of normal fat. The blood-vessels were not numerous and the fibrous tissue was only scanty. There was a capsule of fibrous or fibro-fatty character. No muscular tissue was found in the tumour beds, where the treatment can be supervised by any practitioner, will remain in active working, but in other respects the hospital will lose its original cottage hospital character and be managed upon the usual hospital lines. A forcible letter from Dr. Lewis G. Glover, which we printed in our issue of Jan. 18th, p. 186, well expresses what we most all feel at an evolution which appears to divide the medical profession straitly into classes and to minimise the excellent work done by the late staff of local general practitioners. But the unanimity of opinion of the Hampstead medical men was arrived at too late to have its proper effect upon the public and upon the executive of the King's Hospital Fund —a matter which is of considerable regret to ourselves.

LORD LISTER AND THE MARY KINGSLEY MEDAL.

AT a special meeting of the Liverpool School of Tropical Medicine held recently it was resolved to present Lord Lister with the Mary Kingsley Medal which was struck by the school for presentation to distinguished savants and others who have aided the cause of combating disease in the tropics. Special interest attaches to the presentation of this medal to Lord Lister from the fact that his lordship formally opened the Liverpool School of Tropical Medicine on April 21st, 1899. At that time the expenditure of the school was £350 per annum; in the nine years that have elapsed the school has spent on its expeditions and research work alone over £60,000. The medal was forwarded to Lord Lister with the following letter:—

The Rt. Hon. Lord Lister, O.M. 7th February, 1908.

MY LORD,—We have the honour to forward, under separate cover, the Mary Kingsley Memorial Medal on behalf of the Liverpool Incorporated School of Tropical Medicine.

The School much regrets that it has not been possible to arrange for a deputation to wait upon your lordship to present the medal in person.

No words of ours are required to amplify the esteem in which your magnificent achievements are held throughout the world. The Mary Kingsley Memorial Medal has been founded for the purpose of recognising the work of those who have accomplished much in the cause of tropical medicine. No one has accomplished more for this cause, or indeed for the whole cause of medicine, than yourself. The School feels honoured that your lordship has consented to receive the medal.

We remain,

(Sgd.) HELENA, Hon. President.
ALFRED L. JONES, Chairman.
RUBERT BOYCE, Dean.
ALAN MILNE, Secretary.

The following is Lord Lister's reply:—

DEAR MR. MILNE,—I have duly received the Mary Kingsley Medal, with a letter signed by the Hon. President, Chairman, and Dean, and by yourself as Secretary of the Liverpool School of Tropical Medicine.

I beg to return my profound thanks for this highly prized gift and for the exceedingly generous terms in which it is conveyed.

Believe me, very sincerely yours,
(Sgd.) LISTER.

THE FEEBLE-MINDED CRIMINAL.

A PAMPHLET has recently been published by the city of Birmingham education authority containing a number of papers read at a Conference of After-Care Committees which was held in that city last November. One of these papers, dealing with the problem of the feeble-minded criminal, was contributed by Dr. H. B. Donkin who, as one of H.M. Commissioners of Prisons, is able to speak on this question with the combined authority of the physician and the practical administrator. Starting from the fact, painfully familiar to all who have had to do with the work of the special schools for mentally defective children, that the large majority of such children cannot by any system of training be made capable of eventually supporting themselves, Dr. Donkin points out, as a very obvious inference, that a good many of them are likely, following the path of least resistance, to drift into the criminal class. And he states that, as a matter of fact, amongst the prisoners technically known as "convicts"—i.e., those sentenced to penal servitude as distinguished from mere imprisonment, and therefore guilty as a rule of relatively grave offences—a very large proportion are found to be congenitally feeble-minded. To illustrate the hopeless recidivism which characterises individuals of this type when they have once embarked on a criminal career he cites the case of a prisoner who was first convicted when seven years old and who had no less than 28 convictions recorded against him before he had reached the age of 24 years. Amongst the minor offenders who are committed to local prisons the proportion of persons of weak mind cannot be stated positively but Dr. Donkin would put it at from 10 to 15 per cent. at the lowest estimate. The committal of these feeble-minded persons to prison is indefensible but it is also at present inevitable; there is no place other than the prison for the weak-minded law-breaker who cannot be certified "insane." The result is that "feeble-minded prisoners, male or female, oscillate vaguely between the streets, the poorhouse, the asylum, the gaol, and the maternity wards; and the less patently idiotic they are the greater the evils they cause and suffer." In pleading for some more rational way of treating these unfortunate beings in their own interest and in that of society, Dr. Donkin takes occasion to apply a much needed corrective to the pseudo-scientific rubbish about the "born criminal" and the "inheritance of crime" which has done so much to discredit the genuinely scientific study of this social problem. The relation of heredity to crime is, he points out, simply through mental defect. In the case of a weak-minded criminal what may be inherited is not criminality but the incapacity to acquire the elements of good or social conduct; and it is this incapacity to develop the higher and more complex associations, and not any specifically vicious tendency, that makes the imbecile succumb to the temptations of an evil environment. Given better surroundings, a considerable proportion of these defectives would not become criminals at all. It is probable indeed that very many, especially of the higher grade imbeciles, might almost as easily be trained in a harmless as in a harmful direction, though all require continuous regulation and control from outside.

HYGIENIC IMPROVEMENTS IN THE PROCESS OF CHINA SCOURING IN THE POTTERIES.

WE have received an interesting paper from Dr. Frank Shufflebotham of Newcastle-under-Lyme in which he discusses the improvements which from time to time have been introduced in the process known as china scouring and which have been directed towards minimising the dangers to the health of the operatives arising from the inhalation of dust. Hitherto the process has been regarded as one of the most unhealthy branches of the pottery industry but at the present time the conditions under which china scouring is carried out make it, as Dr. Shufflebotham says, a comparatively harmless operation. Scouring consists in removing the roughness from articles of ware occasioned by the adherence of particles of flint used in the saggars in the firing oven. It was originally carried out in primitive fashion by girls who rubbed off the particles of flint with a hard brush or if that was not sufficient the surface was sand-papered. This operation produced clouds of dust which was inhaled by the workgirls, the sharp angular particles causing irritation of the mucous membrane of the smaller bronchial tubes and the pulmonary alveoli, and in quite a short time fibrosis of the lungs might be produced. About 20 years ago a fan was introduced which greatly improved the ventilation of the workshops and at about the same time manufacturers began to scour the ware with brushes. Sand-papering, however, could not be dispensed with as a finishing process. In 1894 the use of a fan was made compulsory by the Home Office and certain regulations were applied in regard to the operatives wearing overalls, head coverings, and

ANNUAL REPORT OF THE REGISTRAR-GENERAL FOR THE YEAR 1906.

I.

WE have pleasure in announcing the appearance within the last few days of the Registrar-General's report on the births, deaths, and marriages in England and Wales for the year 1906. Of the annual reports issued from Somerset House since the assumption of office by the present Registrar-General this is the sixth, and from the rapid survey of it which has hitherto been practicable we believe it to be a worthy addition to a series of essays on vital statistics hitherto unrivalled in any language.

In his first report—namely, that for the year 1901—Sir William Dunbar availed himself of the opportunity afforded by the opening of a new century to arrange, and where necessary to modify, the information contained in previous reports so as to comply with modern requirements, whilst still retaining the means of comparison with data contained in the long list of annual volumes issued by his predecessors. For example, the method initiated by Major Graham was resorted to—namely, that of presenting those portions of the report which treat of mortality and its causes in the form of a letter for which his medical adviser is responsible. The reasons for this course are indicated in Sir William Dunbar's first report, wherein, after graceful acknowledgment of the coöperation of medical men as the indispensable factor in the construction of vital statistics, he expresses the hope that our profession will view with approval an arrangement by which the information which they contribute gratuitously will in future be analysed and its significance indicated by the medical member of his staff. It is obvious, however, that reports of this nature possess a vital interest for the general public; and therefore the Registrar-General, in his introductory remarks, properly and very usefully summarises, for the benefit of his non-medical readers, the more technical portion of Dr. Tatham's letter, and this he does with discretion and without unnecessary detail.

In noticing the successive reports of the Registrar-General since his assumption of office we have commented on the steady expansion of their scope from time to time. In the report before us, for example, we observe that under the head of "international statistics" the data formerly published for the principal European countries other than our own have been extended so as to include particulars relating to general mortality, to the loss of life caused by the principal epidemic diseases, and to the fatality of pulmonary tuberculosis and of cancer. Accordingly, comparison is now practicable between the mortality from these diseases in our own country and that of countries beyond the sea. In like manner the mortality of infants in our Australasian colonies and in some foreign lands may by this means be contrasted with that obtaining at home. A new feature in these reports is the appearance in the present issue of a series of well-designed diagrams illustrative of changes in the English rates of marriages, births, and deaths, the facts presented being carried back to the earliest periods for which trustworthy statistics are available. Many persons there are to whom graphic representations of statistics appeal more strongly than would any tabular arrangement of figures, which latter are sometimes passed over as too complicated for interpretation by any but expert readers. To such persons we commend for attentive study the excellent series of diagrams in this report.

As might have been expected, the subject of infantile mortality which has been brought into prominence by the National Conference recently held in London is commented upon somewhat fully in the present report. Referring to the generally accepted statement, which until now has passed unchallenged, that whilst the mortality among adults has fallen steadily in recent years there has been no corresponding fall in infantile mortality, the Registrar-General assures us that this statement holds good only up to the close of the nineteenth century. For since the beginning of the current century there has been a break in the growth of infantile mortality which, with some fluctuations, he acknowledges to have prevailed throughout the previous decennium. Among infants in their first year of life the average mortality has shown a decrease since 1900 amounting to 11 per cent. on the rate of 1891–1900. He points out the important fact that about one-third of the total deaths at this early age are due to ante-natal influences, such as premature birth, atrophy, debility, and congenital malformations, a group of conditions that may be described under the general heading of "immaturity." Over and above these conditions he holds that the employment of women in textile and other industries, ignorance, careless and insufficient nursing on the part of mothers, and overcrowding and insanitary environments are important factors in bringing about a high rate of infantile mortality. Passing reference is made to the Act for the notification of births which was passed in the last session of Parliament and the Registrar-General expresses the opinion that, if consistently carried out, a well-devised system of early notification of births, worked in connexion with the present registration system on the one hand, and with sanitary administration on the other, will serve as a most effective and lasting barrier with which to stem the tide of infant mortality.

A prominent feature noticeable in this connexion is the evidence contained in the report of the pains taken by its author to present the information at his disposal in such a way as to avoid statistical fallacy, and this, in a highly technical matter like the present, is an object by no means easy of attainment. For example, in his remarks respecting the recent improvement in infantile mortality, Sir William Dunbar, after recounting the various conditions probably conducing to this favourable result, cautions his readers thus: "At the same time," he says, "I think it right to refer to the special influence of summer temperature and rainfall upon infantile mortality. For instance, the showery and exceedingly cool weather experienced in the past summer checked the rise in the rate of infant mortality that usually occurs in the third quarter of the year. ...... It should accordingly be borne in mind that, speaking generally, throughout the last six years this country has experienced a cycle of favourable seasons and that for this reason before calculating upon a continuation of the present fall in infantile mortality it will be prudent to await a return of hot and dry summers in order that the extent may be ascertained to which existing sanitary arrangements in some of the manufacturing centres are able to withstand the onset of extreme heat and dryness without involving the inordinate sacrifice of infant life."

In the history of English vital statistics nothing stands out more prominently than does the unequal incidence of mortality among the infant section of the community. In illustration of this fact a chart is presented showing the distribution of infant mortality in the several registration areas. The chart shows that with slight fluctuation these areas show severally either a high or a low mortality through a long series of years. From a table contrasting the present with the past we learn that as compared with 30 years ago all the English counties except Essex and Monmouthshire have shown in recent years a considerable fall in mortality. On the other hand, of the 12 Welsh counties no fewer than nine show an increase of infant mortality during the last 30 years.

It has frequently been remarked in these reports that those areas of the country which comprise the districts of the mining, textile, and pottery industries show very badly in respect of infant mortality; not only are the rates excessive in many of the larger towns of these districts, but they are equally so in the majority of the smaller towns. In proof of this a table is inserted showing that there are several groups of towns in close contiguity in Staffordshire, Cheshire, Lancashire, and Glamorganshire carrying on industries of one or another of the kinds here spoken of, in no fewer than eight of which towns an average of about one in every five children born did not survive the first year of life. The towns alluded to are Bilston, Longton, Tunstall, Stalybridge, Burnley, Farnworth, Ince-in-Makerfield, and Aberdare. Speaking generally, excessive waste of infant life is associated with a high birth-rate and with overcrowding, and it is probable that these conditions prevail more or less in the majority of the towns now specified. It should be observed, however, that there exist several towns which have a comparatively low birth-rate and little overcrowding, but in which, nevertheless, infant mortality is very high. Such towns not only produce feeble children but lose an immoderate proportion of those produced. The towns with low rates of infantile mortality may generally be described as superior residential towns or suburbs, the birth-rates in which by spoonfuls. The difficulty could be met by the adoption of the following simple plan. In writing prescriptions let the doses be given in drachms, half ounces, and ounces. The patient, being ignorant of the equivalent in spoonfuls, would then be obliged to procure a proper measure. At present the situation is "Gilbertian." A correct diagnosis and a nicely balanced prescription, dispensed from the purest drugs standardised to a high degree of accuracy, are muddled, or possibly rendered useless or dangerous, by the use of inaccurate medicine bottles and still more inaccurate domestic spoons.

THE STATUE OF SIR THOMAS BROWNE AT NORWICH.

IN the year 1903 the corporation of the city of Norwich informed the committee of the Sir Thomas Browne Memorial that the corporation would provide a site for the statue of Sir Thomas Browne in the garden which has just been laid out in the Haymarket. The statue was accordingly provided by the subscribers at a cost of upwards of £1000 and was unveiled on Oct. 19th, 1905, by Lord Avebury. Recently the corporation of Norwich proposed to place lavatories and urinals behind, and in close proximity to, the statue and it is felt by many in Norwich that the collocation of the statue and the urinals is, to say the least of it, unsatisfactory. A memorial has therefore been drawn up, which has been largely signed by medical men and others both in Norwich and in London, praying the corporation not to proceed with the scheme for erecting the lavatories and urinals on the site allotted to the statue. We earnestly hope that the corporation will accede to the prayer of the memorialists and will find some other and more appropriate site for the proposed lavatories.

LUMBAR PUNCTURE IN THE MENINGEAL FORMS OF ENTERIC FEVER IN CHILDREN.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Jan. 26th Dr. Ch. Rocaz and Dr. Firmin Carles have published an important paper on the therapeutic value of lumbar puncture in the meningeal forms of enteric fever in children. In children enteric fever is often complicated by meningeal symptoms. In some cases these are slight and fugitive and of only secondary importance; in others they are more marked and persistent and occupy the first place among the clinical manifestations. For a long time writers discussed these meningeal symptoms and insisted on the variability of the prognosis according as there existed true meningitis or meningeal symptoms without an anatomical substratum (meningism). The introduction of lumbar puncture has given a new interest to the question. From the clinical standpoint four types of meningeal manifestations in enteric fever in children may be distinguished. In the first, towards the end of the second week appear intense headache, repeated vomiting, and constipation (which may replace the pre-existing diarrhœa). Cutaneous hyperæsthesia, irregularity of pulse and respiration, various vaso-motor troubles, and retraction of the head follow. Ocular symptoms (inequality of pupils, strabismus, and ptosis) are rarer and of more serious prognosis. After some days these symptoms may disappear but sometimes they terminate in death. In the second type the complete "*tableau*" of acute cerebro-spinal meningitis is presented. In addition to the symptoms described Kernig's sign appears and rigidity of the neck and spine, as marked as in acute cerebro-spinal meningitis, follows. The rigidity may extend to the limbs and the hands and feet may assume the attitude of tetanus. This is one of the most frequent types. The third type is rarer. The attack presents from the first the complete "*tableau*" of tuberculous meningitis and erroneous diagnosis is easy. The fourth type is peculiar to infants. During an attack of enteric fever convulsions appear and lead to a rapidly fatal termination. Lumbar puncture has thrown a new light on the pathogenesis of these phenomena. It may yield (1) pus in which may be found the typhoid bacillus in pure culture, other microbes, such as staphylococci, or a mixture of the typhoid bacillus and other microbes; (2) a turbid or transparent liquid in which centrifugalisation shows microbes—the typhoid bacillus or others; (3) a liquid which, though quite clear, contains abnormal cellular elements, usually abundant lymphocytes; and (4) a liquid of normal composition but flowing out in a jet, indicating abnormally high tension. In the first two cases the pathogenesis of the meningeal symptoms is manifest; the meninges are infected. In the third case it is logical to suppose that the meninges are irritated by microbial toxins which give to the cerebro-spinal fluid its cytological characters. In the fourth case also the hypersecretion of cerebro-spinal fluid is probably due to the same cause. M. Roger has shown the frequency of serous exudations under the action of various toxins. These facts also explain why lumbar puncture can be useful in the meningeal forms of enteric fever. Concetti, Netter, and many others have shown that repeated lumbar puncture is the best treatment of bacterial meningitis. The operation is therefore indicated in cases of enteric fever in which the cerebro-spinal fluid contains microbes. Each puncture removes some of the microbes and they are reproduced with difficulty as the cerebro-spinal fluid is a bad culture medium. They therefore soon disappear. If, on the other hand, the meningitis is simply toxic, the removal of a certain quantity of fluid charged with toxins cannot fail to have a favourable action. In the case of abnormally high tension puncture diminishes the pressure on the nervous centres and removes the resulting symptoms. The following is one of eight cases showing the value of lumbar puncture related by Dr. Rocaz and Dr. Carles. A boy, aged eight years, had a severe attack of enteric fever characterised by profuse diarrhœa, a temperature of 103·6° F., rose spots, and so on. On the eighteenth day he complained much of headache, cerebral vomiting occurred, and the diarrhœa was replaced by constipation. The head was retracted, the neck was rigid, and Kernig's sign was present. Lumbar puncture yielded 12 cubic centimetres of clear fluid under high pressure. Cytological examination showed that this was of normal composition. All the symptoms of meningitis had disappeared on the following day and uninterrupted recovery followed.

AN EXTRAORDINARY PROPOSAL.

WE have received a copy of an extraordinary work entitled, "Truth: Experimental Researches about the Descent of Man." The author of this remarkable book is M. H. M. Bernelot Moens and we regret to see that he is to be assisted in his enterprise by Dr. H. M. J. Boshouwers, a medical man. The book, or pamphlet, is intended, we suppose, as a preliminary notice, and an appeal for pecuniary assistance in the prosecution of the work which these gentlemen intend to carry out in the Congo. Their aim is to furnish experimental proof of the view that man is a highly developed anthropoid ape, and for this purpose they intend to practise artificial fecundation of the females of the anthropoid ape with the sperm of man; the gorilla and chimpanzee to be fecundated with negro semen. M. Moens also wishes to carry out experiments in the crossing of the anthropoid apes either by artificial or natural fecundation and to study human diseases, more especially syphilis, by means of experiments on these animals. The book is to be printed in Dutch, French, and German, and the and was examined by Sir Thomas Stevenson and Dr. French. At this second examination also the plaintiff was present. No trace of poison was discovered. The organs were found replaced in the usual manner in the cavity of the chest, with the exception of the brain which had no doubt disintegrated during the interval which had elapsed since the first post-mortem examination. The version of this not unnatural circumstance which was printed in the *Star* was as follows :—

> POISON DRAMA.
>
> *The Exhumation of Mrs. Blume's Body.*
>
> It is reported that the exhumation of the body of Mrs. Blume of Maxwell-road, Fulham, which took place at Brompton Cemetery a fortnight back, has proved abortive so far as the discovery of any trace of poison is concerned. Sir Thomas Stevenson and his assistant were unable to make any examination of the organs, in which alone traces of poison, supposing it is present in the body, could ordinarily be detected. Some parts of the organs which it is now desired to examine are, in fact, reported to be missing. It should be explained, however, that this circumstance does not reflect upon any person now concerned in the case, but may be a consequence of the first post-mortem examination which was made at the time of the old lady's death.

This involved so serious an imputation upon the plaintiff's conduct in connexion with the post-mortem examination, for which he alone was responsible, that he was compelled to bring an action to vindicate his character, when he was met not only with the defence that the words were not capable of the defamatory meaning which was assigned to them and were fair comment, but also that they were true in substance and in fact, this latter plea was aggravated, as the judge pointed out at the conclusion of the case, by the placing upon the record of "particulars of justification," including a list of portions of the body alleged to be missing in consequence of the plaintiff's conduct. It is not surprising that in these circumstances it was felt desirable by the legal advisers of the defendant newspaper to settle the case by means of a substantial payment. A jury could hardly have failed to award heavy damages considering that the evidence of Sir Thomas Stevenson was that the whole of the remains had been found by him except the brain; that the placing of it in the cavity of the chest with the rest of the parts removed for examination was proper and usual; and that the disintegration which had apparently taken place had not affected the result of the necropsy, which had not led to the discovery of any trace of poisoning. In addition the plaintiff had given evidence that his practice had been injured by the publication of the libel. The statement and the suggestion made when once shown to be erroneous would, indeed, have been very difficult to excuse and the *Star* could hardly have urged in its own defence an attitude sympathetic as a general rule towards medical science or medical men. The effect of its misstatement, moreover, was likely to extend beyond the individual medical practitioner whose successful vindication of his character is a matter for personal congratulation and who would naturally find among his poorer patients many readers of a halfpenny evening newspaper. The result of the paragraph quoted above might well be to increase the dislike and distrust evinced by many for the holding of post-mortem examinations upon the bodies of their relatives. This feeling of aversion is a natural one and it is highly undesirable that it should be increased by any suggestion that after post-mortem examination the body in question will not receive complete sepulture like any other.

POST-GRADUATE MEDICAL STUDY ABROAD.—The French Association for Post-graduate Medical Study, which is known as the "E.M.I.," asks us to state that it is organising a tour of inspection of the medical and sanitary institutions of Italy from April 12th to 28th. The places to be visited include Turin, Milan, Padua, Venice, Bologna, Florence, Rome, Naples, Pisa, Genoa, and San Remo. The organisation of the tour has been entrusted to Professor Pini, the corresponding member of the association in Italy, and he has the coöperation of the most eminent leaders of the medical profession in that country, including Baccelli, Bossi, Bozzolo, Cozzolino, De Giovanni, Mangiagalli, Marlimuni, Mya, Pinzani, Vitali, and Zeri. The complete programme of the tour has been published in the January number of the journal "L'E M.I.," the official organ of the association, and can be obtained, together with any other information that may be required, by sending a stamped addressed envelope to the secretary at the headquarters of the association, 8, rue Francois-Millet, Paris.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 13th, 1830.

CONSUMPTION OF NUX-VOMICA AND COCCULUS-INDICUS.

To the Editor of THE LANCET.

SIR,—Although I am no professional man, I have been a subscriber to THE LANCET from its very birth, and am fully aware how useful it has been in exposing delusion, fraud, and humbug. You have *occasionally* touched upon the sophistication or adulteration of what is taken into our stomachs as nutriment. I do not believe all that the author of "death in the pot" advances, but the subject is an important one, and merits the most serious attention.

By a return made officially from the Custom-house to the House of Commons in the last session, and from other authentic documents in my possession, it appears, that, upon an average of some years there has been an annual *importation* into Great Britain of

	lbs.
Nux-vomica	30,000.
Cocculus-indicus	12,000.

Now, Sir, I wish to ask of your medical and chemical readers, or wholesale druggists, what becomes of this enormous quantity of poison; a trifling quantity is employed in medicine, and for the destruction of vermin, and by poachers we know that a comparatively small quantity of these articles is also used; but if there be any other open, honest, or avowed purpose to which they are applied in any part of the world, it would remove some very unpleasant *suspicions*, and be very gratifying to many persons to be made acquainted with it.

I am, Sir,
Your most humble servant,
J. H. G.

Bath, February, 1830.[1]

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[1] The above letter (written 78 years ago) evidently refers to the adulteration of beer, but happily, owing to the provisions of the Adulteration of Food and Drugs Acts following on the labours of the Founder of THE LANCET by his Analytical Sanitary Commission (commenced in the year 1851) and his personal inquiries, this adulteration is a thing of the past.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9240 births and 5692 deaths were registered during the week ending Feb. 8th. The mean annual rate of mortality in these towns, which had been equal to 20·0, 18·5, and 18·2 per 1000 in the three preceding weeks, increased slightly to 18·3 in the week under notice. During the first six weeks of the current quarter the annual death-rate in these towns averaged 18·5 per 1000; the rate in London during the same period did not exceed 18·0. The lowest annual death-rates in the 76 towns last week were 6·2 in Hornsey, 9 9 in Leyton and in Willesden, and 10·3 in York; the rates in the other towns ranged upwards to 25·3 in Liverpool, 27·0 in Merthyr Tydfil and in Birkenhead, and 29·8 in Grimsby. The rate in London last week did not exceed 17·7. The 5692 deaths registered in the 76 towns during the week under notice showed an increase of but 11 upon the number in the previous week, and included 447 which were referred to the principal epidemic diseases, against 409 and 441 in the two previous weeks; of these, 192 resulted from whooping-cough, 73 from diphtheria, 71 from measles, 48 from diarrhœa, 39 from scarlet fever, 24 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·4 per 1000, the rate from the same diseases in London being 1·3. No death from any of these epidemic diseases was registered last week in Blackburn, Walthamstow, Leyton, Hornsey, Coventry, or King's Norton; the annual death-rates from these diseases in the other towns ranged upwards, however, to 3·0 in Burnley and in Birkenhead, 3·6 in South Shields, 3·7 in Warrington, and 5·4 in Salford. The fatal cases of whooping-cough in the 76 towns, which appeared to be a pure lipoma. Tumours of the uterus are extremely common. Gurlt in an analysis of 13,971 tumours observed at the hospitals of Vienna found that 4115, or 29 per cent., originated in the uterus. Williams found an almost identical percentage—viz., 23·7 in 13,824 cases of tumours treated in four large London hospitals, but no example of lipoma is included. Seydel in 1903 found a lipofibromyoma of the size of a walnut in the uterus of a woman, aged 58 years, and after an exhaustive study of the literature could only find ten other cases of fatty tumour of the uterus. There were thus on record at this time four cases of lipoma, two of lipomyoma, and four of lipofibromyoma, the remaining case being described simply as composed of adipose tissue. In addition, there are three other cases in the literature of this subject which were macroscopically of fatty appearance but were not examined microscopically and were on this account excluded by Seydel. Dr. Ellis has studied the published accounts of these various cases and gives brief accounts of them. Apart from his own case he has been able to find no further instances. The ages of the patients in the 12 cases varied from 28 to 68 years. Several of the women were sterile, while one had 13 normal labours and three miscarriages. The histogenesis of these tumours is a point of some interest, since the normal uterus does not contain adipose tissue. It has been suggested that they arise by the muscle cells changing into fat cells but there is no evidence in support of such a metaplasia. The usual view is that they originate in rudiments of embryonic fat included in the uterus and their occurrence is taken as supporting Cohnheim's view of the genesis of tumours.

VENEREAL DISEASE IN RANGOON.

THE reports that have recently reached us concerning the prevalence of venereal disease in Rangoon are *distressing*. In the words of one of the officials of the municipal committee, "since the suspension of the C.D. Acts in India and Burma by orders from home we have now come to a pass which is truly intolerable." The *statistics* that have been collected substantiate this assertion. Major C. E. Williams, I.M.S., the able health officer of the Rangoon municipality, instituted an inquiry at the instance of the committee to ascertain the extent to which venereal diseases were prevalent in Rangoon, the scope of which inquiry was limited to three points—namely, (*a*) the extent to which venereal diseases are prevalent in Rangoon at the present time, (*b*) a comparison of the figures for admission for these diseases at certain military and civil hospitals during the past ten years, and (*c*) a comparison of the data obtained under the last point with those on record for other cities and cantonments in India and Burma. The sources of information on these points were the experience of medical men practising in Rangoon, the medical records of the Rangoon garrison as shown in the annual sanitary reports published by the Government of India, and the tables appended to the annual sanitary reports of the Sanitary Commissioner with the Government of India and Inspector-General of Civil Hospitals, Burma, for the years 1895–1905. As a result of this inquiry it was ascertained that in the opinion of the majority of the medical practitioners in Rangoon, including all those who can claim to have an intimate and extended acquaintance with the people of this town, venereal diseases were more prevalent at the present time than formerly, that they are found in all classes of the population, and that they assume a very virulent type. Further, that youths of all classes are especially prone to contract the diseases, and that innocent women and children suffer from the results of direct and inherited infection, whilst the infant mortality is increased from this cause. The statistics of the military and civil hospitals in Burma, the health officer concludes, are open to criticism and do not throw much light on the problem; they indicate these diseases to be more prevalent in Rangoon than in Calcutta and other Presidency towns, but that their prevalence on the whole tends to decrease. But the health officer considers the testimony of the medical men of the town to be the more valuable in forming a correct estimate of the prevalence of venereal diseases, the military returns referring to only a small section of the population living under special conditions, whilst those of the civil hospitals rest upon varying and uncertain elements of the population. 19 years ago all restrictions upon prostitution and the propagation of venereal diseases were withdrawn, this being due to the interference of the Home Government. Compulsory attendance at the Lock Hospital in Rangoon ceased in August, 1888. Since that time infected women have been allowed to go on with their disease-spreading trade.

ANTI-SWEATING DEMONSTRATION.

ON Tuesday evening, Jan. 28th, a meeting was held in Queen's Hall to demonstrate against the evils of what is known as the sweated industries system. The meeting took place under the auspices of the National Anti-Sweating League, was very largely attended, and was presided over by the Bishop of Birmingham. *A proposition to the following* effect was introduced by Mr. Arthur Henderson, M.P., the newly made leader of the Labour Party in Parliament:—

> That this representative national demonstration calls the attention of His Majesty's Government to the evils arising from the gross underpayment of workers proved to exist in particular trades, and requests that Wages Boards on the lines of those suggested in the Sweated Industries Bill of Mr. Arthur Henderson be established in such trades.

This motion was seconded and supported by Sir Charles W. Dilke, M.P., Father Bernard Vaughan, Miss Mary R. MacArthur, and Mr. G. Bernard Shaw. All the speakers dwelt upon the insanitary conditions under which the majority of those engaged in sweated industries live, conditions which act especially as regards women home-workers, and have a serious effect upon infant mortality and may also influence race deterioration. The Bishop of Birmingham in his speech alluded to an interesting point, that by the Mosaic law both the material and sanitary welfare of workers was carefully guarded, and that throughout the Bible the necessity of giving a living wage to all who toiled with their hands was emphasised.

THE Central Hospital Council for London has issued the report of its committee appointed last July to advise whether the constituent hospitals of the council, which represents all the larger hospitals, should take joint action to insure the purity of their milk supply. The committee recommends joint action and indicates to the hospitals the requisitions which it considers should be made binding upon those who contract to supply the hospitals with milk. The report will receive detailed notice from us—it is a highly important document.

THE Department of Public Health of Queensland in a bulletin dated Jan. 4th states that for the week ending Jan. 4th a fatal case of bubonic plague occurred at Brisbane on Jan. 3rd. The patient, a man, aged 53 years, living at Boundary-street, Spring Hill, and working on a coal hulk in the river, was admitted to the Brisbane General Hospital on Jan. 1st. The post-mortem examination of the viscera of the body showed that death was due to plague. This is Case 1 of the current year.

THE 135th anniversary dinner of the Medical Society of London will take place at the Whitehall Rooms, Hotel Métropole, on Wednesday, March 11th, at 7.30 P.M. Dr. J. Kingston Fowler, President of the society, will occupy the chair.

TERRITORIAL FORCE.

In a printed reply circulated with Parliamentary papers on Feb. 7th, Mr. Haldane has informed Mr. Crooks that, as has already been announced in THE LANCET of Dec. 14th, 1907, p. 1718, it is proposed to appoint Surgeon-Lieutenant-Colonel (Hon. Surgeon-Colonel) P. B. Giles one of the medical officers of the 1st Herefordshire Rifle Volunteers, to the office of principal medical officer of one of the London divisions of the Territorial Force. He is (adds Mr. Haldane) commandant of the Volunteer Ambulance School in London, an institution which has been most successful in training a large proportion of the Volunteer medical officers. He resides near London. Seniority was not the determining factor in selecting officers for the appointments, but those officers best fitted to carry out the work were chosen, seniority being given its due weight.

DEATHS IN THE SERVICES.

Inspector-General of Hospitals and Fleets Sir John Denis Macdonald, K.C.B., F.R.S., R.N., on Feb. 7th, at Southall, aged 82 years. He entered the service as surgeon in 1849, was promoted to staff-surgeon in 1859, to fleet-surgeon in 1866, to deputy-inspector-general in 1875, to inspector-General in 1880, and retired six years later.

Surgeon-General William Henry Rean, Indian Army (retired), on Feb. 6th, aged 81 years. He entered the East India Company's service in 1853, and in 1857 served with the Madras Fusiliers in the attempted relief of Cawnpore. After the massacre he was appointed chief medical officer in charge of the standing hospital at Cawnpore, where he contracted cholera. After serving as deputy-surgeon-general at Kampti he retired in 1881.

The *Times* states that about 100 boys belonging to the training ship *Impregnable* at Devonport are in hospital, the majority suffering from influenza which is very prevalent throughout the port.

A Royal Naval hospital is to be opened at Queensferry with a staff of one fleet-surgeon or staff-surgeon, one surgeon, one chief sick-berth steward, and two sick-berth attendants.

Correspondence.

"Audi alteram partem."

HOSPITAL ALMONERS.

To the Editor of THE LANCET.

SIR,—In view of the letters of appeal from general practitioners and others that appear constantly in the daily papers against the deplorable abuse of the out-patients' departments of our London and provincial hospitals, I venture to call the attention of your readers to a system which is slowly but surely gaining ground among the hospitals of this vast metropolis. The fact that the out-patients' departments are not only centres of startling abuse but also the means of pauperising a large proportion of the working classes has been brought before the public from time to time for the last 30 years.

About 12 years ago the Royal Free Hospital, recognising the responsibility incurred in this respect, created the post of almoner. A lady, duly qualified by experience and knowledge and being intimately acquainted with the mode of living and ways of thought obtaining amongst our poorer classes, was appointed to the post. Her duties were: 1. To interview all new patients to the hospital after such patients had been seen by a member of the staff and to investigate thoroughly each case by means of outside visitors and societies. 2. To report to the authorities all cases which were not suitable for free medical treatment. 3. To provide from the funds of the Hospital Samaritan Fund, in coöperation with outside charities, all surgical instruments, convalescence, &c., recommended by the medical staff except in such cases where the patients or their family were able to provide such instruments and treatment themselves. 4. To ensure that the home conditions of the patients should, so far as possible, be suitable, and that the directions of the physicians or surgeons as to diet, fresh air, exercise, or rest should be carried out.

It was not long before the system I have briefly sketched recommended itself to the authorities of other hospitals and after two or three years Westminster and St. George's Hospitals created similar posts and to-day there are no less than nine well-known hospitals where almoners are working. The system leads to economy both in the time of the staff and the expenses of the hospital and its satisfactory results may be attested by the fact that *no hospital that has appointed an almoner has ever seen reason to recall its decision.* The system must of necessity appeal to any hospital with a medical school in that it protects the interests of the general practitioners who have been, or are being, trained within its walls. As no patient is dismissed without the consent of the physician or surgeon who has examined the patient it will be easily seen that the interests of the medical school as to clinical material are guarded.

The daily letters of thanks and approval from outside doctors show that the general practitioners realise that a very potent method has at last been set on foot to safeguard their interests. The work of an almoner is both difficult and arduous and calls for a very special training and careful selection of candidates. A hospital almoners' council has lately been formed for the purpose of arranging the training and selection of almoners and for providing suitable candidates for London and the provinces.

It is in the hope that this letter may explain briefly the work of an almoner and thereby prove that the out-patients' departments need no longer be a cause of apprehension to the outside doctors or a centre of pauperisation and abuse that I have ventured to encroach upon your valuable space. May I add that I shall be pleased to give any further information on the subject either by letter or by appointment to any of your readers who may be interested in the question.

I am, Sir, yours faithfully,
A. S. MORSE, Capt. and Sec.

Hospital Almoners' Council, Denison House, Vauxhall Bridge-road, S.W., Feb. 11th, 1908.

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—Dr. Harry Campbell tries, but in vain, to make the worse appear the better cause, and I should think he would make a very obstinate juryman whom the other 11 might have some difficulty in convincing. I can therefore scarcely hope to convert him from the error of his ways, so I shall not trouble much about this lost sheep, but I shall try and show the ninety and nine, who have not gone astray, the utter worthlessness of his facile pen. I shall now analyse his letter paragraph by paragraph.

First.—His little pleasantries do not trouble me much and do not cover his retreat from an untenable position in citing a condition which does not exist. He knows as well as I do that Dr. Harry Campbell is not the man to make "concessions for the purpose of humouring Sir James Barr," or anyone else. There is a very considerable difference between an adherent and a non-adherent pleura which cannot be glossed over by saying that "they did not affect one way or the other the main issue between us." The elasticity and tautness of the lung are thus readily affected, and I cannot allow Dr. Campbell to shift his position at his own convenience without exposing his retreat to my merciless flank fire. In my first letter I agreed that the elasticity and tautness of a substance are two quite different things, but the continuous tautness of the lungs depends on their elasticity and the pressure of air within them. I say so still.

Second.—In the first 12 lines he gives his whole show away and practically accepts my contention, but his illustrations are not very happy. "It is not the elasticity of the traces attached to a wagon which causes the wagon to be pulled along." Neither is it the *tautness* of the traces, nor the *tautness* of the lungs which exerts the traction, but the force that causes and maintains the *tautness*. If the stress or force applied to a series of loosely connected wagons be intermittent they bump against one another, but if they be braced up and have an elastic connexion through their buffers all this bumping disappears. The elastic lungs are held against the thoracic parietes by the atmospheric pressure within the lungs, a pressure amounting to about 760 millimetres of mercury, less, under ordinary circumstances, a few millimetres of mercury due to the elasticity of the lungs and the variations in the intrapulmonary pressure during the different phases of respiration. The greatest possible fall in the intrapulmonary pressure, as in Müller's experiment, could not are conspicuously low, and there is no evidence of overcrowding. Among places of this sort there are two which deserve special mention—namely, Swindon and Burton-on-Trent, for the statistics of both these towns clearly prove that industrial urban conditions need not of necessity be inimical to infant life.

In England at the present day there are numerous areas, urban as well as rural, where the rates are low and compare favourably with the lowest rates in the several foreign and colonial states. On the other hand, there remain many industrial centres where excessive rates indicate that the conservation of infant life is much neglected. Sir William Dunbar closes his remarks on this important topic with the following weighty words:—

> It may confidently be affirmed that in future any permanent reduction in the mortality of young children in England and Wales, as a whole, will largely depend upon a due recognition of parental responsibility, on the one hand, and, on the other, an improved health administration in these industrial areas, particularly in that of numerous small towns.

Closely associated with the foregoing subject, this report contains important information respecting the waning fertility of English mothers. The birth-rate in England and Wales attained the highest point on record in the year 1876, and the mean rate of birth in the quinquennium following that year has been taken as a standard for comparison. Based on the proportion of births to the number of possible mothers, married as well as single—i.e., on the total number of women living at child-bearing ages—the fall since that period has amounted to more than 29 per cent., whilst the fertility of married women, based on the ratio of legitimate births to wives of conceptive ages, showed a decrease amounting to 25 per cent. within the same period. In other words, if the fertility of married women in proportion to their numbers had been identical in 1876–80 and in 1906 the legitimate births in 1906 would have exceeded by more than 300,000 the number actually registered in that year.

The Registrar-General has more than once admitted in his reports that the registers of birth as well as of death are capable of improvement, and in the present report he reverts to the subject. He finds, however, on consideration that further evidence is required of the desirability of including some possible improvements before embarking on the reconstructing of the registers for a total of more than 2000 districts. As the existing registers give no information respecting the ages of mothers there are no means of ascertaining the fertility of women at the several ages comprised in the child-bearing period. As a digression for a moment we may recall the fact that the Scottish registers at one time contained this information, which has been ably utilised in connexion with the subject of maternal fertility in that country. In England, nevertheless, there are sufficient grounds for stating that during the past 30 years about 15 per cent. of the decline in the birth-rate (based on the proportion of births to the female population aged 15–45 years) is due to the decrease in the proportion of married women of conceptive ages, and that over 7 per cent. is due to the decrease of illegitimacy. With regard to the remaining 78 per cent. of the decrease Sir William Dunbar pointedly remarks that although some of the reduced fertility may be ascribed to changes in the age constitution of married women there can be little doubt that much of it is due to deliberate restriction of child-bearing.

MEDICINE AND THE LAW.

Medical Certificates for School Children.

Mr. Paul Taylor recently made the following observations at the Marylebone police-court with reference to the class of cases in which parents are summoned for the non-attendance of their children at school through illness as to which no medical certificate is forthcoming. The learned magistrate said: "I look upon it as very important that the poor should be able to obtain such certificates without payment, and it would be of great assistance to me if they could. I am often told that these poor people really cannot afford to pay for a certificate. A hospital doctor should not be expected to give a free certificate." Mr. Taylor had also said during a discussion as to the course which might be adopted that in his opinion there should be a public medical official paid out of public funds to give certificates for the purpose indicated and a witness from the education department of the London County Council had intimated that some such suggestion had already been laid by him before the Council. The obvious necessity that there should be medical certificates in cases of absence from school through alleged illness will, no doubt, lead to provision being made some day for the obtaining of them by those too poor to pay for them themselves, but the question how they should be obtained and paid for is not very easy to answer. The provision of fees payable from public funds to the medical man attending the patient should commend itself to the medical profession rather than the institution of a public official to inspect and to certify with regard to cases under the treatment of a private practitioner. Such a course would not, however, be without its drawbacks, and the question of expense is no doubt one which would be regarded as a serious one by the ratepayer, both generally and with regard to the comparative cost of any plans put forward.

Fergusson v. *the Malvern Urban District Council.*

After a trial lasting 11 days Dr. J. O. Fergusson has recovered a verdict for £7500 damages against the Malvern district council on the ground that an outbreak of enteric fever at the hydropathic establishment conducted by him, and in respect of which he has already had to pay heavy damages to various plaintiffs who contracted the disease in his establishment, was due to the contamination of his water-supply with sewage, for which contamination the council was responsible. Dr. Fergusson is to be congratulated on the result of the case and all the more so as the defence involved serious charges against him of want of care in the provision of water for the inmates of the house under his control. No fewer than seven questions were eventually left to the jury and it is to be observed that a point of law may be discussed hereafter in the Court of Appeal upon the answers given to two of these, by which the jury found that the plaintiff had no proprietary right in certain water to the contamination of which the enteric fever was ascribed and which flowed into his tank and that he had no licence to use it. By their other answers the jury found that the defendants were guilty of negligence in permitting sewage to escape from their sewer and that the plaintiff was not guilty of contributory negligence in permitting the contaminated water to be conducted to his tank as it was conducted; that the escape of the sewage was the sole cause of the outbreak of enteric fever; and that the outbreak would not have been prevented by reasonable care on the part of the plaintiff.

£500 Damages for Libelling a Medical Practitioner.

Two actions for libel brought by a medical practitioner against newspapers and arising out of the same facts were brought to a conclusion recently before Mr. Justice Darling in the King's Bench Division. In the first the defendants (Edward Lloyd, Limited, proprietors of the *Daily Chronicle*) apologised and settled the action by payment of £25, which they had already paid into court, together with £100 to cover the plaintiff's costs. In the second action the *Star* Newspaper Company, Limited, were the defendants, and evidence was called on behalf of the plaintiff before a settlement was arrived at by which the defendants agreed to pay to the plaintiff £500 damages, with costs as between solicitor and client. The facts with regard to which the two newspapers involved had published matter calculated to injure the plaintiff were of an unusual character and arose out of the crimes of the man Brinkley arrested in April, 1907, for the murder of Mr. and Mrs. Beck by poisoning and afterwards convicted and executed. It appears that when inquiry was instituted as to BRINKLEY'S antecedents it was found that towards the end of 1906 a woman named Bume, living at the house where he was subsequently arrested, had had a fit, and that the plaintiff, Mr. M. J. Williams, who had been called in to attend her, had found her already dead on his arrival. He had afterwards been asked by Brinkley to certify as to the cause of death but had naturally refused to do so and had given evidence at the inquest which followed after making a post-mortem examination by the coroner's order. The evidence which he gave was to the effect that the deceased died from apoplexy and the jury so found. As no question of foul play had arisen at the time of Mrs. Blume's death and as no special inquiry with a view to detect poison had taken place it was thought desirable when the deaths of Mr. and Mrs. Beck occurred to ascertain whether evidence of crime could be traced in the former case also, and by the order of the Home Secretary Mrs. Blume's body was exhumed

Finlayson would like to have had the examiners examined and see if they were really worth 100 per cent.

I shall now proceed to criticise my critic and see what percentage of *stress* and *strain* this *elastician* will stand before we come to the breaking point. I have no wish to *snap* him *abruptly* so I shall apply the *stress* gently.

He lays down a very rigid definition of *elasticity*, to which I offer no objection, though it is not one to which professional physicists closely adhere, as it enables me to see what he intends to mean. Of course, your readers, like myself, expect that having settled the matter according to his own ideas, he at least would stick to the definition which he has adopted—I say adopted because after all the definition is not his own. Let us see how his definition works out. He tells us that solid bodies like steel and ivory are much more *elastic* than even such perfectly *elastic* bodies as the various gases, but he forgets to say that the range of elasticity of those highly elastic bodies is very limited; if you exceed that extremely narrow limit you fracture or rupture or break the body, or you may give it a permanent *set*, so that it does not return to its original form. If you attach a certain weight to a steel wire sufficient to stretch it one-twentieth of an inch, then double the weight will stretch it one-tenth of an inch, but if you go on doubling you quickly exceed the limit of its elasticity, and the wire either *snaps* or takes a permanent *set* and will not return to its original length on the removal of the weight—you have exceeded the very narrow limit of elasticity in this highly elastic body. If you take the blade of a sword made of finely tempered steel you will find it much more elastic than the iron or steel from which it was made, yet, according to Dr. Samways, I presume this should not be, because he says "elasticity is a property fixed in amount for any substance." Again, if you take the sword and convert it into a large tube of the same length it again becomes rigid, and if you attempt to bend the tube the force required quickly breaks it. How is it that the great range of the sword's elasticity has practically disappeared? The molecules on the convex side of the attempted curve would now have a much longer way to move than previously, and when sufficient stress is put on to move them and manifest their elasticity those on the outer curve jump apart beyond the limits of their elasticity and the tube breaks. The same thing happens with such a highly elastic body as glass. This is all very nice but it does not fit in very well with medical ideas of elasticity as found in the human body. According to Dr. Samways' definition the ribs are much more elastic than the costal cartilages, the femur much more elastic than the ribs, and the more rigid the chest walls the more elastic do they become *as it takes a* greater force to produce any given deformation. An unyielding rope is more elastic than an extensile one; it is true that it snaps more readily, but what does Dr. Samways care for that when it requires more force to produce a given amount of stretch. "Rubber yields considerably to a small force and is therefore comparatively inelastic. It possesses the quality of elasticity to a striking degree but in a low measure." This last sentence is a distinct contradiction of terms; it is a misuse of the English language to say that anything that possesses a quality in a low measure has it in a striking or high degree. It is not a question of small quantity and high tension like the high frequency current, because it is just in the tension that the rubber is deficient.

Having some slight regard for your space I shall not diverge into a sidepath to discuss the unconscious cerebration of Dr. Samways' cat as she lay curled up and quietly asleep on the hearth dreaming of her far-off home, situated perhaps south-south-east by south from the hearth, and wondering when the potential energy of her limbs would become kinetic and enable her to speed her way through thick woods and devious paths unaided by a compass; nor shall I soliloquise on the dormant moral *qualities of his* untried gentleman or saint who, unlike an elastic body, does not require a double force to resist a double temptation. There may be some irreverent enough to suggest that *this gentleman is an imbecile or* a general paralytic. I know several men who would have no hesitation in writing a cheque for a sum much more than sufficient to pay off the National Debt; by such the temptation of a five-pound note is easily resisted. These may be, and no doubt are, very interesting psychological studies, but they have no more to do with elasticity than the moon has to do with green cheese.

When Dr. Samways says that I am "certainly in error" he simply means that I do not agree with his definition of elasticity, and under the circumstances I am very pleased to be in error. "This property of a substance," to which according to Dr. Samways *you* can neither add to nor take therefrom, "is measured quantitatively by the amount of force required to produce a given distortion in a given volume or unit of the substance." This is uncommonly like my statement, but perhaps not quite so well expressed, that the more taut or stretched the lung (of course, within the limits of its elasticity) the greater will be its elasticity or tendency to recover its form after being stretched. If a force of two pounds stretch a piece of rubber one inch, four pounds will stretch it two inches, and it will resist further stretching by a force of four pounds, and when the weights are removed it will recover its former dimensions by a force gradually tapering down from four pounds to nothing.

Now listen to what this critic says: "Its elasticity and tendency to recover cannot be measured by stretching; it was inherent in it and fixed in quantity from the first." Here he uses "elasticity" as an abstract quantity of the substance and he uses "*tendency to recover*" as absolutely synonymous, although I have just shown that it is a measureable force equal to the power to which it has been submitted. He might as well use potential and kinetic energy as synonymous terms, or mass and weight as one and the same thing. From experiments on tuning-forks it has been found that no matter how slightly or how closely the limbs are approached or how far they are separated it takes them the same time to recover their original position, and therefore it follows that the greater the force used the greater must be the tendency to recover. The vibrations of the tuning-fork from the greatest excursion down to silence all occupy the same time, so that with the diminution in the excursion the velocity is also *diminished*.

Here is another example of his way of reasoning: "In this way the negative pressure in the pleural sacs is created by muscular effort and not by elastic recoil of the lungs." He forgets that if the lungs were non-elastic and non-resistant but free to follow the movements of the chest-walls there would be no negative pressure in the pleural cavities. This is what practically happens in emphysema where the lungs have lost their elasticity and gradually expand until at last even the recoil of the chest walls is lost. "It would be even greater, as Dr. Campbell contends, if the lungs did not expand." In this case the inspiratory muscles would have to pull out unaided the thoracic walls against the atmospheric pressure, and this I believe they cannot do. "If the lungs be comparatively rigid the whole force of the inspiratory muscles can be expended on reducing the intrapleural pressure." For how long? The fractional part of a second; under such circumstances the lungs could only be taut at the end of inspiration, and relaxed during the rest of the respiratory phase. "One would have imagined that the elastic tissue would have arranged to be at rest when the thorax was at rest, but it strangely chooses, from birth onwards, never to assume the unstretched *condition*." Well, nature does not seem to have taught him much when he cannot see such obvious utility, and all I feel inclined to say is, thank God there was no amateur physicist present at the *Creation*.

If you allow this discussion to go on for about a couple of years I think we might settle the meaning of *elasticity*, if some new definition does not crop up in the meantime. Then I shall leave the rest of the English language to Dr. Campbell and Dr. Samways to settle, but I would take the liberty of suggesting to them that they might start with the distinctions between tweedledum and tweedledee which would serve as much practical utility as their contributions to elasticity.

I am, Sir, yours faithfully,

JAMES BARR.

Liverpool, Feb. 8th, 1908.

MINISTRY OF PUBLIC HEALTH.

To the Editor of THE LANCET.

SIR,—The article in the current number of THE LANCET on a Ministry of Public Health emphasises the crux of the position. It is quite a necessity that such a Minister should, in general terms, have greater powers for public health than at present exist, and equally so his influence be real with the Treasury. This is clearly recognised by myself and others in this country who take an active interest in the matter, such as Sir T. Clifford Allbutt. It is shown in articles dealing with the subject since 1902, in which it is which had been 154 and 190 in the two preceding weeks, further rose last week to 192; they caused annual death-rates equal to 2·1 in Sheffield, 2·2 in Birkenhead, 2·4 in Gateshead, 2·5 in Aston Manor and 2·9 in Warrington. The 73 deaths referred to diphtheria showed also a further increase upon the numbers in the two previous weeks, and included 21 in London, three in East Ham, four in Birmingham, two in Stockport, three each in Liverpool and in Manchester, nine in Salford, and three in Leeds. The deaths from measles, which had declined from 141 to 83 in the four preceding weeks, further fell last week to 71; this disease, however, caused death-rates equal to 1·3 in Preston, 1·4 in South Shields, and 1·5 in Burnley. The fatal cases both of diarrhœa and of scarlet fever showed a slight increase; the annual rate from the latter disease was equal to 1·5 in Smethwick and 1·6 in Walsall. The deaths from "fever" were again below the average, but included six in Liverpool and three in Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the nine preceding weeks from 5581 to 3916, had further fallen to 3367 on Feb. 8th; during the week ending on that day 433 new cases were, however, admitted to these hospitals, against 380 and 405 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 499, 455, and 432 in the three preceding weeks, further declined during the week under notice to 395, but exceeded by 27 the corrected average number in the corresponding week of the five years 1903–07. The causes of 51, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 46 smaller towns. Seven uncertified causes of death were, however, registered last week in Liverpool and five each in Birmingham, Sheffield, and Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 22·2 and 22·3 per 1000 in the two preceding weeks, further rose to 23·5 in the week ending Feb. 8th, and exceeded by no less than 5·2 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 16·3 and 21·4 in Perth and Aberdeen to 25·4 in Dundee and 31·4 in Leith. The 827 deaths in these eight towns exceeded by 42 the number returned in the previous week, and included 132 which were referred to the principal epidemic diseases, against 158, 142, and 123 in the three preceding weeks; of these, 64 resulted from measles, 32 from whooping-cough, 14 from diarrhœa, 12 from "fever," five from diphtheria, three from scarlet fever, and two from small-pox. These 132 deaths were equal to an annual rate of 3·7 per 1000, which exceeded by no less than 2·3 the mean rate last week from the same diseases in the 76 English towns. The 64 fatal cases of measles corresponded with the number in the previous week, and included 55 in Glasgow, three in Greenock, and two in Dundee. The 32 deaths from whooping-cough exceeded the number in the previous week by six; nine occurred in Glasgow, eight in Edinburgh, six in Leith, and three in Dundee. Of the 14 deaths attributed to diarrhœa, seven were returned in Glasgow, three in Dundee, and two in Aberdeen. Of the 12 deaths referred to "fever," seven were certified as cerebro-spinal meningitis and five as enteric fever; these 12 deaths included seven in Glasgow and four in Dundee. Three of the five fatal cases of diphtheria and two of the three of scarlet fever were returned in Glasgow. Both of the fatal cases of small-pox occurred in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 178 and 179 in the two preceding weeks, declined to 171 in the week under notice, and were seven below the number from the same diseases in the corresponding week of last year. The causes of 22, or 2·7 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 31·2, 29·5, and 25·5 per 1000 in the three preceding weeks, further declined to 22·3 in the week ending Feb. 8th. During the first six weeks of the current quarter the death-rate in the city averaged, however, 26·7 per 1000, whereas the mean rate during the same period did not exceed 16·0 in London and 19·5 in Edinburgh. The 169 deaths of Dublin residents registered last week showed a further decline of 24 from the high numbers in recent weeks, and included but four which were referred to the principal epidemic diseases, against nine and six in the two preceding weeks; these four deaths included two from "fever" and one each from measles and whooping-cough, no death being registered either from scarlet fever, diphtheria, small-pox, or diarrhœa. These four deaths from epidemic diseases were equal to an annual rate of 0·5 per 1000, the death-rate from the same diseases last week being 1·3 in London and 1·5 in Edinburgh. The 169 deaths from all causes in the city last week included 19 of infants under one year of age and 70 of persons aged upwards of 60 years; the deaths of infants showed a marked decline, but those of elderly persons were again exceptionally numerous. Six inquest cases and four deaths from violence were registered during the week, and 64, or 38·0 per cent., of the deaths occurred in public institutions. The causes of five, or 3·0 per cent., of the deaths in the city last week were not certified; in London the causes of all but three of the 1629 deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 2·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon R. Miller to the *President* for Deptford Yard.

ARMY MEDICAL SERVICE.

Colonel John F. Williamson, C.B., C.M.G., is placed on retired pay (dated Feb. 6th, 1908).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated Jan. 29th, 1908):—Anthony H. Waring, William A. Ward, Edward W. W. Cochrane, Arthur H. Morris, Samuel A. Archer, and Robert W. Clements.

Captain John I. W. Morris retires, receiving a gratuity (dated Feb. 8th, 1908).

Lieutenant Charles P. Thomson is seconded for service with the Egyptian Government (dated Jan. 1st, 1908).

Major F. G. Faichnie has taken up duty in the London District and Lieutenant E. De la Cour has left for India. Lieutenant-Colonel W. G. Birrell has embarked for Mauritius.

The undermentioned Lieutenants are confirmed in that rank:—Winfrid K. Beaman, George F. Dawson, Thomas McC. Phillips, Harry V. B. Byatt, Harold S. Dickson, Gerald Petit, Forbes J. Stuart, John B. Hanafin, Harold Gibson, William P. O'Farrell, John A. Renshaw, Ralph de V. King, Cecil T. Conyngham, Dalziel B. McGrigor, Richard G. S. Gregg, William A. Spong, Herbert W. Carson, Henry P. Hart, Francis T. Dowling, Richard F. O'T. Dickinson, Harold T. Treves, Arthur E. B. Jones, Benjamin A. Odlum, and Alexander Hendry.

ROYAL ARMY MEDICAL COLLEGE.

Colonel Douglas Wardrop to be Commandant and Director of Studies, vice Lieutenant-Colonel H. E. R. James, R.A.M.C. (dated Feb. 4th, 1908).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Charles G. Maclagan to be Surgeon-Major (dated Jan. 29th, 1908).

VOLUNTEER CORPS.

Rifle: 7th Volunteer Battalion, The Royal Scots (Lothian Regiment): Supernumerary Surgeon-Lieutenant-Colonel J. B. Ronaldson (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, 2nd Lothian Volunteer Infantry Brigade) is granted the honorary rank of Surgeon-Colonel (dated Jan. 20th, 1908). 5th (Glasgow Highland) Volunteer Battalion, The Highland Light Infantry; Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Q. Chalmers resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Jan. 21st, 1908).

doubtful, however, whether the most skilful œsophagoscopist would have had success in the case quoted owing to the infant's size and age, but it is comforting to know that if he fails intestinal peristalsis with the patient in the recumbent posture may successfully remove the offending body without having recourse to a cutting operation.

I am, Sir, yours faithfully,

Oldham, Feb. 2nd, 1908. J. S. MANSON.

IS THE DEATH-RATE THE BEST MEASURE OF SEVERITY IN DISEASE?

To the Editor of THE LANCET.

SIR,—May I ask you to insert the following correction in my article published in your last number under the above title? In Table II. the grand total should be 1823·8, not 183·8. I am, Sir, yours faithfully,

New Cross-road, S.E., Feb. 11th, 1908. F. M. TURNER.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The Memorandum of the Education Board on the Medical Inspection of School Children recommends that it shall be carried out "under the direct supervision of the medical officer of health," and goes on to say that "some authorities will find that the teachers are able to undertake without undue strain a share of the work of furnishing data respecting each child and even perhaps to carry out some portion of the inspection." As a matter of fact, the teachers, with the aid of a school nurse, could carry out the whole inspection after a fashion; the teacher could fill in the names, ages, addresses, heights, and weights of the children, and could test their sight and hearing; the nurse could inspect their skins, teeth, and throats. Finally, to the children found defective the head master or mistress could give cards advising their parents to take the child to an oculist, dentist, aurist, or, if it is thought he could be trusted, to an ordinary doctor.

But the Memorandum does not stop at inspection, but goes on to say that school nurses are "to assist in carrying out medical advice concerning simple complaints"; similarly the medical officer (education) of the London County Council tells us in his report that "it is quite absurd to say a nurse cannot recognise ringworm." It is; a nurse can do anything she is trained to; woman doctors recognise and treat all diseases, and what makes the woman doctor is not the degree but the training before and after graduation. Nurses could therefore treat cases under the supervision of the medical officer of health. That they should do so is, I submit, absolutely wrong; it is as if in a hospital the surgeons and house surgeons were abolished and the surgical cases treated by the nurses under the supervision of the sanitary engineer. Local authorities themselves do not seem quite to approve of nurse treatment and are beginning to appoint junior members of the profession to hold office for a year or two as assistants to the medical officer of health, primarily to inspect school children, but also to discharge any other duty their chief may delegate to them. But this, too, is wrong; the treatment of disease is not a minor matter, one to be safely left to medical underlings and "suitable persons"; the treatment doctor must remain the equal of the more recently invented preventive doctor. To separate simple ailments from complex is impossible; the man who never sees a simple case will not understand a complex one; the profession cannot survive the confiscation of its experience.

Whether or not there should be State treatment is a matter on which opinions will differ; it will be decided not by us but by education authorities; we, however, can share in the decision by our votes and by becoming members of local councils and of health and education committees. If State treatment is to come it must be properly carried out; there will probably be no question between whole- and part-time appointments, for there will be no work left for doctors to do in their own time; private practitioners may read their fate in that of private teachers; voluntary hospitals in that of voluntary schools.

I am much obliged to "A Lawyer" for his answers to my former questions.[1] If his kindness is not exhausted I should like to ask one more. If a medical officer of health supervises the treatment of simple ailments by a school nurse is he liable to actions for malpraxis; and can the General Medical Council remove his name from the Register for covering? If this is done can he continue to hold his office? I am, Sir, yours faithfully,

Feb. 8th, 1908. J. S.

THE DESTINY OF CASE-BOOKS.

To the Editor of THE LANCET.

SIR,—I had an experience quite as unpleasant as that related by your correspondent "M.R.C.S." concerning the destiny of case-books. Some years ago I consulted a West-End specialist. I knew him pretty well and he showed me his case-book then in use, and for my comfort explained that it was written in a shorthand invented by himself. A few months later this physician died and I received an envelope which contained a letter from his widow stating that she had disposed of the practice to Dr. X. There was another letter from Dr. X explaining that he had purchased the practice and had all the case-books of the deceased consultant. Remembering that the case-books were in cypher I hoped they would be useless; their proper destination was certainly the fire. The first doctor was a gynæcologist.

I am, Sir, yours faithfully,

Feb. 8th, 1908. DOMINA.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Royal Infirmary: Annual Meeting; The Position of the Abattoirs.

THE annual meeting of the subscribers to the Royal Infirmary was held on Jan. 29th. Allusion was made by the treasurer in flattering terms to the retirement of Mr. Rushton Parker from the active staff. Mr. Parker had had a connexion of 30 years with the Royal Infirmary. For 12 years as assistant surgeon and 18 years as honorary surgeon he concentrated his care and attention on the hospital to which he unsparingly devoted his best ability and time. Beds had been endowed during the year by Miss A. W. Hignett, Mr. James Lister, and Mr. Bruce Ismay in memory of their parents. The contribution from the Hospital Sunday and Saturday Funds had been £3378. Legacies, always a varying source of income, amounted to £1246. The total expenditure was £16,208 and the ordinary income was £14,034. On balance, £2600 having been transferred from the long-lived but now nearly exhausted maintenance fund, the charity was still in debt to the amount of £2335, and the convalescent fund was in debt to the extent of £164. 3875 patients had been treated in the wards, 20,434 as out-patients, and for redressing of wounds, &c., 52,082 had attended. The Lord Mayor (Dr. Richard Caton), in proposing the adoption of the report and accounts, said that he trusted that such charities as the Royal Infirmary would not, as some people thought, be placed upon the rates. The present method of hospital governance was infinitely better than anything that could take its place in the form of State-aided hospitals. He trusted that they would do everything in their power to carry on that and other hospitals on their present basis. He regretted to find that the committee was in debt as regarded the convalescent fund, as that was such an important matter which led to the relief of their bed accommodation. Mr. T. H. Bickerton alluded to the question of the possibility of the renewal of the lease of the abattoirs in their present position near the infirmary. He expressed the hope that the corporation would not on any account consent to the renewal of the lease. The Liverpool Medical Institution had prepared a resolution to which some 200 to 250 medical men had attached their signatures, which would be sent to the Lord Mayor for presentation to the city council. He hoped that the city would confirm the opinion of the medical profession that abattoirs should not be allowed to remain in densely populated centres. Mr. G. G. Hamilton said that his operating theatre in the infirmary was only at a short distance from the abattoirs, and he joined in the hope that the lease would not be renewed. Several times he had had to stop surgical operations to get rid of flies which were now recognised as such a medium for spreading disease. If it were proved that the flies had a materially affect their pressure against the internal surface of the thoracic parietes, but if the lungs were not elastic and free to move with the thoracic parietes even this great pressure could not keep the lungs taut and there could be no intrapleural negative pressure. We are therefore forcibly driven to the conclusion that at least healthy lungs can only be kept *taut* by their elasticity. If the lungs were non-elastic and braced up from root to parietes, then each time the intrapulmonary pressure exceeded the extrathoracic atmospheric pressure the lungs would cease to be *taut*, and this would occur with every expiration. In this case the lungs would be *taut* at the end of inspiration and during this fractional part of a second would render respiratory assistance to the circulation, but during the rest of the respiratory phase there would be a positive obstruction to the circulation. With an *intermittent* tension or stress the *tautness* of the lungs can only be *continuously* maintained if they be elastic.

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[1] THE LANCET, Jan. 4th, 1908, p. 51.

Third.—He falls foul of his quondam friend, Dr. D. W. Samways, for failing to recognise his nice distinction between the tautness of the lungs and the elasticity which keeps them taut. "Let us for argument's sake suppose the lungs in the case in question suddenly to be rendered perfectly non-elastic, their tautness, however, remaining unaltered." He really upsets my gravity, and I would suggest to him that a much neater way of putting it would be, suppose we suppose an impossibility. If a stretched piece of rubber suddenly lost its elasticity, would it remain taut? I trow not. I have often seen rubber lose its elasticity but I have never afterwards seen it remain taut. With a constant weight attached to a piece of fibroid tissue it might remain tense, but with an intermittent stress such as occurs in respiration it could not continue *taut*.

Fourth.—He refers to the experiments of Valsalva and Müller which, I think, were much more fully explained in my paper on the Effects of Respiration on the Circulation in the *British Medical Journal*, April 20th, 1907. In his statement of the Valsalva experiment there is nothing new but in Müller's experiment he says what is not true: "If at the end of a deep expiration, when the pulmonary tissue is relaxed and the lungs cease to exercise traction, a powerful inspiratory effort be made with closed glottis, the greatly lowered intrapulmonary pressure thus effected will give rise to considerable traction." At the end of deep expiration the pulmonary tissue is not relaxed and the lungs do not cease to exercise traction. In this experiment a big chest, like Dr. Campbell's, might produce a fall in the intrapulmonary pressure of 80 millimetres of mercury, which would reduce the intrapulmonary pressure from 760 to 680 millimetres of mercury. The elasticity of the lungs being a constant can be neglected, and, moreover, we are not at present considering the intrapleural or intrathoracic pressure. It is ridiculous to say that 680 millimetres of mercury can make the lungs more taut than 760 could. This great fall in the intrapulmonary, and consequently in the intrathoracic, pressure makes an enormous difference to the blood-vascular cavity within and without the thorax, so the blood is driven in, not sucked in, with a force of 80 millimetres of mercury *plus* the elasticity of the lungs. It is really painful to me to have to point out such palpable errors.

Fifth.—"Hypertrophous emphysema" is a misnomer. Hypertrophy means increased nutrition and increased function, there is neither in emphysema. "The inspiratory muscles are throughout life ever on the watch to maintain pulmonary tautness at a certain mean level, with the object of maintaining a constant suction on the heart, and thus facilitating diastole," &c. So far as the inspiratory muscles, which only act intermittently, are concerned they can only maintain tautness at the end of inspiration and apart from the elasticity of the lungs can maintain no constant suction. David Barry at the beginning of last century did not, and could not, fall into such egregious error. It would be a great waste of time and space to follow his suppositions about what happens, or should happen, in cases of "hypertrophous emphysema." It is sufficient to say that as the elasticity of the lungs disappears so the intrapleural and intrathoracic negative pressures gradually lessen.

Sixth.—Now for his fibroid phthisis. "If the lungs are not taut, and if pulmonary traction is not increased, how are we to account for the sinking in of the upper part of the chest not infrequently met with in chronic phthisis, as well as in the more acute form of the disease?" Has he never seen the chest walls caved in by the atmospheric pressure in a child suffering from laryngeal diphtheria? This condition simply proves that the inspiratory muscles are quite incapable of expanding the chest beyond the expansile power of the lungs. The infraclavicular spaces may get flattened whether there be many adhesions or not. The fibroid apices do not drag in the chest walls, but being non-elastic they take no part in filling up the thorax during inspiration; the remaining elastic portions increase the *negative pressure in the whole thorax* during inspiration, and consequently the portions of the chest over the non-expansile portions of the lungs are flattened in, not dragged in; in the acute forms of the disease there are no adhesions to drag them in.

Seventh.—This paragraph is entirely made up of suppositions without an attempt to prove any of them.

Eighth.—There is here and elsewhere a little assumption at not understanding what I mean. I can assure him once for all that when I say intrapleural I mean intrapleural, intrathoracic I mean intrathoracic, and intrapulmonary I mean intrapulmonary, and I am not going to assume that there is any one of your readers who does not know as well as Dr. Campbell the difference in these expressions. The rest of the paragraph is chiefly made up of irrelevant remarks about Müller's and Valsalva's experiments. The conditions of these experiments are well known. I have previously shown that in Valsalva's experiment the intrapulmonary pressure can be raised so high as not only to abolish the intrapleural negative pressure but raise the intrathoracic pressure to such a *positive height as to shut out the blood from the chest*, reduce the heart to about half its size, and almost bring it to a standstill. In this experiment the lungs are made *very taut* under a pressure of about 860 millimetres of mercury. What, then, is the use of talking about the *suction* of the chest depending on the *tautness* of the lungs?

Ninth.—He is driven to very narrow straits when he says: "I neglect to mention bronchiectasis and the enlargement of tubercular cavities as a means of filling up enlarged chests in cases of fibroid lungs." Emphysema still remains the principal cause.

Tenth.—Here he entirely begs the question when he says: "In so far as the bulbous condition of the fingers in fibroid phthisis is due to obstructed circulation it results from the widespread destruction of the pulmonary blood-vessels." It does not matter how many blood-vessels were destroyed, if *his taut lungs constantly maintained a negative intrathoracic pressure there could be no obstruction to the systemic venous circulation and there should be no bulbous fingers.*

Eleventh.—He tries to wriggle out of this close corner by saying that I refer to "non-elastic lungs" and he to "*comparatively* non-elastic lungs." This is a degree of comparison which in no way affects his bubble which I pricked.

Twelfth.—He does me the credit of quoting a very long abstract from my letter which is sufficiently explicit and which he vainly tries to subvert. Now the inspiratory muscles are "just competent to expand the chest to its potential maximum, as may be observed in advanced cases of hypertrophous emphysema." In these cases the lungs lose their elasticity, consequently they cease to be taut, and the *intrapleural negative pressure diminishes or disappears.*

Thirteenth.—In conclusion he hopes that "the energy expended may not be entirely lost on Sir James Barr." Well, it all depends on how you look at it; personally, I think he has wasted a lot of my valuable time over a trivial storm in a teapot. The only consolation I have is that I may have stimulated some of your readers to study the question of elasticity as applied to the lungs, and may have prevented them falling into the traps of error set for them by Dr. Harry Campbell. Consolation prizes are not, as a rule, very valuable, so if he wish my forgiveness he should send me a cheque for not less than 100 guineas.

I must now deal with the letter of Dr. Samways in your issue of Jan. 25th.

Dr. Samways intrudes as an uninvited guest to this feast of reason and flow of soul in order to set both Dr. Harry Campbell and myself right. I am always willing, nay, anxious, to learn, but in order that my knowledge may be based on a firm foundation I must inquire into the quality of the instruction and the capacity of the instructor. As my old friend, the late James Finlayson, said about examiners, that the first part of their work was to mark themselves up 100 per cent., and then accordingly, as they thought that the examinee approached their ideal standard of perfection they gave him anywhere between 80 and 100 per cent., but Dr.

and Dr. W. T. Ritchie, Mr. Henry Wade, and Dr. W. E. Carnegie Dickson were reappointed to the pathological department for one year. These latter appointments are carried on from year to year.

Edinburgh Royal Medical Society.

The annual dinner of this society was held on Feb. 5th, the chair being occupied by the senior president, Dr. A. C. B. McMurtrie. Mr. Jonathan Hutchinson was the guest of the evening. The toast of the guest was proposed by the chairman and in his reply the former advised the members to keep the dreams of youth before them and to increase their zeal in medical pursuits as life advanced. In proposing the toast of the society Mr. Hutchinson spoke of the unsatisfactory character of examinations and threw out some novel ideas as to how they might be improved. A number of invited guests had been unable to accept the invitation to be present owing to other engagements. In fact, this dinner clashed, unfortunately, with at least three other medical meetings.

Edinburgh Indian Students Association.

The annual dinner of this association was held on Feb. 6th. Lord Salvesen was the chief guest and in his hands was placed the toast of "India and the Edinburgh Indian Association." Several of the University professors were also present. The proceedings passed off most creditably to the student organisers.

Honour to Dr. J. O. Affleck.

Many of the old students of clinical medicine in the Edinburgh Royal Infirmary will be pleased to know that the University of Edinburgh is to confer on Dr. J. O. Affleck the honorary degree of LL.D.

The Vacant Regius Chairs in Edinburgh and Glasgow.

The filling of both the chair of clinical surgery in Edinburgh and of that of practice of medicine in Glasgow is in the hands of the Secretary for Scotland. With regard to the first of these there are several local applicants; indeed, all the members of the senior surgical staff in the infirmary and two or three outside surgeons are spoken of. With regard to the Glasgow chair it is understood that in addition to applicants from Glasgow there will probably be at least two or three from Edinburgh. There are, of course, many surmises but there is no trustworthy information.

The Royal Hospital for Sick Children, Glasgow.

The twenty-fifth annual report of this hospital has just been issued and forms very interesting reading. Three years after the hospital was opened the number of cases treated per annum was 300, now it is 11,000. Three years after the dispensary was opened the attendance there was 5000 per annum, now it is 11,000 per annum. The average daily number under treatment in the wards of the hospital during the past year was 67·1 and the average duration of residence was 23·83 days. The country branch at Drumchapel has proved a most valuable extension of the hospital. The wards there have always been full and many more than the regulation number of 26 cots could easily have been utilised. In connexion with the work at the dispensary, also, it is noted that the resident sisters and nurses visited at their own homes 431 cases which could not be taken to the dispensary. The ordinary income for the year was £6819, as compared with £6469 in the previous year. The ordinary expenditure was: hospital, £4995; country branch, £1497; and dispensary, £1369. This leaves a deficit of £1042. The report refers to the movement that has been inaugurated for the raising of money for the rebuilding of the hospital on a more suitable site, as, apart from the lack of accommodation in the hospital itself, the present site is now crowded with buildings, surrounded by high tenements, and is next door to a veterinary college where diseased animals are treated. The directors last year drew up a statement of the needs of the hospital and issued an appeal for £100,000 to enable them in the first place to build a hospital to contain from 200 to 250 cots on a site in Glasgow where the children will get the maximum of fresh air and sunshine, and secondly, to extend materially the hospital accommodation in the country. As a result of this appeal at the close of the year the subscriptions totalled £60,000, of which sum £4500 were raised by a "shilling fund" started by the proprietors of the *Glasgow Evening News*. At the present time the directors are negotiating for a suitable site.

Interesting "Milk" Prosecutions.

In view of the present outbreak of enteric fever in Glasgow and Partick two interesting prosecutions took place in Partick police-court recently. The accused were both dairymen in the burgh and the charge against them was that of allowing the message boys on their respective milk carts to sit upon vessels used for the purpose of carrying milk. This constitutes a contravention of a section of the burgh regulations, which is to the effect that no person should rest his body on vessels used for holding milk. The defence in both cases was that the vessels were empty at the time and would have been scalded before being used again. In both cases it was held that the by-law had been contravened, but the defendants were dismissed with an admonition.

Dumfries and Galloway Infirmary.

The report for the past year states that 788 in-patients were dealt with, which constituted a record for the hospital. The ordinary income amounted to £3419 and the ordinary expenditure to £4216, showing a deficiency of £967, but, on the other hand, legacies were received during the year to the extent of £3000. At the annual meeting a protracted discussion took place with regard to a complaint that a patient had been sent into the hospital and carried from the ambulance to the operating theatre where he was operated on without any diagnosis and that he died in consequence. It was decided that there was no ground for complaint.

The Epidemic of Enteric Fever at Peterhead: Professor M. Hay's Report.

On Feb. 3rd, at a meeting of the Peterhead town council, Professor Hay's report on the epidemic of enteric fever was considered. The report is of considerable length and deals largely with the rise and spread of the epidemic. He notes at the outset that the situation of Peterhead, built on a headland with a considerable slope seaward, is favourable to a good system of drainage; but some of the drains are of the old-fashioned rubble-built type, and some of them are carried along streets parallel to the shore, thus losing the necessary slope that would render them self-cleansing. Also, while the newer buildings are provided with modern and efficient sanitary arrangements, many of the older houses have antiquated and even dangerous drainage arrangements and prove the need of the more strenuous enforcement of the Public Health Act. As regards the outlet of the town's sewage, the principal sewer south of the harbour does not seem to be carried sufficiently far out to sea, as there is a strong and nauseating odour in its vicinity. With regard to the water-supply Professor Hay remarks that, both from the inspection of the wells or springs and from chemical and bacteriological examination, the water was largely of the order of ordinary field-drain or subsoil water; also that at the beginning of the epidemic the water was open at many points to pollution. Much of the water was surface water from cultivated fields liable to manuring and there was no provision for filtering it. This danger was increased by the use of the town's refuse as manure. On Professor Hay's recommendation the sale of all refuse for manure was stopped to farms within the water-gathering areas and to dairy farms. With regard to the origin of the epidemic Professor Hay is of opinion that it was started by milk infection which planted a large number of cases throughout the town and that it was kept going mainly, if not wholly, through contact infection. The cases occurring in spots or patches favour this view, in contra-distinction to cases occurring in diffused areas, as would have been the case had the epidemic been started by water infection. He then proceeds to show that the further progress of the epidemic and the distribution of the cases were against the supposition that the water became infected, at least to any degree. He does not, however, defend the state of the water-supply which he thinks bad and in pressing need of reform. He afterwards goes on to specify what ought to be done to prevent a recrudescence, such as promptly notifying suspicious cases, having recourse to the Widal and other blood tests in obscure cases, examining any old cases with any suspicion of infectivity, getting rid of all obsolete and insanitary arrangements such as ashpits, and the stoppage of supplying domestic or ashpit refuse to dairy farms or farms within the gathering grounds of the water-supply for a year or two until enteric fever shall be stamped out.

Feb. 11th.

reasoned that such a Minister should have Cabinet rank and, if possible, have had an expert training.[1]

Surgeon-General Fulton writes that this question, which I propose to bring before the Congress on Tuberculosis at Washington, is engaging the attention of the American Public Health Association, which has appointed a standing committee, representing the United States, Canada, and Mexico, to promote such departments. Its next meeting will be at Winnipeg in the summer. That the various bodies in this country interested in public health will follow this lead I feel certain, and there is no time like the present for their action. I am, Sir, yours faithfully,

Brighton, Feb. 8th, 1903. F. G. BUSHNELL.

THE QUESTION OF HOODS.

To the Editor of THE LANCET.

SIR,—I noticed in the report of the quarterly meeting of the Council of the Royal College of Surgeons of England that the Council refused to accede to the fifth request of the meeting of Fellows and Members—viz., "That a hood should be added to the gown already worn by Fellows and Members." I consider the excuses very lame.

Firstly, "as the hood was generally understood to be distinctive of a degree, and in this sense it formed part of the academic costume of a university, it was considered that it would not be appropriate for a *college*." The *College* of Preceptors grants hoods to its Fellows and Licentiates; King's *College*, London, grants a hood to its Associates (A.K.C.); the *College* of Organists grants a hood to its Fellows; and all theological *colleges* grant hoods to their Licentiates who are not graduates of a university (*vide* "Whitaker's Almanack").

Secondly, "as hoods did not appear to be in general use among colleges of similar standing to the Royal College of Surgeons of England." The Council forgets that it was the *first* to grant a cap and gown to its Fellows and Members and was followed by the Royal Colleges of Surgeons of Ireland and Edinburgh and the Society of Apothecaries. So as the Council of the Royal College of Surgeons of England was the *leader* in the gown, so it should be in the hood.

I would suggest that the hoods be: for Fellows, the same shape as a Cambridge M.A. but made of crimson satin lined black; for Members, the same shape but made of black stuff lined with crimson satin.

I am, Sir, yours faithfully,

Feb. 7th, 1903. J. M. CARVELL.

To the Editor of THE LANCET.

SIR,—The present Council of the Royal College of Surgeons has thought fit to reject the resolution of the annual general meeting of Fellows and Members to grant a hood to its alumni. No credit can attach to it for the temporary delay of this obvious and advantageous adjustment, and especially as it only bases the objection to it on the want of precedence. Graduates of the Royal *College of Surgeons* have quite as much right to claim, and have often shown, their equality of attainments to those of many of the arts and professional degree holders, and with them equally to lay claim to possess the distinction of a hood.

Although the medical colleges in London have not yet taken up teaching, they, as of old tradition, belong to a university standard, and which has been almost always an antecedent in the history of the past formation of all universities. They belonged to a heightened status, and, provisionally, on a level with a university. From that position the Newcastle College of Medicine, the old College of Physicians before the decadence, the Liverpool University College, Owens College, Firth College, and other Midland colleges have all been on a sufficient equality and superiority to bestow the right, or *ad eundem* right, to grant hoods to their diploma or degree holders. So, although we do not so foolishly set such store as *the lawyers* do on perpetual precedence, still there undoubtedly is precedence for this reasonable accomplishment of possessing a hood by the Royal College of Surgeons, and in spite of whatever the Council chooses to say against me.

When supporting my resolution for a hood at the annual meeting, I spoke on what I thought was the origin of the hood. I think masters or teachers were the first ones to wear them, as early as the middle ages, in colleges as well as in universities. Surely, then, the old surgeons were exactly in that same position. For they, even more than the physicians or the university men, were called upon as masters and teachers to fully instruct professionally their students and their apprentices. But these masters of their craft on being formed into a college aimed at, and took, by their constitution, a much higher position still. Likewise when the physicians formed themselves into the self-same higher collegiate position, they all wore hoods. Indeed, Charles II.'s mandate of 1674, and onwards, forced upon the members the university grade, and which thus constituted the collegiate position. So the pronouncement of the present Council of the Royal College of Surgeons cannot rest justly on its negative argument.

The surgeons, as separate from the ancient illegitimate practitioners, had always been at the head of the profession, above the grocers, above the apothecaries, above the barbour-surgeons, and above any of the universities in their own art and craft, though for convenience they have joined one or other of those bodies. Thus, from a business point of view, it is ill grace enough for the Council to indulge what seems a perpetual neglect discriminately against the body of the College; whilst benefits and privileges keep on accruing more and more to outside opponent bodies, and very much to the detriment of its members. That is why I have traversed its statements, and wish it to acquiesce in the general needs of the situation. For it must be apparent if it accepted fresh control, by both Fellows and Members together, there would be an end to any of the antiquated subservience amongst such an educated body of members where they remain unable to ratify their own resolutions. Reference has been made above to the collegiate status of the physicians which justified the equivalent usage with the university of the hood. The only other medical body in London to search for any corresponding trace of conformity would be the Society of Apothecaries. And, by Mr. C. R. B. Barrett, it is recorded, in 1696, that the Livery of the Apothecaries, when the King (William III.) made a public procession, were in their allotted place, and they wore both gowns and hoods.

Again, quite outside the amply sufficient medical references, there do happen to be confirmatory precedents for granting a hood. Of course, the Royal College and Academy of Music are merely scholastic or training institutions and having certificates, and on that account they purposely remained unmentioned in my speech. But, besides music guilds containing graduates, both the College of Preceptors and the Royal College of Organists *have* attempted, in London, to satisfy the university standards as colleges by giving a higher grade of diploma when such colleges have existed without a practical university. These bodies were consequently specially singled out by me and mentioned as precedents. And I have their regulations actually by me and where they certainly do grant hoods. So, except for the consummate ease of criticism and *opposition which* is unworthy of attack, I hold that the Council of the Royal College of Surgeons had no justification whatever to issue its inappropriate *démenti*. At the time of the meeting, as now, I wished to suggest an improvement of the present *incomplete* academic dress of the College. If there are to be academicals at all they should have a hood attached, and not, as without the hood, liable to be mistaken by the public for the cloth garment of a verger or even that of the undergraduate status.—I am, Sir, yours faithfully,

Bognor, Feb. 8th, 1903. H. ELLIOT-BLAKE.

REMOVAL OF AN OPEN SAFETY-PIN FROM THE ŒSOPHAGUS OF AN INFANT.

To the Editor of THE LANCET.

SIR,—Dr. D. R. Paterson's case and comments in your issue of Feb. 1st are interesting and instructive. Certainly the most rational plan in removing foreign bodies from the food- and air-passages is that which removes them through the mouth by a skilful grasp and help from the eye. This plan, however, except in the most simple cases, must, in the nature of ordinary practice, be confined to specialists. I was interested in Dr. Paterson's article in the *British Medical Journal* on œsophagoscopy, but did not practise it, there being no instruments available. I shall, however, take his advice and attempt the experiment at the first opportunity. I am couples then becomes higher. Professor Senator has observed 516 married couples of whom either the husband or the wife, or both, were diabetic. The latter event happened in 18 instances (i.e., 3·5 per cent.), and taking only those couples who had been married from six months to one year the proportion rose to 4·1 per cent. Some of the cases were hereditary, but even 4·1 per cent. was not a proportion sufficiently high to make a communication likely. Some rather striking instances of communication have, however, been recorded, such as that of a washerwoman who had washed the linen of diabetic patients and that of a surgeon who had performed an amputation on a diabetic patient. Some pathologists have produced diabetes in animals by the inoculation of diabetic urine; experiments of this kind which Professor Senator had made were unsuccessful, but he nevertheless was of opinion that a communication of the disease might happen in certain favourable circumstances. In the discussion Dr. Neumann said that among 108 diabetic patients whom he had observed there was only one married couple. Dr. Albu said that he had found diabetes in two married couples, but in one of them the disease was hereditary and in the other it was caused by cancer of the pancreas. Professor Ewald said that in 120 cases he had not seen a single instance of *diabetes conjugalis*.

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[1] See The Evolution of our Sanitary Institutions: a Plea for a Minister of Public Health, [illegible], to be obtained from the Sanitary Publishing Co., 5, Fetter-lane, London, E.C.

The Congress of Internal Medicine.

The Twenty-eighth Congress of Internal Medicine will meet this year in Vienna from April 6th to 9th, Professor Müller of Munich being in the chair. The official subjects of discussion will be as follows: (1) the Relations between the Genital Organs of Women and Internal Diseases, to be introduced by Professor von Rosthorn of Heidelberg and Dr. Lenhartz of Hamburg; and (2) New Methods of Examining the Function of the Intestines, to be introduced by Professor Schmidt of Halle. The other addresses the titles of which have been announced include one on the Present State of the Pathology and Treatment of Syphilis by Professor Neisser of Breslau and one on the Quantity and the Distribution of the Blood in Anæmia by Dr. Morawitz of Heidelberg. Visitors wishing to take part in the proceedings should make application to the general secretary, Dr. Pfeiffer of Wiesbaden.

Precocious Menstruation.

Professor Stoeltzner of Halle has described in the *Medicinische Klinik* the case of a child who began to menstruate when in her second year. She was two years and ten months old and had menstruated several times, the intervals being at first eight weeks and afterwards five weeks. She had well-developed mammæ and a large vulva. Her height was 102 centimetres and her weight was 19·5 kilogrammes, which corresponded to the weight of a child aged from five to six years. She was originally quite normal and at birth weighed 3·2 kilogrammes. She had her first tooth when six months old and could walk at the age of one year and two months. Precocious puberty has been described by some writers as a symptom of a morbid condition of other organs, such as malignant adenoma of a suprarenal gland or intracranial disease. In cases where precocious puberty was associated with menstruation a pathological condition of the ovaries was very likely to exist. Ovules were discharged as in normal menstruation and such children have been known to become pregnant. Children who presented this abnormality ought to be kept under observation, as malignant growths might develop in the ovaries.

The Serum Treatment of Scarlet Fever.

Dr. Pulawski of Radziejov, writing in the *Deutsche Medizinische Wochenschrift*, reports the results obtained in scarlet fever by the subcutaneous injection of serum which was produced by the inoculation of horses with streptococci cultivated from the blood of severe cases of scarlet fever. Of 35 severe cases treated with this serum 28 per cent. died, whereas of 28 severe cases treated without the serum 71 per cent. died. The serum proved to be quite innocuous and did not cause any undesirable symptom beyond a slight urticaria. Among the patients treated with serum there were ten deaths; these cases had, however, from the first been regarded as hopeless. In the remaining cases favourable action of the serum was shown by the rapid development and shortened duration of the exanthem, by mitigation of the grave symptoms, and by a quicker convalescence. It is probable that the serum protects the patients against complications such as otitis, lymphadenitis, and nephritis. In two cases complicated by diphtheria the joint administration of scarlet fever serum and diphtheria serum was useful.

Feb. 10th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

"La Ginecologia Moderna."

ITALIANS, according to Italy's greatest composer Rossini, owe a debt of gratitude to Spain, "which saves them from being ranked as the most backward of European nationalities." True in the main, the remark is specially true in medical literature, particularly medical journalism, in which all that can be said of Italy is that she is rather better than her Iberian sister. It is *pro tanto* the more gratifying, therefore, when a new accession to Italian periodicals is announced with the programme and the promise of *La Ginecologia Moderna* (*Modern Gynæcology*), the monthly review just started at Genoa under the competent editorship of Dr. Luigi Maria Bossi, professor of obstetrics and the propædeutics of gynæcology in that school. Not only does the new periodical deal with the medico-chirurgical questions to which the ailments of the female sex give birth, but it takes cognisance of the more general problems arising out of the psychological, the sociological, and the forensic aspects of that group of diseases. A novel feature of the journal will be the attention given to "female criminology," in which the phenomena of hysteria play a part becoming steadily more conspicuous from what a sociologist has called "the hyperæsthesia of our over-wrought civilisation." Among the contributors to the subject appear Dr. Cesare Lombroso of Turin and Professor Enrico Ferri of Rome. No reader of contemporary *causes célèbres* can fail to recognise in this department of *La Ginecologia Moderna* a most interesting field of observation and discussion.

Pharmaceutical Misadventure.

I had occasion recently to note the tragic consequences of the irregular prescription and administration of cod-liver oil with solution of phosphorus. Another case of misadventure is just reported from Codogno in the neighbourhood of Cremona, where a peasant woman was "treated" by a local pharmacist and died a few hours afterwards—a white powder (the nature of which has yet to be specified) having been given by mistake for magnesia. The pharmacist is now in prison and the matter, of course, *sub judice*. Meanwhile the case reinforces the warning addressed to all Italians (and others outside Italy) that, unless professionally prescribed and exhibited, medicines are fraught with danger—often death—to the consumer. I may add that Italian pharmacists are memorialising the Minister of Public Instruction (His Excellency Signor Rava), while maintaining the stringency of the gateway to the profession, to vouchsafe in consideration of the severe ordeal thus exacted the title of Doctor to the successful examinee. Certainly the claim is not an extravagant one, when the veterinary surgeon and the graduate in "zooiatria" can, after due examination, call himself "Doctor." The memorialists, however, do not strengthen their cause by the threat—all too common in Italian Universities—to refuse to attend the classes till their petition is granted. While at that end of the pharmaceutical ladder the aspirant is agitating for fuller rights, at the opposite end there is another movement much less to be encouraged—that is, to recognise as fully qualified for the practice of pharmacy those "assistants" who, without having passed an examination, have completed a certain number of years of apprenticeship. No doubt there are among these petitioners not a few highly expert and capable pharmacists, but to make all of them eligible for the rights which only the State diploma can confer would be to establish a dangerous precedent.

The National Institute of Physical Education.

True to the watchword of Cavour's successor, Massimo d'Azeglio, given forth just 40 years ago—"We have made Italy. Let us now make Italians"—the promoters of the physical rehabilitation of the "pubes Italica" are sparing no effort to diffuse and to intensify their salutary propaganda. At Rome in May next they will hold their first "Riunione," and the occasion will be signalised by the carrying out of a programme of gymnastic exercises, games, and other tests of physical development, agility, and strength, in which all the clubs of Italy, organised with that object, will be fully represented. Every facility will be offered to the public, domestic and foreign, to intervene at the "spettacolo"—railway transit being, for one thing, reduced 75 per cent. in cost to all who send in their names as intending visitors to the president, Signor Lucchini, Member of the Chamber of breeding-place near the abattoirs it was a very serious thing to consider whether the abattoirs should be allowed to exist in their present situation.

The Preservation of Infant Life.

The large number of inquests held in a year by the city coroner on children fatally burned has stimulated interest in the preservation of infant life in the city. The matter was brought before the health committee at its recent meeting by Mr. W. B. Stoddart, one of the city councillors (the well-known Cambridge cricketer). In response to the representations made by Mr. Stoddart for the better care of the children generous aid has been offered to the infant life preservation sub-committee of the health committee by two ladies—Mrs. Clayton of Wavertree and Miss Gladys O. Whitley of Sefton Park. The former has promised £200 and the latter £50 for the purpose of purchasing fire-guards for distribution amongst the poorest classes. The gifts were thankfully accepted by the health committee.

Death-rate of Liverpool.

Owing to the ravages of influenza and the rate of mortality among aged people the death-rate of the city for the past week was 33·7 per 1000, compared with 19·8 a year ago. The medical officer of health informed the health committee on Jan. 30th that the present outbreak of influenza was the most severe since 1895.

Medical Appointments at Birkenhead.

Dr. R. Owen Morris has been appointed medical officer of council schools and Mr. R. S. Marsden (medical officer of health of the borough) has been appointed superintendent medical officer of schools.

Toxteth Park Vaccination Statistics.

The vaccination officer of the Toxteth board of guardians has presented the board with the vaccination statistics for the year 1906 There were in the township 4140 births; 3142 of the infants were successfully vaccinated, 17 were "insusceptible," 6 were exempted on the conscience clause, 448 died before being vaccinated, 71 cases of vaccination were postponed by medical certificate, 441 could not be traced, and 15 infants were removed to other districts.

Presentations to a Medical Officer of Health.

During an interval in the proceedings of the Bootle council at a recent meeting Mr. T. W. N. Barlow, who was for six years medical officer of health of Bootle and who left last month to fill a similar post under the Wallasey district council, was the recipient of two handsome presentations. The mayor, on behalf of last year's health committee, presented him with an illuminated address expressing its appreciation of his efficient services and the town clerk handed him a gold watch from his late fellow officials. Mr. Barlow feelingly acknowledged both presentations in appropriate terms.

Feb. 11th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Housing in Swansea.

THE success of the proposed cottage exhibition to be held in Swansea in 1909 has been assured by the election of a representative committee to carry out the necessary details. Delegates from all the sanitary authorities in South Wales have been placed upon the committee together with the local Members of Parliament and others. A site owned by the Swansea corporation will probably be made use of and in other ways the corporation is assisting the enterprise. For many years past the question of providing suitable houses for the working-classes has been under serious consideration not only by the Swansea town council but by most of the local authorities in the neighbourhood. Private enterprise has to a certain extent been able to meet the demand for cottages in the borough of Swansea where plans for as many as 458 houses were approved by the corporation in 1906.

Medical Inspection of Schools.

The Newport (Mon.) education authority has decided to appoint an assistant medical officer for the purpose of carrying out the medical inspection of the children attending the public elementary schools. The salary proposed is £225 per annum with periodical increases to £275. A suggestion that the work might be done by the general practitioners of the town did not meet with the approval of the authority.—The Barry education authority has decided to appoint a medical officer at a salary of £250 per annum. He will work in conjunction with the medical officer of health. The question of appointing a whole-time medical officer of health for Barry has been under discussion but the arrangement indicated has been finally decided upon.—At a meeting of the Torquay town council held on Feb. 6th it was decided to appoint a medical officer to carry out the medical examination of school children at a salary of £150 per annum, increasing to £210.

Isolation Hospitals in North Wales.

Mr. J. O. Williams, medical officer of health of Barmouth, North Wales, has received an offer from Mrs. Talbot, Tynyffynon, to contribute £100 towards the cost of erecting an isolation hospital provided that five other similar sums are promised. The committee which is making arrangements for the provision of an isolation hospital has appointed deputations to wait on those who are likely to support the movement. The question of providing an isolation hospital in the adjoining town of Dolgelly has been again discussed by the urban council without coming to a definite issue. The council has already decided to build a small hospital which would be easy of extension if occasion arose, but the members are not unanimous as to the necessity for the expenditure.

Infant Mortality in Bristol.

In common with the rest of England and Wales there has been a considerable fall in the rate of infant mortality during the past few years in Bristol. In a report which the medical officer of health (Dr. D. S. Davies) has recently presented to the city health committee he expresses the hope that by the appointment of health visitors a still further reduction may be made. Dr. Davies very properly warns the committee that too much must not be expected of special work in this direction. In justification of this warning he gives a comparative chart and comparative table for Bristol and Huddersfield, from which, he says, it is evident that the wholesale improvement in the Huddersfield infant mortality returns claimed as due to the special measures taken there is not proved by the figures adduced to be due either entirely or in any large degree to these measures, for a practically identical improvement has taken place during the same years in Bristol without any special methods to this end having been taken. In the three years 1905–06–07 during which special work against infant mortality has been in progress in Huddersfield, the infant mortality rate in that town has been reduced 18 per cent., when compared with the rate of the preceding ten years. In Bristol the reduction has been 15 per cent. In Huddersfield during 1907 the rate was 97 per 1000 births, in Bristol 101, and in the whole country 118.

Milk-supply in Monmouthshire.

At a recent meeting of the Monmouthshire Chamber of Agriculture a resolution was passed asking that any legislation concerning the milk-supply should provide for uniform regulations throughout the country; that no vexatious restrictions calculated to render the production of milk more expensive should be adopted; and that the working of any new Act should be entrusted to the Board of Agriculture and Fisheries rather than to the Local Government Board. One of the speakers at the meeting deprecated what he called the milk scare, for which he said there were not sufficient grounds. A commentary upon these remarks is to be found in the report of the medical officer of health of the Llanelly rural district in which he stated that he could not recommend the registration of certain dairies and cowsheds, and with regard to other cowsheds in the district they were most of them left in such a filthy condition that it was not possible to enter them for inspection purposes.

Feb. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Infirmary.

AT a meeting of the board of managers of this institution on Feb. 3rd Dr. Alexander Bruce and Mr. F. M. Caird were reappointed (the former as pathologist and resident physician and the latter as surgeon) for a further period of five years;

couples then becomes higher. Professor Senator has observed 516 married couples of whom either the husband or the wife, or both, were diabetic. The latter event happened in 18 instances (i.e., 3·5 per cent.), and taking only those couples who had been married from six months to one year the proportion rose to 4·1 per cent. Some of the cases were hereditary, but even 4·1 per cent. was not a proportion sufficiently high to make a communication likely. Some rather striking instances of communication have, however, been recorded, such as that of a washerwoman who had washed the linen of diabetic patients and that of a surgeon who had performed an amputation on a diabetic patient. Some pathologists have produced diabetes in animals by the inoculation of diabetic urine; experiments of this kind which Professor Senator had made were unsuccessful, but he nevertheless was of opinion that a communication of the disease might happen in certain favourable circumstances. In the discussion Dr. Neumann said that among 108 diabetic patients whom he had observed there was only one married couple. Dr. Albu said that he had found diabetes in two married couples, but in one of them the disease was hereditary and in the other it was caused by cancer of the pancreas. Professor Ewald said that in 120 cases he had not seen a single instance of diabetes conjugalis.

The Congress of Internal Medicine.

The Twenty-eighth Congress of Internal Medicine will meet this year in Vienna from April 6th to 9th, Professor Müller of Munich being in the chair. The official subjects of discussion will be as follows: (1) the Relations between the Genital Organs of Women and Internal Diseases, to be introduced by Professor von Rosthorn of Heidelberg and Dr. Lenhartz of Hamburg; and (2) New Methods of Examining the Function of the Intestines, to be introduced by Professor Schmidt of Halle. The other addresses the titles of which have been announced include one on the Present State of the Pathology and Treatment of Syphilis by Professor Neisser of Breslau and one on the Quantity and the Distribution of the Blood in Anæmia by Dr. Morawitz of Heidelberg. Visitors wishing to take part in the proceedings should make application to the general secretary, Dr. Pfeiffer of Wiesbaden.

Precocious Menstruation.

Professor Stoeltzner of Halle has described in the *Medicinische Klinik* the case of a child who began to menstruate when in her second year. She was two years and ten months old and had menstruated several times, the intervals being at first eight weeks and afterwards five weeks. She had well-developed mammæ and a large vulva. Her height was 102 centimetres and her weight was 19·5 kilogrammes, which corresponded to the weight of a child aged from five to six years. She was originally quite normal and at birth weighed 3·2 kilogrammes. She had her first tooth when six months old and could walk at the age of one year and two months. Precocious puberty has been described by some writers as a symptom of a morbid condition of other organs, such as malignant adenoma of a suprarenal gland or intracranial disease. In cases where precocious puberty was associated with menstruation a pathological condition of the ovaries was very likely to exist. Ovules were discharged as in normal menstruation and such children have been known to become pregnant. Children who presented this abnormality ought to be kept under observation, as malignant growths might develop in the ovaries.

The Serum Treatment of Scarlet Fever.

Dr. Pulawski of Radziejov, writing in the *Deutsche Medizinische Wochenschrift*, reports the results obtained in scarlet fever by the subcutaneous injection of serum which was produced by the inoculation of horses with streptococci cultivated from the blood of severe cases of scarlet fever. Of 35 severe cases treated with this serum 28 per cent. died, whereas of 28 severe cases treated without the serum 71 per cent. died. The serum proved to be quite innocuous and did not cause any undesirable symptom beyond a slight urticaria. Among the patients treated with serum there were ten deaths; these cases had, however, from the first been regarded as hopeless. In the remaining cases favourable action of the serum was shown by the rapid development and shortened duration of the exanthem, by mitigation of the grave symptoms, and by a quicker convalescence. It is probable that the serum protects the patients against complications such as otitis, lymphadenitis, and nephritis. In two cases complicated by diphtheria the joint administration of scarlet fever serum and diphtheria serum was useful.

Feb. 10th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

"*La Ginecologia Moderna.*"

ITALIANS, according to Italy's greatest composer Rossini, owe a debt of gratitude to Spain, "which saves them from being ranked as the most backward of European nationalities." True in the main, the remark is specially true in medical literature, particularly medical journalism, in which all that can be said of Italy is that she is rather better than her Iberian sister. It is *pro tanto* the more gratifying, therefore, when a new accession to Italian periodicals is announced with the programme and the promise of *La Ginecologia Moderna* (*Modern Gynæcology*), the monthly review just started at Genoa under the competent editorship of Dr. Luigi Maria Bossi, professor of obstetrics and the propædeutics of gynæcology in that school. Not only does the new periodical deal with the medico-chirurgical questions to which the ailments of the female sex give birth, but it takes cognisance of the more general problems arising out of the psychological, the sociological, and the forensic aspects of that group of diseases. A novel feature of the journal will be the attention given to "female criminology," in which the phenomena of hysteria play a part becoming steadily more conspicuous from what a sociologist has called "the hyperæsthesia of our over-wrought civilisation." Among the contributors to the subject appear Dr. Cesare Lombroso of Turin and Professor Enrico Ferri of Rome. No reader of contemporary *causes célèbres* can fail to recognise in this department of *La Ginecologia Moderna* a most interesting field of observation and discussion.

Pharmaceutical Misadventure.

I had occasion recently to note the tragic consequences of the irregular prescription and administration of cod-liver oil with solution of phosphorus. Another case of misadventure is just reported from Codogno in the neighbourhood of Cremona, where a peasant woman was "treated" by a local pharmacist and died a few hours afterwards—a white powder (the nature of which has yet to be specified) having been given by mistake for magnesia. The pharmacist is now in prison and the matter, of course, *sub judice*. Meanwhile the case reinforces the warning addressed to all Italians (and others outside Italy) that, unless professionally prescribed and exhibited, medicines are fraught with danger—often death—to the consumer. I may add that Italian pharmacists are memorialising the Minister of Public Instruction (His Excellency Signor Rava), while maintaining the stringency of the gateway to the profession, to vouchsafe in consideration of the severe ordeal thus exacted the title of Doctor to the successful examinee. Certainly the claim is not an extravagant one, when the veterinary surgeon and the graduate in "zooiatria" can, after due examination, call himself "Doctor." The memorialists, however, do not strengthen their cause by the threat—all too common in Italian Universities—to refuse to attend the classes till their petition is granted. While at that end of the pharmaceutical ladder the aspirant is agitating for fuller rights, at the opposite end there is another movement much less to be encouraged—that is, to recognise as fully qualified for the practice of pharmacy those "assistants" who, without having passed an examination, have completed a certain number of years of apprenticeship. No doubt there are among these petitioners not a few highly expert and capable pharmacists, but to make all of them eligible for the rights which only the State diploma can confer would be to establish a dangerous precedent.

The National Institute of Physical Education.

True to the watchword of Cavour's successor, Massimo d'Azeglio, given forth just 40 years ago—"We have made Italy. Let us now make Italians"—the promoters of the physical rehabilitation of the "pubes Italica" are sparing no effort to diffuse and to intensify their salutary propaganda. At Rome in May next they will hold their first "Riunione," and the occasion will be signalised by the carrying out of a programme of gymnastic exercises, games, and other tests of physical development, agility, and strength, in which all the clubs of Italy, organised with that object, will be fully represented. Every facility will be offered to the public, domestic and foreign, to intervene at the "spettacolo"—railway transit being, for one thing, reduced 75 per cent. in cost to all who send in their names as intending visitors to the president, Signor Lucchini, Member of the Chamber of

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Emigration from Ireland.

IT is deplorable to record that during the first month of this year 641 people (378 males and 263 females) emigrated from Ireland. Of the total, 360 were from Ulster (showing a decrease of 32 as compared with the same month last year), 131 from Leinster (a decrease of 38), 117 from Munster (an increase of 16), and 33 from Connaught (an increase of 2). The destinations of these emigrants were as follows: 256 went to the United States, 272 to Great Britain, 48 to Canada, 37 to Australia, 11 to South Africa, 6 to New Zealand, and 11 to other countries. The steerage passengers to the United States numbered 219, of whom 44 had their passages paid in America. The public health conditions of Ireland certainly play their part in this progressive depopulation of the country, a fact which should be borne in mind by those who too readily attribute every ill in Ireland to political troubles.

Opening of the Tuberculosis Exhibition at Banbridge.

On Saturday, Feb. 8th, the Countess of Aberdeen journeyed from Dublin to Banbridge, county Down, to open the Tuberculosis Exhibition which is being held there. In the Temperance Hall, where the exhibition is located, lectures were given by Her Excellency, by Mr. R. Martin (medical officer of health of Banbridge), Dr. W. Chancellor, and others. In the evening Sir John Byers gave the opening lecture on "What We May Observe in the Tuberculosis Exhibition." The subsequent lecturers were the Registrar-General (Sir Robert Matheson), Professor E. J. McWeeney, Dr. W. Calwell, Dr. H. L. McKisack, and Dr. R. T. Herron.

The Lady Superintendent of the Belfast Workhouse.

The Local Government Board has refused to approve of the appointment of a lady elected by the Belfast board of guardians as lady superintendent of the workhouse and training school for nurses, having regard to the deliberate statements of the visiting medical officers and to the fact that, in the opinion of the Local Government Board, she does not possess the necessary personal qualifications for the office. Accordingly it recommended the guardians to proceed to another election. In reply, the guardians have requested the Local Government Board to sanction the appointment for a probationary period of six months. The Local Government Board has written refusing to sanction such an appointment on probation and advised the Belfast guardians again to proceed to a new appointment, but at their weekly meeting on Jan. 28th the guardians, by 17 votes to 15, decided that the letter of the Local Government Board should be sent to a committee (which was subsequently appointed) with instructions to reply to it and to advance reasons in favour of the appointment.

Feb. 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Risks of Arsenic in Agriculture.

AT a meeting of the Academy of Medicine held on Jan. 28th M. Cazeneuve called the attention of his audience to a situation which has become extremely alarming. Within the last two or three years enormous quantities of arsenic have been used in agricultural operations. The employment of this poison by the vine-growers is no new thing in France, for it was suggested some 12 years ago as a means of combating insect pests, but its use has greatly increased in recent years. By far the greater part of the arsenic employed comes from a Spanish mining district. In 1901 this district supplied 120 tons of arsenical ores, while in 1905 the quantity necessary for agricultural needs had risen to 4810 tons. Arsenic is not only employed in viticulture but also used for diseases of olives, and various instances of fatal poisoning have occurred in animals that have fed under the olive trees. At the conclusion of his address M. Cazeneuve asked the Academy to point out the dangers which might arise from the indiscriminate use of arsenic.

Immediate Operation in Gunshot Wounds of the Auditory Region.

At a meeting of the Paris Hospitals Internes' Society held on Jan. 23rd M. Wicart insisted on the necessity for immediate operation in gunshot wounds of the auditory region. He based his remarks upon many cases which he had seen and on one in particular where radiography had not revealed the site of the ball which in consequence had not been extracted. Chronic suppuration set in, facial paralysis became incurable, and labyrinthine trouble persisted. The best route to follow for extractions was the retro-auricular, and the clearing out of the petro-mastoid cavity would be found to be of great assistance.[1]

The Treatment of Old-standing Injuries of the Wrist by Total Resection of the Carpus.

At a meeting of the Surgical Society held on Jan. 29th M. Valas read a paper on this subject. He said that traumatic lesions of the wrist in which efforts at reduction have failed are often capable of being greatly improved by immediate operation and sometimes even by massage alone; when, however, the lesions are of old standing, whether on account of having been overlooked or because immediate treatment has failed, they cause such inconvenience that the patient is always anxious that something should be done to help him. The majority of surgeons content themselves with removing the dislocated or fractured bones, but this method of operating generally means that successive operations have to be performed until all the carpal bones have been taken away. M. Valas therefore considers it better to remove the whole carpus at one sitting. In six cases which he has treated in this way he has obtained excellent results; in all these cases the carpal lesion was at least four months old and all the patients recovered complete movement of the hand. M. Valas concluded by saying that he thought that complete resection of the wrist was an excellent plan to adopt in such cases as he had described.

Feb. 11th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Surgical Treatment of Bronchiectasis.

Professor Koerte recently read a paper before the Berlin Medical Society on Operations for Bronchiectasis. He pointed out the difficulty of surgical intervention because in bronchiectasis a great number of cavities without a direct communication are usually present. The diagnosis was also very difficult, especially as regards the difference between bronchiectasis and gangrene of the lung. The operations for pulmonary gangrene gave, as a rule, better results than operations for bronchiectasis, for Professor Koerte has lost only eight out of 28 patients operated on for gangrene, as compared with 11 deaths in 15 operations for bronchiectasis. The only cases suitable for operation were those in which the bronchiectasis was limited to one lobe of a lung. A resection of at least two ribs was essential to make the lung accessible. After the lung was incised each bronchiectasis must individually be opened, tied, and plugged. If the cavity did not collapse after the operation an extensive resection must be carried out. The dangers of the operation consisted in the profuse hæmorrhage and in the shock which might occur at the moment of the incision. He did not use Sauerbruch's chamber for the operation but he avoided pneumothorax by drawing the lung quickly into the wound. The early cases gave the best results but they, of course, very seldom presented themselves for surgical treatment.

Diabetes Conjugalis.

At a recent meeting of the Berlin Medical Society Professor Senator discussed the question whether diabetes might be communicated from husband to wife and *vice versâ.* He said that some writers, believing that the disease *can be so* communicated, have proposed the name of "diabetes conjugalis" for this condition. Dr. Schmitz of Neuenahr had found 26 married couples among 2320 diabetic patients, being 1·1 per cent. of the total number. The computation ought, however, to be made not by comparing the diabetic couples with the total diabetics, but by comparing the diabetic couples with the diabetic patients who were either married or lived connubially. The proportion of diabetic are municipal health regulations on a par with those of any town in England) it can be carried to a fine art. Milk-sellers, for example, are as a rule unable to refrain from watering their milk and this is accepted by the foreign community (as they and not the Chinese are milk-drinkers) as so inevitable that the chief growl is about the quality of the water more than the quantity of it. Some Chinese dairymen, however, carry the adulteration to a high pitch of excellence and add a yellow-coloured emulsion of beef tallow to liberally watered milk. When this emulsion dissolves out it rises as a rich thick cream, out of which butter can be made. If some of this cream be added to boiling water the tallow congeals on cooling—a rough-and-ready test which is but rarely employed.

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[1] See THE LANCET of Nov. 3rd, 1907, p. 1577, for an account of a paper on the same subject by M. Sebileau.

Jan. 8th.

Obituary.

WILLIAM ALLINGHAM, F.R.C.S. ENG.,

CONSULTING SURGEON TO THE GREAT NORTHERN CENTRAL HOSPITAL.

THE death of Mr. William Allingham, which we have already announced as having taken place at Worthing on Feb. 4th, was not unexpected, for his health had been very unsatisfactory for some time, while he had reached the advanced age of 78 years.

William Allingham was born in 1829 and received his early education with architecture as its object. He studied his art at University College, London, took several students' prizes in the subject, and later, while practising his first profession, exhibited studies at the exhibitions of the Royal Academy and obtained an honourable mention for a design which he submitted for a building to house the Great Exhibition of 1851. In this same year, however, he decided to abandon his profession and turned to medicine, which had always attracted him. He entered as a student at St. Thomas's Hospital and had a successful career, taking prizes in anatomy, systematic and clinical medicine, and the Treasurer's prize—in fact, he secured most of the rewards that fall to the lot of the able and energetic student. In 1855 he became a Member of the Royal College of Surgeons, proceeding to the Fellowship two years later, while between the taking of his pass and honour diploma he had the valuable and honourable experience of serving as surgeon in the Crimean war. He volunteered as soon as he was qualified and reached the seat of war, which was then in progress, in time to be present at the siege of Sebastopol and to see a vast amount of practical surgery in the most arduous circumstances at the hospitals at Scutari. During a large part of his war services he was attached to the French army, which was extremely badly provided with surgical aid, and there is no doubt that under the strenuous nature of the duties which devolved upon him Allingham gained the courage and sense of responsibility which marked him out as a successful operating surgeon from the beginning of his career. On his return he was for a time surgical tutor and demonstrator of anatomy and later surgical registrar at St. Thomas's Hospital, and in 1863 he commenced practice as a consulting surgeon in Finsbury-square, then a very favourite centre for consulting practice. In a very short time he became known as a specialist in diseases of the rectum, and in 1873 he published his well-known book on that subject. This book went through five editions, the last one appearing in 1888; it was translated into several foreign languages and was accepted generally as an authoritative and inclusive work, though several surgeons differed from the author on points of operative procedure and technique. The work took final shape in 1901 when Herbert Allingham, William Allingham's eldest son, collaborated with his father in an edition so thoroughly revised as to be practically rewritten.

As he became more successful Allingham, following the example of other well-known consultants, transferred his practice from Finsbury-square to Grosvenor-street, and during the whole of the later period of his professional career he enjoyed a large practice as a consulting surgeon in cases of diseases of the rectum. He came to be regarded as one of the first authorities on the subject as well as one of the most skilful operators where surgical measures had to be taken. Although he was never on the honorary staff of one of the great metropolitan hospitals possessing a medical school, he was for many years surgeon to the Great Northern Central Hospital and to St. Mark's Hospital for Fistula and Diseases of the Rectum, while he was also consulting surgeon to the Farringdon General Dispensary and to the Surgical Aid Society, with the founding of which society in 1862 he was intimately connected. In 1884 he was elected on the Council of the Royal College of Surgeons of England. He retired from practice in 1894.

Allingham, who was widely known in private life as a most kindly, generous man, an excellent host, and a sympathetic friend, was twice married. His first wife was Miss Christiana Hooke, by whom he had six children, the eldest son being Herbert Allingham, the brilliant young surgeon whose untimely death will be fresh in the memory of our readers; while both his daughters married medical men, the elder, now Mrs. Chevallier Tayler, the wife of the well-known artist, having married first Mr. Charles Cotes whose memory as a surgical tutor is still preserved among St. George's men; while the younger is the wife of Mr. Claud E. Woakes. Allingham married secondly Miss D. H. Hayles who predeceased him last year and by whom he had no children.

HERMANN SNELLEN, M.D.,

PROFESSOR OF OPHTHALMOLOGY, UNIVERSITY OF UTRECHT.

THE death of Professor Snellen of Utrecht removes another of the few remaining links with the founders of modern ophthalmology. The seed sown by Donders, von Graefe, and von Helmholtz fell upon fertile soil and was worthily tended by illustrious disciples. The mantle of Donders fell upon Snellen who has borne it nobly through a long and strenuous career.

Hermann Snellen was born in 1834, the son of Dr. F. A. Snellen, a well-known physician. He studied at Utrecht, where he remained as student and professor throughout his life. His graduation thesis presented in 1857 gave ample evidence of his perseverance and skill in original research and of that scientific imagination which can alone guide research into fruitful paths. It was published in Virchow's *Archiv* in 1858 and dealt with neuroparalytic keratitis. In attacking this subject Snellen was entering the lists with those whose names were most famous in physiology, such as Magendie, Claude Bernard, Kühne, Gaule, Schiff, and others. He was led by his experiments to bring forward the simplest theory which could be held to explain the condition. He regarded neuroparalytic keratitis as a purely traumatic condition, the severity of which was due to the anæsthesia of the cornea, whereby slight injuries, such as those caused by foreign bodies, failed to set in motion those reflex acts which are nature's method of relief. The theory brought into prominence factors which had been overlooked or under-estimated by his predecessors and if it cannot be credited as a complete solution of the problem it was a stride towards that solution which after 50 years' interval we still await. In 1862 Snellen was appointed lecturer in ophthalmology and surgeon to the Dutch Hospital for Diseases of the Eye at Utrecht. In the same year he published those test types which have since been employed universally. Test types had already been devised by Küchler (1843), Jaeger (1854), Stellwag von Carion (1855), and others, but it was not until 1862 that they were devised upon a scientific basis simultaneously and independently by Snellen and Giraud-Teulon at an ophthalmic congress in Paris. The basis was a visual angle of one minute and Snellen's types are constructed on the principle that each letter subtends a visual angle of five minutes at the nodal point of the eye when placed at the given distance from the eye, whilst the breadth of the individual lines which compose the letter subtends an angle of one minute at the nodal point. Innumerable varieties of test types have since been brought forward, but the fundamental principle, being founded upon accurate physiological data, is universally maintained. Snellen's test types for near vision, constructed upon the same lines, have not found the same favour as his distant types, for in the circumstances in which they are employed other factors which tend to vitiate their accuracy come into play.

Though doubtless influenced greatly by his master Donders and by that mathematical instinct which is strongly developed in so many Dutch men of science, Snellen did not confine his attention to optics. He devoted much time and thought to the relief of deformities of the lids, and "Snellen's sutures" are familiar to every ophthalmologist to-day. Indeed, he made his mark in every department of ophthalmology. For many years he was associated with Leber, who

Deputies. Those of the profession in the British Isles who can take their holiday during the month of May—always delightful in Italy—might do worse than honour the "Riunione" with their presence.

Feb. 10th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Medina.

ON previous occasions[1] I have given some accounts of the recent measures undertaken to supply Mecca with drinkable water. The sister city Medina, quite or nearly as sacred to Islam as Mecca, on the good water-supply of which many thousands of Moslem pilgrims so much depend, is also soon to receive proper canalisation works and every other requisite for a large and satisfactory provision of pure water. The Sultan has already given the necessary orders to proceed, with as little delay as possible, with the construction of these canalisation works. There is, I understand, a copious supply of water conducted from a tepid source at the village of Kuba, two miles south of Medina, and distributed in underground cisterns in each quarter. Besides, a number of torrent courses (of which the Kanat to the north, at the foot of Mount Ohod, and Akik, some miles to the south, are the most important) descend from the mountains, forming considerable streams and pools after rain. These torrent courses, which converge in the neighbourhood of the city at a place called Zaghaba, make the whole district for many miles around one of the best watered spots in Northern Arabia. There is also underground water which can be reached by sinking deep wells, but many of these wells are brackish and quite useless for drinking purposes. Through the suburbs of Medina, which are the quarters of the peasants, runs the watercourse of the Batan, a tributary of the Kanat. All these water sources have been used for many centuries for drinking and cooking purposes. As some of the wells are of considerable depth the so-called "sakkas" (water carriers) descend into them with the help of ladders and after filling their "courbas" (leather bags) with water distribute it to the various houses. Seeing that these wells and other sources are quite open to all sorts of pollution and contamination, this mode of supplying water to the inhabitants of Medina left much to be wished for. The population continually suffered from different gastric troubles and infectious diseases, such as enteric fever, which have naturally been attributed to the contamination of the water. The water to be canalised is that of Zerka, or Aini Zerka. It will be conducted into two great reservoirs of 2000 cubic metres capacity. From these reservoirs the water will be conveyed into smaller reservoirs and fountains to be erected at different places in the city. All the works of canalisation will be constructed under the direction of a special commission. The way in which wells are dug at Medina is interesting. First a well is opened at a high elevation, then another lower down, a third still lower, and so on. Afterwards all these wells, from the highest to the lowest, are connected by subterranean channels. In this manner the water is brought to a plane whence it is conveyed to different points of the city and its suburbs. Often the inhabitants united of their own accord to execute these works. The two above-mentioned great reservoirs will be constructed upon the place called Menahe situated in the north of Medina.

Feb. 7th.

NOTES FROM PEKING.

(FROM OUR OWN CORRESPONDENT.)

The Opium Question.

IN spite of all that has passed on the subject of opium in China, from Imperial edicts against the trade down to missionary and lay protests, the question still remains in a most unsettled and unsatisfactory condition. A new phase has recently been entered upon by the action of the Viceroy of Nanking who proposes to establish a Government monopoly in the opium business in his capital, a step that would no doubt be extended to other parts of the province if successful in Nanking. This has caused a strong protest from the British firms concerned in the foreign opium trade who feel their business would be injured unjustly, as it is not a matter concerning the use of opium but merely of diverting it into Chinese hands, thus infringing established treaty rights. The Hong-Kong Chamber of Commerce has taken the matter in hand and is upholding the merchants' appeal to the Governor to see that the monopoly is not allowed. There is evidence to prove that the sale of anti-opium pills (containing a percentage of opium) and morphine is increasing. While the foreign importation of opium is decreasing the area under poppy cultivation is being extended and the native article is also improving in quality. Those of us who have an opportunity of judging can see little if any diminution in the number of Chinese addicted to the habit, though certain high officials have found themselves compelled to give it up. In the meantime one may rest content that the British and Chinese Governments are taking a right view of the whole matter, especially in the light of the recent agreements that there is to be a gradual diminution of the Indian opium trade *pari passu* with the decrease in the production of the native drug. This will not content the extremists among the anti-opium advocates but the moderates will realise that a sound incentive is given to China to make serious efforts to diminish her own output.

Climate and Health.

During the winter months (October to February inclusive) there is a great diminution of bacterial diseases. In the absence of sanitary regulations the public health may be looked upon as very good. With the exception of sporadic cases of small-pox all zymotic diseases die down and the chief complaints among hospital patients are rheumatism, neuralgia, bronchitis, and conjunctivitis, the two last being mostly due to noxious fumes of anthracite stoves in houses which have no chimneys. Not infrequently one meets with cases of gangrene of the toes in the old and poor and a curious feature is the large number of workmen out-patients who suffer from septic inflammation of the hands due to cracks and fissures in callosities through which dirt enters. A good many Europeans also suffer from fissures at the points of the fingers due to the extreme dryness of the atmosphere and low temperature which at present ranges from 10° F. at night to 32° by day. The prevailing wind is north and north-west and as it comes from over the steppes of Siberia and Mongolia it is bitterly cold and sometimes accompanied by clouds of fine dust. The sky is, as a rule, cloudless and the sun often genially warm, so that one may look upon the winter climate of North China as being on the whole a very healthy one. With the exception of occasional visits of influenza (from one of which we are now suffering) the European population enjoys good health. Children thrive well and there is no need here for that separation from their parents which has been found necessary in South China and India; indeed, there are a good many European adults in North China who have never been home and yet are found healthy specimens of manhood. Fog or mist is unknown. Notwithstanding the healthiness of the climate the tuberculous rate suffers little diminution and still awaits the time when Chinese "enlightenment," which is so much talked about at present, reaches that stage when public health regulations will be found necessary to deal with the high mortality rate in this disease.

Small-pox.

The beginning of every winter sees a recrudescence of this disease and it is generally supposed that the removal by the Chinese of their winter clothes from the pawnshops has much to do with the annual visitation. These garments consist of two layers of cotton between which is a thick layer of cotton-wool. Though in North China inoculation is still practised to some extent it has been of late years supplemented by calf lymph, a good supply of which has been imported from Japan. Here and there throughout Peking are Government vaccination stations where those who care to submit themselves can be vaccinated without any regard to asepsis. An increasing number are availing themselves of the facilities offered. It is not an uncommon sight to see blind men with deeply pock-marked faces feeling their way through the streets.

Adulteration of Milk.

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[1] THE LANCET, August 4th and Nov. 3rd, 1906.

ROYAL COLLEGE OF SURGEONS OF ENGLAND: APPOINTMENT OF CONSERVATOR.—At an ordinary monthly meeting of the Council of the Royal College of Surgeons held on Thursday last Dr. Arthur Keith, lecturer on anatomy and curator of the museum at the London Hospital, was appointed Conservator of the museum of the College.

THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—His Majesty the King has recently caused ten brace of pheasants and his annual subscription of £10 10*s.* to be forwarded to the Royal Waterloo Hospital, S.E. This institution was founded in 1816 by the late Queen Victoria's father, H.R.H. the Duke of Kent.

PRESENTATION TO A MEDICAL PRACTITIONER.—On Feb. 6th the chief constable of Exeter, on behalf of the members of the Exeter police force, presented Mr. Joseph Anthony Wenceslaus Pereira, M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., with a portrait of himself as a mark of appreciation of his services to the force.

ASHTON INFIRMARY.—The District Infirmary, Ashton-under-Lyne, was founded in 1860 and since that time has been endowed with £64 478. The annual meeting of the subscribers was held on Feb. 1st and the familiar story told that more help was required, as the present income would not suffice for present wants, while the claims on the institution were always increasing. The deficit on general purposes was £1696 and the extension fund account was overdrawn by £1099, making a total of £2795. The chairman said that "the hospital was almost exclusively carried on for the benefit of the working people and he appealed to that class for increased help." An interesting part of the proceedings was an address by the Hon. Miss Brodrick who was a nurse at the infirmary two years ago.

ST. PETERSBURG PSYCHO-NEUROLOGICAL INSTITUTE.—The *Novoe Vremya* says that the Psycho-Neurological Institute, organised by Professor Bechtereff and involving an expenditure of £80,000, is about to begin work. The governing idea of the promoter is the "scientific observation of psychic and nerve diseases uninterruptedly and over a long series of years, as far as possible in the same patient, so that an ideal patient for the institute would be a child whose growth, development, and life would furnish to the observer a complete biography in the form of a living picture. Specialists in many aspects of human life, besides medical men, will use the institute, so that patients may be studied from every point of view." The institute is on ground belonging to the Military Medical Academy but is under the control of the Ministry of Public Education.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next quarterly meeting of this association will take place, by the courtesy of Dr. A. Miller, at the Warwick County Asylum, Hatton, on Thursday, Feb. 20th, at 3 o'clock, under the presidency of Dr. P. W. MacDonald. Dr. John Turner will give a lantern demonstration and read a paper upon Some Further Observations bearing on the Supposed Thrombotic Origin of Epileptic Fits. Dr. R. Cunyngham Brown will read a paper entitled "The Boarding-out of the Insane in Private Dwellings," which will be illustrated by lantern views. Dr. Miller invites members to luncheon at the Hatton Asylum at 1.30 P.M. and it is requested that an early reply may be sent to him. Members will dine together at 7 o'clock at the Regent Hotel, Leamington, and will entertain some distinguished guests from the neighbourhood. It is hoped that as many members as possible will be present at the dinner. Evening dress is optional.

BRITISH MEDICAL ASSOCIATION: AWARD OF THE MIDDLEMORE PRIZE.—At the recent meeting of the Council of the British Medical Association the Middlemore Prize was awarded to Mr. Simeon Snell, F.R.C.S. Edin., for his contributions to the science of ophthalmology. This prize is of the value of £50, together with an illuminated scroll, and was founded by the late Richard Middlemore, ophthalmic surgeon of Birmingham, who bequeathed a sum of money for an award to be made every third year for the best essay on the scientific and practical value of improvements in ophthalmic medicine and surgery made or published during the previous three years. By a supplemental deed it was provided that the award might be made for the best essay or work on any subject in any department of ophthalmology. Mr. Simeon Snell is President-elect of the British Medical Association and the prize will be handed to him at the forthcoming annual meeting at Sheffield in July next.

DEATH OF A CENTENARIAN.—Mrs. Mary Davies of Ystradmynach died recently at the age of 104 years.

THE STATE REGISTRATION OF NURSES.—A public meeting in support of the State registration of trained nurses will be held at the Caxton Hall, Westminster, S.W., on Friday, Feb. 21st, at 3 P.M. The chair will be taken by the Lady Helen Munro Ferguson.

DONATIONS AND BEQUESTS.—The late Mr. Thomas Hawley of Coventry by will bequeathed £500 to the Barnardo Homes, and a similar sum to the Leamington Hospital for Incurables.—By the will of Mrs. Mary Berrey of St. Leonards, Sussex, £1000 are bequeathed to the Beau Site Convalescent Home, Hastings, and a like sum to the Royal Society for Incurables, Putney.—During 1907 the employees of Messrs. J. S. Fry and Sons voluntarily collected £632 for the Bristol medical charities.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Industrial Poisoning.

A COPY of the preliminary tables of cases of industrial poisoning, fatal and non-fatal accidents, and dangerous occurrences in factories and workshops during the year 1907 has been presented to Parliament in pursuance of the Factory and Workshop Act, 1901, and the Notice of Accidents Act, 1906.

National Physical Laboratory.

The report of the Committee appointed by the Treasury to inquire generally into the work now performed at the National Physical Laboratory has been laid on the table of the House of Commons.

The Children Bill.

Several of the provisions of the Children Bill which Mr. H. SAMUEL, the Under Secretary for the Home Department, introduced into the House of Commons on Monday are of special interest to the medical profession. The measure is of a consolidating as well as of an amending nature. For example, it re-enacts the Infant Life Protection Bill of 1897, which was passed to stop the evils of baby-farming and to protect the lives of infants sent out to nurse. That Act has been found ineffective and the Government proposes that a Select Committee should examine the subject and submit conclusions to the House so to enable them to be included in the Bill in its later stages. The Bill further proposes to deal with the evil of the overlying of infants. Mr. SAMUEL stated that over 1600 infants a year met their death by overlying and that this waste of life might be prevented. The Government proposes that a penalty should be imposed in such cases. The offence is not one of wilful cruelty but of negligence, and the penalty will be a light one except in cases where drunkenness can be proved. A penalty is also proposed in cases where children meet their death by scalds and burns received through having been left alone in a room with unguarded fires.

The evil of smoking by juveniles is at last to be tackled, and no part of the Bill was received with more applause than that in which the Government proposes to put a stop to the practice, so far as is possible, by legislation. The Bill prohibits the sale of cigarettes, or of cigarette papers, to young persons under the age of 16. It further prohibits these young persons from smoking in streets and public places, and makes them liable to a reprimand for the first offence and to a light fine for subsequent infringements of the law in this respect. A still more effective provision of the Bill places in the hands of the police and of other authorised persons the power to confiscate the tobacco which is being used by these youthful smokers in the streets. The Home Office has also under consideration a plan to deal with automatic machines for the sale of cigarettes, but Mr. SAMUEL, whose remarks were circumscribed by the operation of the "ten minutes' rule," did not mention the lines on which the department proposed to proceed in this matter. The Bill, which is very comprehensive in its scope, contains clauses for the establishment of children's courts and for the separation of the child offender from the ordinary adult criminal. The proposal further is to abolish the imprisonment of children and young persons up to the age of 16 years with a few carefully designed and necessary exemptions. A most favourable reception was given to the Bill which was read a first time.

Infant Life Protection Bill.

Mr. STAVELEY HILL'S Bill to amend the Infant Life Protection Act of 1897 has been published. The object of the Bill is to extend the provisions of the Act to cases where only one child is taken in to be

Deputies. Those of the profession in the British Isles who can take their holiday during the month of May—always delightful in Italy—might do worse than honour the "Riunione" with their presence.

Feb. 10th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Medina.

ON previous occasions[1] I have given some accounts of the recent measures undertaken to supply Mecca with drinkable water. The sister city Medina, quite or nearly as sacred to Islam as Mecca, on the good water-supply of which many thousands of Moslem pilgrims so much depend, is also soon to receive proper canalisation works and every other requisite for a large and satisfactory provision of pure water. The Sultan has already given the necessary orders to proceed, with as little delay as possible, with the construction of these canalisation works. There is, I understand, a copious supply of water conducted from a tepid source at the village of Kuba, two miles south of Medina, and distributed in underground cisterns in each quarter. Besides, a number of torrent courses (of which the Kanat to the north, at the foot of Mount Ohod, and Akik, some miles to the south, are the most important) descend from the mountains, forming considerable streams and pools after rain. These torrent courses, which converge in the neighbourhood of the city at a place called Zaghaba, make the whole district for many miles around one of the best watered spots in Northern Arabia. There is also underground water which can be reached by sinking deep wells, but many of these wells are brackish and quite useless for drinking purposes. Through the suburbs of Medina, which are the quarters of the peasants, runs the watercourse of the Batan, a tributary of the Kanat. All these water sources have been used for many centuries for drinking and cooking purposes. As some of the wells are of considerable depth the so-called "sakkas" (water carriers) descend into them with the help of ladders and after filling their "courbas" (leather bags) with water distribute it to the various houses. Seeing that these wells and other sources are quite open to all sorts of pollution and contamination, this mode of supplying water to the inhabitants of Medina left much to be wished for. The population continually suffered from different gastric troubles and infectious diseases, such as enteric fever, which have naturally been attributed to the contamination of the water. The water to be canalised is that of Zerka, or Aini Zerka. It will be conducted into two great reservoirs of 2000 cubic metres capacity. From these reservoirs the water will be conveyed into smaller reservoirs and fountains to be erected at different places in the city. All the works of canalisation will be constructed under the direction of a special commission. The way in which wells are dug at Medina is interesting. First a well is opened at a high elevation, then another lower down, a third still lower, and so on. Afterwards all these wells, from the highest to the lowest, are connected by subterranean channels. In this manner the water is brought to a plane whence it is conveyed to different points of the city and its suburbs. Often the inhabitants united of their own accord to execute these works. The two above-mentioned great reservoirs will be constructed upon the place called Menahe situated in the north of Medina.

Feb. 7th.

NOTES FROM PEKING.

(FROM OUR OWN CORRESPONDENT.)

The Opium Question.

IN spite of all that has passed on the subject of opium in China, from Imperial edicts against the trade down to missionary and lay protests, the question still remains in a most unsettled and unsatisfactory condition. A new phase has recently been entered upon by the action of the Viceroy of Nanking who proposes to establish a Government monopoly in the opium business in his capital, a step that would no doubt be extended to other parts of the province if successful in Nanking. This has caused a strong protest from the British firms concerned in the foreign opium trade who feel their business would be injured unjustly, as it is not a matter concerning the use of opium but merely of diverting it into Chinese hands, thus infringing established treaty rights. The Hong-Kong Chamber of Commerce has taken the matter in hand and is upholding the merchants' appeal to the Governor to see that the monopoly is not allowed. There is evidence to prove that the sale of anti-opium pills (containing a percentage of opium) and morphine is increasing. While the foreign importation of opium is decreasing the area under poppy cultivation is being extended and the native article is also improving in quality. Those of us who have an opportunity of judging can see little if any diminution in the number of Chinese addicted to the habit, though certain high officials have found themselves compelled to give it up. In the meantime one may rest content that the British and Chinese Governments are taking a right view of the whole matter, especially in the light of the recent agreements that there is to be a gradual diminution of the Indian opium trade *pari passu* with the decrease in the production of the native drug. This will not content the extremists among the anti-opium advocates but the moderates will realise that a sound incentive is given to China to make serious efforts to diminish her own output.

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My attention has been called to the subject referred to in it and in September last I caused a circular to be issued to local authorities bringing the matter under their notice in order that they might, as far as possible, exercise supervision over the cattle in their districts with a view to anticipating and so averting possible or intended infringement of the law. I also suggested that suitable officers of the local authority should be instructed to watch closely the cattle markets, slaughter-houses, and knackers' yards in the district, with the view of satisfying themselves that no animal, the condition of which appears to render it unfit for human consumption, is disposed of in such a manner that it is likely to be used for this purpose.

The Death-rate in Britain and Germany.

Mr. HADDOCK asked the President of the Local Government Board what was the reduction in the death-rate in Germany and the United Kingdom between the years 1870 and 1906.—Mr. BURNS furnished the following written reply: The Registrar-General's figures for England and Wales only give the death-rates for the German Empire from 1872 onwards. I have thought it better, therefore, to compare the quinquennia 1872–76 and 1901–05 and the single years 1872 and 1905:—

Percentage reduction in death-rate between—	United Kingdom.	German Empire.
	Per cent.	Per cent.
(1) 1872–76 and 1901–05	23	28
(2) 1872 and 1905	26	32

It should be added that, although the German death-rate has declined to a greater extent than the English death-rate, it remains (in 1905) 19·8 per 1000 of population, as against 15·5 per 1000 in the United Kingdom. In other words, the death-rate of Germany in 1905 was 28 per cent. higher than that of the United Kingdom.

WEDNESDAY, FEB. 12TH.

The Midwives Act.

Mr. ROGERS asked the President of the Local Government Board whether he had considered the provisions of the Midwives Act, 1902, which forbids the practice, habitually and for gain, of midwifery after Jan. 1st, 1910, by any woman not certified under the Act; whether he was aware that much doubt existed whether it would be found possible then and in future for trained certified midwives to earn an adequate livelihood by the practice of their profession in rural districts where population and births were few in number; and whether, in view of the importance of proper care for mother and child and the close proximity of the date after which unskilled attendance was forbidden, he was prepared to introduce further legislation charging the supervising authorities, as created by the Act of 1902, with the duty and the power of securing for all cases of childbirth within their area such efficient nursing as the Act requires, but for which no provision was made.—Mr. BURNS replied: The attention of the Government has been called to this matter, which is primarily one for the Lord President of the Council. I understand that the whole subject is receiving his consideration and that he is in communication with the Central Midwives Board with regard to it.

BOOKS, ETC., RECEIVED.

AMERICAN OPHTHALMOLOGICAL SOCIETY, Hartford. (Secretary, Dr. S. B. St. John, 26, Pratt-street, Hartford, Conn., U.S.A.).
Transactions of the American Ophthalmological Society. Forty-third Annual Meeting, Washington, D.C., 1907. Vol. XI., Part II.

APPLETON, SIDNEY, London.
A Text-book of Minor Surgery. By Edward Milton Foote, A.M., M.D., Instructor in Surgery, College of Physicians and Surgeons (Columbia University); Lecturer on Surgery, New York Polyclinic Medical School. Price 21s net.
A King in Rags. By Cleveland Moffett. Price 6s.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.
Nouveau Traité de Chirurgie. Publié en Fascicules sous la Direction de A. Le Dentu et Pierre Delbet. V. Maladies des Os, Lésions Infectieuses, Parasitaires, Trophiques, Néoplasiques. Par Pl. Mauclaire, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de la Maison Municipale de Santé. Price, paper, Fr. 6.; cloth, Fr. 7.50.

BAILLIÈRE, TINDALL AND COX, 8, Henrietta-street, Covent Garden, London, W.C.
Protozoa and Disease, Comprising Sections on the Causation of Small-pox, Syphilis, and Cancer. By J. Jackson Clarke, M.B. Lond., F.R.C.S., formerly Pathologist to St. Mary's Hospital and Curator of the Museum, Demonstrator of Bacteriology, and Provisional Teacher of Biology in the Medical School. Part II. Price 7s. 6d. net.

BALLANTYNE AND CO., LIMITED, Tavistock-street, Covent Garden, London, W.C.
The Principles of the Treatment of Gout. By Alfred W. Sikes, M.D., D.Sc. Lond., F.R.C.S., M.R.C.P., late Medical Registrar, Demonstrator of Physiology and Demonstrator of Practical Medicine to St. Thomas's Hospital, and Pathologist to Queen Charlotte's Hospital, Pathologist to the Samaritan Hospital, Demonstrator of Physiology to King's College. Price not stated.
Egypt and How to See It. Illustrated by A. O. Lamplough. Price 2s. 6d.

BELL, GEORGE, AND SONS, London.
The Black Death of 1348 and 1349. By Francis Aidan Gasquet, D.D., Abbot President of the English Benedictines. Second edition. Price 6s. net.

BUTTERWORTH AND CO 11 and 12, Bell Yard, Temple Bar, London.
A Treatise on the Law relating to the Devolution of Real Estate on Death, under Part I. of the Land Transfer Act, 1897, and the Administration of Assets, Real and Personal. By the late Leopold George Gordon Robbins (Late Reader in Equity to the Inns of Court), and Frederick Trentham Maw, both of Lincoln's Inn, Barristers-at-Law. Fourth edition. By Frederick Trentham Maw. Price not stated.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.
The Functional Inertia of Living Matter: A Contribution to the Physiological Theory of Life. By David Fraser Harris, M.B., C.M., M.D., B.Sc. Lond., F.R.S.E., Lecturer on Physiology and Normal Histology in the University of St. Andrews; Examiner to the University of St. Andrews LL.A. Scheme; Vice-president of the Scottish Microscopical Society; Member of the Physiological Society and Royal Society of Medicine. Price 5s. net.
Lectures on Medical Jurisprudence and Toxicology, as delivered at the London Hospital by Fred. J. Smith, M.A., M.D. Oxon., F.R.C.P. Lond., F.R.C.S. Eng., Physician to, and Lecturer on, Forensic Medicine at the London Hospital; Medical Referee to the Home Office. Second edition. Price 8s. 6d. net.
Reports of the Society for the Study of Disease in Children. Vol. VII. Session of 1906–1907. Editor: George Carpenter, M.D. Price 12s. 6d. net.

CONSTABLE, ARCHIBALD, AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.
Detection of the Common Food Adulterants. By Edwin M. Bruce, Instructor in Chemistry, Indiana State Normal School. Price 5s. net.
Dairy Laboratory Guide. By Charles W. Melick, B.S.A., M.S., Professor of Dairy Husbandry, Maryland Agricultural Experimental Station. Price 6s. net.

DEUTICKE, FRANZ, Leipzig und Wien.
Die Augenheilkunde in der Römerzeit. Von Dr. Rodolfo del Castillo y Quartiellers in Madrid. Autorisierte Übersetzung aus dem Spanischen. Von Dr. Max Neuburger, Professor an der K.K. Universität in Wien. Price not stated.

DOIN, OCTAVE, 8, Place de l'Odéon, Paris.
Maladies de la Moëlle et du Bulbe (Non Systématisées): Poliomyélites, Sclérose en Plaques, Syringomyélie. Par le Dr. C. Oddo, Professeur à l'École de Médecine de Marseille, Médecin des Hôpitaux de Marseille. Price not stated.

GOOSE AND SON, Norwich (SIMPKIN, MARSHALL, AND CO., London).
The Ritual of Temperance and Bodily Cleanliness. By Dr. H. C. Pattin, M.A., D.P.H., Medical Officer of Health for the City of Norwich. Price 1s. net.

HEALTH RESORTS BUREAU, THE, 27, Chancery-lane, London, W.C.
The Lake of Garda. By J. Greble Leech. The Official Guide to Lake Garda. Price 1s. net.

KEGAN PAUL, TRENCH, TRÜBNER AND CO., LIMITED, Dryden House, Gerrard-street, London, W.
A Proposal for a Simplified Calendar. By Alexander Philip, LL.B. Price 6d. net.

LEWIS, H. K., 136, Gower-street, London, W.C.
Diseases of the Nose and Throat. By Herbert Tilley, B.S. Lond., F.R.C.S. Eng., Surgeon to the Ear and Throat Department, University College Hospital, London; Teacher of Laryngology and Otology, University of London; formerly Surgeon to the Golden-square Throat Hospital, London. Price 14s. net.
Tumours of the Cerebellum. By John Wyllie, M.D. Price 4s. net.

LLOYD, EDWARD, LIMITED, Salisbury-square, London.
The Municipal Year-book of the United Kingdom for 1908. Edited by Robert Donald. Price 7s. 6d. net.

LONGMANS, GREEN, AND CO., London, New York, Calcutta, and Bombay.
Proceedings of the Royal Society of Medicine. Vol. I., No. 2. December, 1907. Price 7s. 6d.
Stoichiometry. By Sydney Young, D.Sc., F.R.S., Professor of Chemistry in the University of Dublin. Together with an Introduction to the Study of Physical Chemistry by Sir William Ramsay, K.C.B., F.R.S., Editor of the Series. Price 7s. 6d.

MACMILLAN AND CO., LIMITED, St. Martin's-street, London.
Comparative Anatomy of Vertebrates. Adapted from the German of Dr. Robert Wiedersheim, Professor of Anatomy, and Director of the Institute of Human and Comparative Anatomy in the University of Freiburg-in-Baden. By W. N. Parker, Ph.D., Professor of Zoology at the University College of South Wales and Monmouthshire in the University of Wales. Third edition (founded on the sixth German edition). Price 16s. net.

NEW SYDENHAM SOCIETY, THE, London. (Agent: H. K. LEWIS, 136, Gower-street, London, W.C.)
An Atlas of Illustrations of Clinical Medicine, Surgery, and Pathology. Compiled for the New Sydenham Society (A Continuation of the "Atlas of Pathology") chiefly from Original Sources. Fasciculus XXVII. (Double Number) being XXV. of the Clinical Atlas. Diseases of Fallopian Tube, Ovary, Uterus, &c. Price to non-subscribers 1 guinea.

STEVENS, B. F., AND BROWN, 4, Trafalgar-square, Charing Cross, London.
Optimism a Real Remedy. By Horace Fletcher. With a Foreword by William Dana Orcutt. Price 2s. 6d. net.

"THE LOCAL GOVERNMENT JOURNAL" OFFICE, 27A, Farringdon-street, London, E.C.
The Local Government Annual and Official Directory, 1908. Officially corrected. Edited by S. Edgcumbe Rogers. Seventeenth Year of Publication. Price 1s. 6d.

occupies a similar position with regard to von Graefe that Snellen does to Donders, and others in editing the chief German ophthalmic journal, von Graefe's *Archiv für Ophthalmologie*. Many of his original communications are contained in that journal. With Professor Landolt he is responsible for the article upon Ophthalmometrology in the first edition of the "Graefe-Saemisch Handbuch der gesammten Augenheilkunde." He wrote the chapter on the Methods of Determining the Acuity of Vision in "Norris and Oliver's System of Diseases of the Eye," an essay on the Development of our Knowledge of Glaucoma in the *Ophthalmic Review* (1881), &c. Snellen was appointed to the chair of ophthalmology in the University of Utrecht in 1877; he resigned in 1899, when he was succeeded by his son Hermann Snellen, junior.

We are indebted to Mr. E. Nettleship for the following remarks: "I first saw Snellen about 1872 or 1873 when he was in London; I was curator of the Moorfields Museum, only just commencing ophthalmic work, and beyond a general impression that he was a learned but very accessible man nothing remains. In the early 'eighties' I went to Holland for a short time, taking Utrecht first, and well remember the warmth and cordiality with which my wife and I were received at his house and that of Professor Donders, to whom he introduced us. Snellen paid frequent visits to Great Britain; he spoke English fluently and was a genuine admirer of many things English. He was intensely national in spirit and expressed the strongest dislike to the possibility of his country being absorbed into the German Empire. Snellen was a most genial, kindly, warm-hearted man, of the simplest habits, and intensely fond of his large family. He was a striking personality—large-framed, tall, with handsome features, and especially fine eyes, which though usually mild in expression could show animation and intense fire on occasion. Of placid temper, he had the gift of never fussing or seeming hurried, but of never being too late, and he carried his quiet energy and methodical thoroughness into his professional work. His operative manner and method were, I thought, equal to the best, although I remember thinking his desire for improvement sometimes led him to try new modes, especially of dressing after operation, rather readily, and always to think the newest plan the best."

ROBERT BIRCH, L.R.C.P. LOND., M.R.C.S. ENG., L.S.A.

Mr. Robert Birch of Newbury, who died on Jan. 24th, was formerly one of the principal practitioners in the town, but the state of his health unfortunately compelled him to relinquish active work some years ago and he had for a long time been a confirmed invalid. He was born in 1850 at Lichfield in Staffordshire, where his father was a solicitor. He studied medicine at King's College and was admitted a Licentiate of the Society of Apothecaries in 1871; in 1873 he took the diplomas of L.R.C.P. Lond. and M.R.C.S. Eng. He went to Newbury in 1876 and entered into partnership with the late Dr. Ryott. When the Newbury district hospital was established in 1885 he joined the medical staff, and on resigning his position in 1898 on the ground of ill-health he was elected one of the consulting medical officers. He was for a time a member of the Newbury town council and filled several other offices of local importance, having been a commissioner of taxes and librarian of the literary and scientific institution. He was one of the founders of the Newbury and District Medical Society, of which he was afterwards honorary secretary and president. Mr. Birch was married in 1882, and besides a widow he has left four sons and one daughter. The body was cremated at Woking on Jan. 25th.

FREDERICK MORITZ SYKES, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.

THE death of Mr. Frederick Moritz Sykes occurred after a short illness at his residence, the Manor House, Bridlington, on Feb. 7th. The deceased, who was a native of Clitheroe, studied at Edinburgh, and after qualifying there and also obtaining the Licence of the Glasgow Faculty made a voyage to the Amazon. In 1894 he went to Bridlington where he entered into partnership with Dr. T. Thompson, with whom he carried on a very extensive practice up to 1900, when his partner left the town in consequence of failing health. Thereafter, Mr. Sykes undertook the entire conduct of the practice alone. He was a member of the honorary medical staff of the Lloyd Hospital. From the first he was exceedingly popular and was held in great esteem by all classes of the community.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. G. Levy, formerly physician of the Civil Hospital of Strasburg.—Dr. T. Lemberger, *privat-docent* of pharmacology in the University of Cracow.

Medical News.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—At examinations held in February for the Diploma in Public Health the following candidates were successful:—

Martha Adams, M.B. Glasg.; Robert Muschamp, L.R.C.P. & S. Edin.; and John James Scanlan, L.R.C.P. & S. Edin.

APOTHECARIES' HALL OF IRELAND.—At a special meeting of the court held on Feb. 3rd the following candidates having passed the necessary examinations were admitted Licentiates in Medicine, Surgery, Midwifery, and Pharmacy of the Apothecaries' Hall of Ireland:—

Synott Valentine O'Connor and John Hargreaves Robinson.

FOREIGN UNIVERSITY INTELLIGENCE.—*Budapest:* Dr. Frans Pcór has been recognised as *privat-docent* of Dermatology and Dr. Kornél Scholtz as *privat-docent* of Ophthalmology.—*Heidelberg:* Dr. Carl Menge of Erlangen has been appointed Professor of Midwifery and Gynæcology in succession to Professor von Rosthorn.—*Kieff:* Dr. F. Stefanis, Extraordinary Professor of Anatomy, has been appointed Ordinary Professor.—*Philadelphia:* Dr. B. F. Stahl has been appointed Professor of Medicine and Dr. M. B. Hartzell Professor of Dermatology in the Woman's Medical College of Pennsylvania, and Dr. J. H. Gibbon Professor of Surgery in the Jefferson Medical College.—*Pisa:* Dr. G. Gonella of Cagliari has been appointed to the chair of Ophthalmology.—*Toronto:* Dr. Charles K. Clarke has been appointed to the chair of Psychiatry.

LITERARY INTELLIGENCE.—The Oxford University Press will publish immediately the Fitz-Patrick lectures delivered before the Royal College of Physicians of London by Dr. Norman Moore, under the title "The History of the Study of Medicine in the British Isles." The volume contains numerous illustrations.

CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH AT BUXTON.—A congress of the Royal Institution of Public Health will take place at Buxton from July 18th to 24th under the presidency of the Right Honourable Victor Cavendish, M.P. An exhibition of medical and sanitary equipments, appliances relating to school hygiene, and gas, water, and electrical apparatus will be held in the fine corridor of the Buxton Pavilion (352 feet long), and will be open to the public. The honorary secretaries of the exhibition are Mr. J. W. Souden and Mr. W. J. Leeming, Electricity Works, Buxton.

UNREGISTERED DENTISTS.—At a meeting recently held at Torquay of the registered dental practitioners of Torquay and Paignton the following motion was carried:—

> That in view of the rapidly increasing number of unregistered persons practising dentistry and evading the Dental Act of 1878, we appeal to all registered dental surgeons throughout the country to use their utmost endeavour by local combination to assist the authorities in taking steps to amend the Act and whenever possible to bring forward cases to enable them to take action.

The following resolution has been signed and sent to the General Medical Council:—

> We the undersigned registered dental surgeons in practice in Torquay and Paignton, S. Devon, desire to draw your attention to the urgent need for some action to be taken to check the increasing evil of unregistered persons practising dentistry and evading the Dentists Act of 1878. During the past two years ten or more unregistered persons have started practice in these towns and the vicinity and we feel it is quite time that something should be done for our protection. (Signed)—Torquay: J. R. Andrews, F. N. Codrington Butler, Frank Briggs, J. Garnet Hemsted, Alfred Hunt, H. Helyar, T. S. Kendell, L. Strangways, J. Glanville Turle, and Rupert Wheatley. Paignton: C. B. Grenville, William Foot, James Petherbridge, and W. R. Whelock.

Notes, Short Comments, and Answers to Correspondents.

MISAPPLIED INGENUITY.

Two men are said to have purchased 38 pound packages of margarine with a quarter of a pound of butter at 10*d.* The police stated that the quarter of a pound of butter had been cut into small pieces, one of which had been put on the end of the pound packages of margarine, so that intending customers could then taste the genuine 10*d.* butter without coming to the margarine. One of the men went into a small shop in Blackburn, posing as a farmer whose milk float had broken down, and asked the shopkeeper if she would take a pound of butter at 1*s.* She took it, but as it was a little short of weight she received 1*d.* back. The men pleaded guilty and were sent to prison for three months. This will give them time to think over, and perhaps to improve on, their plans. It is a pity that so much ingenuity should take such an abnormal twist.

PRECAUTIONS IN DISPENSING POISONOUS LINIMENTS AND APPLICATIONS TO HOSPITAL PATIENTS.

To the Editor of THE LANCET.

SIR,—A distressing case of poisoning by misadventure has recently come under my observation in which a hospital patient, 76 years of age, took some aconite, belladonna, and chloroform liniment in mistake for a dose of medicine with fatal results, in spite of the fact that the liniment was dispensed in a fluted poison bottle, distinctly labelled *poison, for external use only.* This very forcibly impresses upon me the necessity of safeguarding the public as far as possible against such mishaps by a further precaution—that is, using a metal sprinkler instead of an ordinary cork for such bottles, which method would serve two useful purposes. In the first place it cannot be removed from the bottle without attracting the attention of children or persons who cannot read or in the case of a person under the influence of drink or distracted with pain. And in the second place it would insure economy in using the liniment which is a distinct consideration for those engaged in hospital dispensing, and although many suggestions have been made from time to time to make poison bottles more distinctive none appears to me so practical as using a sprinkler instead of an ordinary cork. Some years ago a similar fatality occurred with an out-patient of a London hospital, but in that instance the belladonna liniment was dispensed in an ordinary eight-ounce medicine bottle. I am, Sir, yours faithfully,

J. A. THOMAS, M.P.S.

General Hospital, Cheltenham, Feb. 8th, 1907.

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H. R. T.—We cannot give our correspondent an answer without knowing the circumstances of the case more definitely. There might be no harm in "Upsilon's" request.

ERRATUM.—In our analytical notice of Irish whisky on p. 433 in our issue last week, in the sentence "Analysis readily discriminated the two, the former being a blend of pot-still and patent-still spirit and the latter a pure pot-still spirit," the word "principally" was inadvertently omitted between the words "latter" and "a."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—*London* (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), *Chelsea* (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. *George's* (*Ophthalmic*, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2 30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY. (*Pathological Section*). 8.30 P.M., Discussion on Acidosis in Pregnancy (opened by Dr. J. B. Leathes). Dr. Spriggs and Dr. Bainbridge will continue the discussion. The Obstetric Section of the Royal Society of Medicine is especially invited.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—9 P.M., Mr. C. J. Symonds: Tuberculosis of the Kidney (illustrated by lantern slides, cases, and specimens). (Second Lettsomian Lecture.)

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Fleet-Surgeon P. W. Bassett-Smith: Kala Azar in the Royal Navy (*with illustrative cases*). Sir Patrick Manson: A Case of Kala Azar ending in Recovery. Dr. J. Cropper: Phenomenal Abundance of Malarial Parasites in the Peripheral Circulation from a Case of Pernicious Malaria in the Jordan Valley.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Dr. G. Carpenter, Dr. E. Cautley, Dr. Whipham, Dr. P. Parkinson, Mr. G. Pernet, Mr. M. Yearsley, Mr. S. Stephenson, and others: Cases. Mr. H. S. Clogg: A Case of Intestinal Obstruction, Resection of a Foot of Gangrenous Intestine, Recovery.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. C. L. Curties and Mr. J. E. Barnard Exhibitions of Slides and Lamp. Mr. E. M. Nelson: Eye-pieces for the Microscope. Rev. E. Tozer: The Life History of a New Protophyte. Mr. F. Chapman: On Dimorphism in the Recent Foraminifer, Alveolina Boscii.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, Chelsea, S.W.

TUESDAY.—8.30 P.M., Mr. C. English: The Quiescent Appendix. Dr. T. W. Parkinson: Contrast of Symptoms in Two Cases of Cancer of the Pancreas.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. V. Bonney: A Study of the Connective Tissues in Carcinoma and in certain Pathological Conditions preceding its Onset.
(Hunterian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. J. M. H. MacLeod: Lupus Erythematosus.

TUESDAY.—4 P.M., Dr. W. Harris: Clinique (Medical). 5.15 P.M., Dr. M. C. Hawkes: Swedish Medical Gymnastics, their Application in the Treatment of Diseases of the Nervous System.

WEDNESDAY.—4 P.M., Mr. J. Pardoe: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Mackenzie: The Nature of the Symptoms in Heart Failure.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. T. W. Eden: The Examination of Pregnant Women before Labour.

FRIDAY.—4 P.M., Mr. A. Lawson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Pritchard: On the Vaccination Treatment of Infective Diseases.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Edwards: Clinical.

nursed or maintained in consideration of a sum of money paid down. The Bill further enables the local authority to remove an infant kept by a person who is unfit by character or otherwise to have his or her care or maintenance or who is in a house unsuitable for the purpose. This subject is also dealt with in the Children Bill.

Dairies (Scotland) Bill.

A Bill has been introduced into the House of Commons by Mr. GULLAND for the purpose of regulating dairies in Scotland and insuring the purity of milk-supplies.

HOUSE OF LORDS.

TUESDAY, FEB. 11TH.

Milk Legislation.

The Earl of NORTHBROOK asked the President of the Board of Agriculture whether it was the intention of the Government to introduce legislation with regard to the milk supply during the present session; and, in the event of such legislation being introduced by the Local Government Board, what steps the Board of Agriculture proposed to take for the purpose of safeguarding the interests of agriculture.

Earl CARRINGTON said that, as had been announced in the House of Commons, it was the intention of the Government to introduce legislation this session with regard to milk-supply. He admitted that the present control of the milk industry was not at all in as satisfactory condition as could be wished. The Board of Agriculture was anxious to do everything it possibly could to put the industry on a safer and more satisfactory basis. As regarded the second part of the question the Government could not be expected to make a definite announcement until the proposals were a little more developed. He would do all he could legitimately to protect farmers consistently with the public interest.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 5TH.

Moisture in Irish Butter.

Mr. RICHARDSON asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, what labelling would be necessary for Irish butter sold to the public which might contain more than 16 per cent. of moisture and up to 24 per cent. of moisture.—Sir EDWARD STRACHEY replied: The Board has no authority to determine the manner in which Irish butter containing more than 16 per cent. of water should be sold so as to avoid giving rise to a complaint by the purchaser under the Sale of Food and Drugs Acts and it is not desirable that it should express an opinion on the question.

A Case of Anthrax.

Sir FRANCIS CHANNING asked the Secretary of State for the Home Department whether an inquiry had been, or would be, made into the death by anthrax in the Royal Albert Hospital, Devonport, of John Tidds, a labourer, who had recently been employed in unloading a steamer which arrived from Karachi with a cargo of grain; and whether, having regard to occasional cases of infection from handling cargoes of hides, wool, and other articles from abroad, representations by circular, and in British possessions by regulations, had been, or would be, made and communicated to foreign shippers, British consuls, and officials to secure better precautions against infection.—Mr. GLADSTONE furnished the following written reply: Inquiries have been made by the factory inspector of the district and the certifying surgeon into this case. It appears that the man had been engaged in the hold of the vessel handling bags containing Karachi barley and it is suggested by the certifying surgeon that the infection was conveyed by the sacks. A danger of this kind is obviously one that is very difficult to guard against. The Home Office has circulated cautionary notices for posting in premises where infected material is likely to be handled, and has also, through the Foreign Office, circulated widely to our consuls abroad copies of a series of lectures on anthrax which were delivered some little time ago by the medical inspector of factories. It is difficult to see what further steps can be taken until the advance of scientific inquiry discloses new methods of detecting the danger and new precautions that may be taken to meet it.

THURSDAY, FEB. 6TH.

The Administration of the Vaccination Act, 1907.

Mr. LLOYD MORGAN asked the Secretary of State for the Home Department whether when declarations were made by conscientious objectors under the Vaccination Act, 1907, before a justice of the peace without going to petty sessions a fee of 1s. had to be paid by the person making the declaration; and whether the justice of the peace before whom the declaration was made was obliged to demand the payment of the fee and pay it over to the county fund as a clerk's fee.—Mr. GLADSTONE replied: A fee authorised by a table of justices' clerk's fees can be demanded only when a clerk has rendered the service in respect of which the fee is authorised. I am advised that when a declaration is made before a justice in the absence of a clerk no fee should be demanded.

Mr. BLACK asked the President of the Local Government Board whether he was aware that vaccination officers in some parts of the country were not sending the parents of unvaccinated and unexempted children the notice "Q" before those children reached the age of four months; and whether he would issue a special circular to all vaccination officers reminding them of their duty in this respect, so that those parents who were still unaware of the provisions of the Act of 1907 might have time to acquaint themselves with the present state of the law before it was too late for them to make a declaration of conscientious objection when they wished to do so, but were unaware of the time limit.—Mr. BURNS replied: I have not received the complaint that vaccination officers in any part of the country are not sending the notice referred to. Their duty in the matter was pointed out in a circular issued to the guardians last year, a copy of which I requested might be given to each vaccination officer. It does not seem necessary to issue another circular; but if my honourable friend is aware of any case in which the vaccination officer has omitted to serve the notice, and if he will give me the particulars of it, I will make inquiry with regard to it. I may add that in consequence of orders which I have caused to be issued the parent is made acquainted with the provisions of the new Vaccination Act at the time when the birth of the child is registered. These orders have been in force since September last.

Mr. CROOKS asked the President of the Local Government Board whether his attention had been called to difficulties that had arisen in obtaining the benefits of the Vaccination Act, 1907, in cases where the father of a child had been personally precluded from making a statutory declaration in consequence of absence from England on business as a sailor or otherwise at the time of the birth of his child and for the four months afterwards allowed by the Act in which the statutory declaration was to be made; and whether he would consider the advisability of taking steps, by legislation or otherwise, to enable in such circumstances the wife to make the necessary statutory declaration under the provisions of Section 35 of the Vaccination Act, 1867, in the absence of her husband.—Mr. BURNS replied by written answer: My attention has been called to difficulties of the kind mentioned since the passing of the Act of last session. The law officers advised in 1893 that, in ordinary circumstances, the father was the only person who could obtain a certificate of conscientious objection, and a similar view would no doubt apply to the making of a declaration under the recent Act. I am not empowered to decide whether, in circumstances such as those mentioned in the question, the mother would be the person competent to make the declaration; but it seems to me that, if she did so, proceedings ought not to be taken against the father.

FRIDAY, FEB. 7TH.

Medical Appointments in the Territorial Force.

Mr. CROOKS asked the Secretary of State for War whether it was proposed to appoint Surgeon-Lieutenant-Colonel (Honorary Surgeon-Colonel) P. B. Giles, one of the medical officers of the First Herefordshire Rifle Volunteers, to the office of principal medical officer of one of the London divisions of the Territorial Army, who did not reside in London; and, if any question of seniority of commission was concerned in the appointment, whether such a principle of selection had been adopted in connexion with similar appointments to other divisions of the Territorial Army.—Mr. HALDANE furnished the following written reply: It is proposed to appoint this officer as stated in the question. He is commandant of the Volunteer Ambulance School in London, an institution which has been most successful in training a large proportion of volunteer medical officers. He resides near London. Seniority was not the determining factor in selecting officers for the appointment mentioned in the question, but those officers best fitted to carry out the work were chosen, seniority being given its due weight.

MONDAY, FEB. 10TH.

The Medical Inspection of School Children.

Mr. WEDGWOOD asked the President of the Board of Education whether his attention had been called to the speech of the chairman of the Staffordshire education committee in which he stated that the efficiency or otherwise with which the local authorities put into operation the medical inspection of school children would be a determining factor in the annual grant given by the Board of Education; whether this was generally known by all local education authorities; and whether the Board would circularise authorities, stating at the same time that it considered the appointment of whole-time medical men, as in Staffordshire, to be the surest way of securing this efficiency.—Mr. MCKENNA replied: The Board has stated in section 10 of the Memorandum on Medical Inspection which has been issued to all local education authorities that the effectiveness of the minimum inspection required under the Act will in future be one of the elements to be considered in determining the efficiency of each school as a grant-aided school. The appointment of whole-time medical officers will no doubt be advisable in larger and more populous districts, but in view of the differences in area and population among the various local education authorities who are charged with the duties of inspection, I do not think an expression of opinion such as my honourable friend suggests could be made of universal or even of general application. The Board will always be happy to give advice to any authority which desires to consult it, but the detailed arrangements and *personnel* required will be matters in the first instance for the consideration of the authority in the light of local circumstances and existing public health organisation.

Mr. MACKARNESS asked the President of the Board of Education whether he had considered the additional expense likely to be thrown upon the local authorities by carrying out the medical inspection of children under Section 13 of the Education Administrative Provisions) Act, 1907; and whether it was proposed to give them any relief from the Imperial Exchequer.—Mr MCKENNA answered: The financial arrangements in connexion with the forthcoming Education Bill will include an additional grant in aid of expenses of local education authorities under Part III. of the Act.

Expenditure on Vaccination.

Answering Mr. LUPTON,

Mr. BURNS said that the total expenditure by boards of guardians on vaccination in 1905 was £275,828 and in 1906 £260,295. The total expenditure for 1907 was not yet completely ascertained.

TUESDAY, FEB. 11TH.

The Royal Commission on the Feeble-Minded.

In answer to Mr. WEDGWOOD, Sir HENRY CAMPBELL-BANNERMAN said that the chairman of the Royal Commission on the Feeble-Minded had informed him that the report of the Commission, which was in an advanced condition, had recently been delayed by unforeseen circumstances, but it was confidently hoped that it would be completed before Easter.

The Sale of Tuberculous Cattle.

Mr. CATHCART WASON asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether he was aware that cattle in the last stages of tuberculosis were occasionally exposed for sale and food in the open market with consequent risk of spread of the disease and danger to human life; and whether he proposed to take any steps, by legislation or otherwise, in order that persons submitting dying diseased cattle for sale might be prosecuted.—Mr. BURNS sent the following written reply: My honourable friend has asked me to reply to this question.

Notes, Short Comments, and Answers to Correspondents.

MISAPPLIED INGENUITY.

Two men are said to have purchased 38 pound packages of margarine with a quarter of a pound of butter at 10*d*. The police stated that the quarter of a pound of butter had been cut into small pieces, one of which had been put on the end of the pound packages of margarine, so that intending customers could then taste the genuine 10*d*. butter without coming to the margarine. One of the men went into a small shop in Blackburn, posing as a farmer whose milk float had broken down, and asked the shopkeeper if she would take a pound of butter at 1*s*. She took it, but as it was a little short of weight she received 1*d*. back. The men pleaded guilty and were sent to prison for three months. This will give them time to think over, and perhaps to improve on, their plans. It is a pity that so much ingenuity should take such an abnormal twist.

PRECAUTIONS IN DISPENSING POISONOUS LINIMENTS AND APPLICATIONS TO HOSPITAL PATIENTS.

To the Editor of THE LANCET.

SIR,—A distressing case of poisoning by misadventure has recently come under my observation in which a hospital patient, 76 years of age, took some aconite, belladonna, and chloroform liniment in *mistake for a dose of medicine with fatal results, in spite of the fact* that the liniment was dispensed in a fluted poison bottle, distinctly labelled *poison, for external use only*. This very forcibly impresses upon me the necessity of safeguarding the public as far as possible against such mishaps by a further precaution—that is, using a metal sprinkler instead of an ordinary cork for such bottles, which method would serve two useful purposes. In the first place it cannot be removed from the bottle without attracting the attention of children or persons who cannot read or in the case of a person under the influence of drink or distracted with pain. And in the second place it would insure economy in using the liniment which is a distinct consideration for those engaged in hospital dispensing, and although many suggestions have been made from time to time to make poison bottles more distinctive none appears to me so practical as using a sprinkler instead of an ordinary cork. Some years ago a similar fatality occurred with an out-patient of a London hospital, but in that instance the belladonna liniment was dispensed in an ordinary eight-ounce medicine bottle. I am, Sir, yours faithfully,

J. A. THOMAS, M.P.S.

General Hospital, Cheltenham, Feb. 8th, 1907.

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H. R. T.—We cannot give our correspondent an answer without knowing the circumstances of the case more definitely. There might be no harm in "Upsilon's" request.

ERRATUM.—In our analytical notice of Irish whisky on p. 433 in our issue last week, in the sentence "Analysis readily discriminated the two, the former being a blend of pot-still and patent-still spirit and the latter a pure pot-still spirit," the word "principally" was inadvertently omitted between the words "latter" and "a."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), *Charing Cross* (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), *St. Thomas's (2 P.M.), University College* (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY. (*Pathological Section*). 8.30 P.M., Discussion on Acidosis in Pregnancy (opened by Dr. J. B. Leathes). Dr. Spriggs and Dr. Bainbridge will continue the discussion. The Obstetric Section of the Royal Society of Medicine is especially invited.

MEDICAL SOCIETY OF LONDON, 11, *Chandos-street*, Cavendish-square, W.

MONDAY.—9 P.M., Mr. C. J. Symonds: Tuberculosis of the Kidney (illustrated by lantern slides, cases, and specimens). (Second Lettsomian Lecture.)

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Fleet-Surgeon P. W. Bassett-Smith: Kala Azar in the Royal Navy (with illustrative cases). Sir Patrick Manson: A Case of Kala Azar ending in Recovery. Dr. J. Cropper: Phenomenal Abundance of Malarial Parasites in the Peripheral Circulation from a Case of Pernicious Malaria in the Jordan Valley.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11 Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Dr. G. Carpenter, Dr. E. Cautley, Dr. Whipham, Dr. P. Parkinson, Mr. G. Pernet, Mr. M. Yearsley Mr. S. Stephenson, and others: Cases. Mr. H. S. Clegg: A Case of Intestinal Obstruction, Resection of a Foot of Gangrenous Intestine, Recovery.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. C. L. Curties and Mr. J. E. Barnard Exhibitions of Slides and Lamp. Mr. E. M. Nelson: Eye-pieces for the Microscope. Rev. E. Torey: The Life History of a New Protophyte. Mr. F. Chapman: On Dimorphism in the Recent Foraminifer, Alveolina Boscii.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, Chelsea, S.W.

TUESDAY.—8.30 P.M., Mr. C. English: The Quiescent Appendix Dr. T. W. *Parkinson*: Contrast of Symptoms in Two Cases of Cancer of the Pancreas.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY, WEDNESDAY, AND FRIDAY.—5 P.M., Prof. V. Bonney: A Study of the Connective Tissues in Carcinoma and in certain Pathological Conditions preceding its Onset.

(Hunterian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: *Clinique* (Skin). 5.15 P.M., Lecture:—Dr. J. M. H. MacLeod: Lupus Erythematosus.

TUESDAY.—4 P.M., Dr. W. Harris: Clinique (Medical). 5.15 P.M., Dr. M. C. Hawkes: *Swedish Medical Gymnastics*, their Application in the Treatment of Diseases of the Nervous System.

WEDNESDAY.—4 P.M., Mr. J. Pardoe: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Mackenzie: The Nature of the Symptoms in Heart Failure.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. T. W. Eden: The Examination of Pregnant Women before Labour.

FRIDAY.—4 P.M., Mr. A. Lawson: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X *Rays*. *Dr. Ball*: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: *Diseases* of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Pritchard: On the Vaccination Treatment of Infective Diseases.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Edwards: Clinical.

nursed or maintained in consideration of a sum of money paid down. The Bill further enables the local authority to remove an infant kept by a person who is unfit by character or otherwise to have his or her care or maintenance or who is in a house unsuitable for the purpose. This subject is also dealt with in the Children Bill.

Dairies (Scotland) Bill.

A Bill has been introduced into the House of Commons by Mr. GULLAND for the purpose of regulating dairies in Scotland and insuring the purity of milk-supplies.

HOUSE OF LORDS.

TUESDAY, FEB. 11TH.

Milk Legislation.

The Earl of NORTHBROOK asked the President of the Board of Agriculture whether it was the intention of the Government to introduce legislation with regard to the milk supply during the present session; and, in the event of such legislation being introduced by the Local Government Board, what steps the Board of Agriculture proposed to take for the purpose of safeguarding the interests of agriculture.

Earl CARRINGTON said that, as had been announced in the House of Commons, it was the intention of the Government to introduce legislation this session with regard to milk-supply. He admitted that the present control of the milk industry was not at all in as satisfactory condition as could be wished. The Board of Agriculture was anxious to do everything it possibly could to put the industry on a safer and more satisfactory basis. As regarded the second part of the question the Government could not be expected to make a definite announcement until the proposals were a little more developed. He would do all he could legitimately to protect farmers consistently with the public interest.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 5TH.

Moisture in Irish Butter.

Mr. RICHARDSON asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, what labelling would be necessary for Irish butter sold to the public which might contain more than 16 per cent. of moisture and up to 24 per cent. of moisture.—Sir EDWARD STRACHEY replied: The Board has no authority to determine the manner in which Irish butter containing more than 16 per cent. of water should be sold so as to avoid giving rise to a complaint by the purchaser under the Sale of Food and Drugs Acts and it is not desirable that it should express an opinion on the question.

A Case of Anthrax.

Sir FRANCIS CHANNING asked the Secretary of State for the Home Department whether an inquiry had been, or would be, made into the death by anthrax in the Royal Albert Hospital, Devonport, of John Tidds, a labourer, who had recently been employed in unloading a steamer which arrived from Karachi with a cargo of grain; and whether, having regard to occasional cases of infection from handling cargoes of hides, wool, and other articles from abroad, representations by circular, and in British possessions by regulations, had been, or would be, made and communicated to foreign shippers, British consuls, and officials to secure better precautions against infection.—Mr. GLADSTONE furnished the following written reply: Inquiries have been made by the factory inspector of the district and the certifying surgeon into this case. It appears that the man had been engaged in the hold of the vessel handling bags containing Karachi barley and it is suggested by the certifying surgeon that the infection was conveyed by the sacks. A danger of this kind is obviously one that is very difficult to guard against. The Home Office has circulated cautionary notices for posting in premises where infected material is likely to be handled, and has also, through the Foreign Office, circulated widely to our consuls abroad copies of a series of lectures on anthrax which were delivered some little time ago by the medical inspector of factories. It is difficult to see what further steps can be taken until the advance of scientific inquiry discloses new methods of detecting the danger and new precautions that may be taken to meet it.

THURSDAY, FEB. 6TH.

The Administration of the Vaccination Act, 1907.

Mr. LLOYD MORGAN asked the Secretary of State for the Home Department whether when declarations were made by conscientious objectors under the Vaccination Act, 1907, before a justice of the peace without going to petty sessions a fee of 1s. had to be paid by the person making the declaration; and whether the justice of the peace before whom the declaration was made was obliged to demand the payment of the fee and pay it over to the county fund as a clerk's fee.—Mr. GLADSTONE replied: A fee authorised by a table of justices' clerk's fees can be demanded only when a clerk has rendered the service in respect of which the fee is authorised. I am advised that when a declaration is made before a justice in the absence of a clerk no fee should be demanded.

Mr. BLACK asked the President of the Local Government Board whether he was aware that vaccination officers in some parts of the country were not sending the parents of unvaccinated and unexempted children the notice "Q" before those children reached the age of four months; and whether he would issue a special circular to all vaccination officers reminding them of their duty in this respect, so that those parents who were still unaware of the provisions of the Act of 1907 might have time to acquaint themselves with the present state of the law before it was too late for them to make a declaration of conscientious objection when they wished to do so, but were unaware of the time limit.—Mr. BURNS replied: I have not received the complaint that vaccination officers in any part of the country are not sending the notice referred to. Their duty in the matter was pointed out in a circular issued to the guardians last year, a copy of which I requested might be given to each vaccination officer. It does not seem necessary to issue another circular; but if my honourable friend is aware of any case in which the vaccination officer has omitted to serve the notice, and if he will give me the particulars of it, I will make inquiry with regard to it. I may add that in consequence of orders which I have caused to be issued the parent is made acquainted with the provisions of the new Vaccination Act at the time when the birth of the child is registered. These orders have been in force since September last.

Mr. CROOKS asked the President of the Local Government Board whether his attention had been called to difficulties that had arisen in obtaining the benefits of the Vaccination Act, 1907, in cases where the father of a child had been personally precluded from making a statutory declaration in consequence of absence from England on business as a sailor or otherwise at the time of the birth of his child and for the four months afterwards allowed by the Act in which the statutory declaration was to be made; and whether he would consider the advisability of taking steps, by legislation or otherwise, to enable in such circumstances the wife to make the necessary statutory declaration under the provisions of Section 35 of the Vaccination Act, 1867, in the absence of her husband.—Mr. BURNS replied by written answer: My attention has been called to difficulties of the kind mentioned since the passing of the Act of last session. The law officers advised in 1898 that, in ordinary circumstances, the father was the only person who could obtain a certificate of conscientious objection, and a similar view would no doubt apply to the making of a declaration under the recent Act. I am not empowered to decide whether, in circumstances such as those mentioned in the question, the mother would be the person competent to make the declaration; but it seems to me that, if she did so, proceedings ought not to be taken against the father.

FRIDAY, FEB. 7TH.

Medical Appointments in the Territorial Force.

Mr. CROOKS asked the Secretary of State for War whether it was proposed to appoint Surgeon-Lieutenant-Colonel (Honorary Surgeon-Colonel) P. B. Giles, one of the medical officers of the First Herefordshire Rifle Volunteers, to the office of principal medical officer of one of the London divisions of the Territorial Army, who did not reside in London; and, if any question of seniority of commission was concerned in the appointment, whether such a principle of selection had been adopted in connexion with similar appointments to other divisions of the Territorial Army.—Mr. HALDANE furnished the following written reply: It is proposed to appoint this officer as stated in the question. He is commandant of the Volunteer Ambulance School in London, an institution which has been most successful in training a large proportion of volunteer medical officers. He resides near London. Seniority was not the determining factor in selecting officers for the appointment mentioned in the question, but those officers best fitted to carry out the work were chosen, seniority being given its due weight.

MONDAY, FEB. 10TH.

The Medical Inspection of School Children.

Mr. WEDGWOOD asked the President of the Board of Education whether his attention had been called to the speech of the chairman of the Staffordshire education committee in which he stated that the efficiency or otherwise with which the local authorities put into operation the medical inspection of school children would be a determining factor in the annual grant given by the Board of Education; whether this was generally known by all local education authorities; and whether the Board would circularise authorities, stating at the same time that it considered the appointment of whole-time medical men, as in Staffordshire, to be the surest way of securing this efficiency.—Mr. MCKENNA replied: The Board has stated in section 10 of the Memorandum on Medical Inspection which has been issued to all local education authorities that the effectiveness of the minimum inspection required under the Act will in future be one of the elements to be considered in determining the efficiency of each school as a grant-aided school. The appointment of whole-time medical officers will no doubt be advisable in larger and more populous districts, but in view of the differences in area and population among the various local education authorities who are charged with the duties of inspection, I do not think an expression of opinion such as my honourable friend suggests could be made of universal or even of general application. The Board will always be happy to give advice to any authority which desires to consult it, but the detailed arrangements and *personnel* required will be matters in the first instance for the consideration of the authority in the light of local circumstances and existing public health organisation.

Mr. MACKARNESS asked the President of the Board of Education whether he had considered the additional expense likely to be thrown upon the local authorities by carrying out the medical inspection of children under Section 13 of the Education Administrative Provisions) Act, 1907; and whether it was proposed to give them any relief from the Imperial Exchequer.—Mr. MCKENNA answered: The financial arrangements in connexion with the forthcoming Education Bill will include an additional grant in aid of expenses of local education authorities under Part III. of the Act.

Expenditure on Vaccination.

Answering Mr. LUPTON,

Mr. BURNS said that the total expenditure by boards of guardians on vaccination in 1905 was £275,828 and in 1906 £260,295. The total expenditure for 1907 was not yet completely ascertained.

TUESDAY, FEB. 11TH.

The Royal Commission on the Feeble-Minded.

In answer to Mr. WEDGWOOD, Sir HENRY CAMPBELL-BANNERMAN said that the chairman of the Royal Commission on the Feeble-Minded had informed him that the report of the Commission, which was in an advanced condition, had recently been delayed by unforeseen circumstances, but it was confidently hoped that it would be completed before Easter.

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Communications, Letters, &c., have been received from—

A.—Mr. W. F. Allingham, Worthing; Apothecaries' Hall, Ireland, Dublin, Secretary of; Messrs. Arthur and Co., Lond.; Mr. Thomas Allen, Lower Wick; Mr. G. Armand, Paris; Agence Franco-Anglaise de Publicité, Paris; Argyll Motors, Alexandria.

B.—Mr. J. W. Benson, Lond.; Dr. J. Breña, Zacatecas, Mexico; Mr. R. Sidney Betts, Bournemouth; Bayer Co., Lond.; Bedfordshire County Council, Bedford, Clerk to the; Messrs. J. Beal and Son, Brighton; Messrs. G. Back and Co., Lond.; Bolton Infirmary, *Secretary of*; British Pharmaceutical Codex, Lond., Publisher of; Dr. D. Bower, Bedford; Mr. C. Buttar, Lond.; Bristol, Medical Officer of Health of; British Association for the Advancement of Science, Lond.; Dr. C. L. Birmingham, Westport; Bradford Education Committee, Secretary of; Messrs. T. B. Browne, Lond.; Benefited; Dr. T. M. Bride, Manchester.

C.—Mr. H. H. Clutton, Lond.; The Cancer Hospital, Lond., *President and Committee of*; Mr. W. Carter, Watford; Mr. J. W. Astley Cooper, Cockermouth; Canada, Department of Agriculture, Ottawa, Veterinary *Director-General of*; Chelsea Clinical Society, President and Council of; Dr. Edmund Cautley, Lond.; Cardiff Education Committee, Director of; Mr. F. W. Clarke, Chorlton-cum-Hardy; Dr. H. E. Corbin, Stockport.

D.—Mr. J. Scott Duckers, Lond.; Mr. C. M. Dickinson, Crawshawbooth; David Lewis Northern Hospital, Liverpool, Secretary of; Domina; Messrs. Down Bros., Lond.; Daimler Motor Co., *Coventry; Mr. Leonard S.* Dudgeon, Lond.; Sir Dyce Duckworth, Lond.

E.—Dr. E. Emrys-Roberts, Liverpool; Egyptian Government *Inspector-General of Prisons*, Cairo; Messrs. Evans, Sons, Lescher, and Webb, Lond.

F.—Mr. A. Freer, Stourbridge; Mr. R. Ferner, Leipzig.

G.—Messrs. R. W. Greeff and Co., Lond.; G. H. R. D.

H.—Dr. A. J. Hall, Sheffield; Hospital Almoners' Council, Lond., *Secretary of*; Holborn Surgical Instrument Co., Lond.; Dr. J. B. Hellier, Leeds; Messrs. Hankinson and Son, Bournemouth; Dr. L. Hamel, Havre; Dr. John B. Huber, *New York*; Hastings, Town Clerk of; Hampstead General Hospital, Lond., Secretary of.

I.—India, Under-Secretary of State for, Lond.; Ilford, Ltd., Ilford; *Interstate Medical Journal*, St. Louis.

J.—Dr. Ernest Jones, Lond.

K.—Dr. H. Kerr, Newcastle-on-Tyne; Mr. S. Keir, Lancaster; Messrs. Knoll and Co., Lond.; Messrs. R. A. Knight and Co., Lond.; Dr. Charles Kerr, Dundee; Messrs. Kemsley Lond.

L.—Mr. H. K. Lewis, Lond.; Dr. T. Glover-Lyon, Lond.; Mr. C. Lane, Monghyr, India; Mr. C. Lillington, Lillehammer, Norway; Dr. Alexander Lundie, Dalmuir.

M.—Mr. P. F. Murphy, Lond.; Mr. W. R. Meyer, Hurstpierpoint; Mr. H. C. MacBryan, Box; *Dr. F. G. Miranda, Grenada*; Mr. R. Mosse, Zürich; Messrs. W. Marshall and Son, Lond.; The Moto-Rêve Co., Lond.; Mr. John D. Malcolm, Lond.; *Dr. D. M. MacDonald, Dunkeld*; Messrs. Merttens and Co., Manchester; Dr. H. MacCormac, Lond.; Messrs. Masson and Co., Paris; Messrs. C. Macintosh and Co., Manchester; Medical Society of London, President and Council of; Dr. C. E. Michael, Lond.

N.—Dr. G. W. Nicholson, Lond.; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

P.—Mr. Stephen Paget, Lond.; Dr. M. S. Paterson, Frimley; Dr. W. Pasteur, Lond.; *The Prescriber*, Edinburgh; Plymouth Royal Eye Infirmary, Secretary of; Dr. H. Pike, Paris; Miss K. Phillips, Liverpool; Messrs. Peacock and Hadley, Lond.; Dr. L. Powell, Lond.

Q.—Dr. L. C. Query, Paris.

R.—Dr. S. J. Ross, Bedford; Captain E. A. Roberts, I.M.S., Sanawar, India; Royal Society of Medicine, Lond., Secretary of; Mr. A. Rau, Frankfort; Major C. Robinson, R.A.M.C., Gibraltar; Mr. C. Ryall, Lond.; Royal Victoria Infirmary, Newcastle-on-Tyne, Secretary of; Royal Waterloo Hospital, Lond., Special Appeal Committee, Organising Secretary of; Messrs. *Reynolds* and Branson, Leeds.

S.—Dr. A. B. Slater, Lond.; Messrs. Savory and Moore, Lond.; Messrs. G. Street and Co., Lond.; Messrs. Stonebridge and Foll, Woburn Sands; *Dr. Frank* Shufflebotham, Newcastle-under-Lyne; Dr. E. I. Spriggs, Lond.; Mr. N. L. Usher Somers, West Bromwich; Seamen's Hospital, Society, Lond., Secretary of; Messrs. Southall, Birmingham; Star Engineering Co., Wolverhampton; Smith's Advertising Agency, Lond.; *Dr. E. F.* Sherman, Richmond, *U.S.A.*; Selangor State, Acting-Surgeon of; Dr. G. Arbour Stephens, Swansea; Scholastic, Clerical, &c., Association, Lond.

T.—Dr. F. M. Turner, Lond.; Mr. H. Henry Thorp, Stafford; Mr. J. A. Thomas, Cheltenham; Miss A. Taylor, Edinburgh; Dr. W. H. Maxwell Telling, Leeds.

V.—Dr. G. Variot, Paris.

W.—Dr. J. Sim Wallace, Lond.; Dr. W. H. Wright, Derby; Dr. C. C. Withrow, Fort William; Messrs. J. Wiley and Son, New York; Mr. C. Walker, Liverpool; Wand Manufacturing Co., Leicester; Mr. James R. Whitwell, Melton; Mr. A. G. Whitehorne-Cole, Hove; Worcestershire County Council, Worcester, Clerk of; W. T. S.; Mr. J. Williams, Bradford; Messrs. Willing and Co., Lond.

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Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALEXANDER, G. H., has been appointed Clinical Assistant to the Samaritan Free Hospital.

CHISOLM, R. A., M.B., B.S. Oxon., has been appointed Assistant Physician to the North-Eastern Hospital for Children, Hackney-road, Bethnal Green.

CRESWELL, A. H., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cinderford District of the county of Gloucester.

HALL, GEORGE, M.D. Lond., B.Sc. Durh., M.R.C.P. Lond., has been appointed Honorary Pathologist to the Royal Victoria Infirmary, Newcastle-on-Tyne.

HAWES, IVON HENRY SKIPWITH, M.B., B.S. Durh., has been appointed Medical Officer and Public Vaccinator for the No. 4 District by the Chipping Sodbury (Gloucestershire) Board of Guardians.

HUGHES, ROBERT, M.B. Lond., has been appointed Medical Officer to the School Management Committee, Fenton, Staffordshire.

MORGAN, DAVID JAMES, M.D., B.C. Cantab., D.P.H. R.C.P.S., has been appointed Medical Officer of Health of the County Borough of Swansea.

RACE, JOHN PERCY, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Assistant Medical Officer at the Joint Counties Asylum, Carmarthen.

REVIE, A., M.B., C.M. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the works of Messrs. Grant, Ritchie, and Co., Limited, at Kilmarnock, in the county of Ayr.

WEBB, GILBERT L., M.B., B.C. Cantab., has been appointed Resident Medical Officer at the British Lying-in Hospital.

WILSON, WILLIAM ROBERT, L.R.C.P. & S. Irel., L.S.A., has been appointed Medical Officer to the Penzance Port Sanitary Authority.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Physician, also House Surgeon. Salaries £80 per annum, with board, lodging, and washing.

BEDFORDSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £250 per annum, rising to £300, with expenses.

BENENDEN SANATORIUM FOR TUBERCULOSIS.—Medical Superintendent. Salary £250 per annum, with board, lodging, and attendance.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident House Surgeon. Salary £100 and fees. Also Junior Resident House Surgeon. Salary £80 and fees.

BOLINGBROKE HOSPITAL Wandsworth Common, S.W.—House Surgeon. Salary £75 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Senior and Junior House Surgeons. Salary for Senior £130 and for Junior £100 per annum, with apartments, board, and attendance.

BRADFORD EDUCATION COMMITTEE.—Two Assistants (one male, one female) to the Medical Superintendent. Salary £350 per annum each.

BRIGHTON, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £600 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, residence, and laundry.

BRISTOL ROYAL INFIRMARY.—Obstetric Officer. Salary £75 per annum. Also Junior House Surgeon for six months. Salary at rate of £80 per annum. Also Casualty Officer for six months. Salary at rate of £50 per annum. All with board, lodging, and washing.

CARDIFF EDUCATION COMMITTEE.—Two Assistant Medical Officers. Salaries in each case £220 per annum, rising by £10 yearly to £250 per annum.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary £150, increasing to £180 per annum, with board, lodging, washing, and attendance.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with residence, board, and washing.

GREAT NORTHERN CENTRAL HOSPITAL.—Casualty Officer. Salary £100 per annum.

HAMMERSMITH INFIRMARY AND WORKHOUSE, Ducane-road, Wormwood Scrubs, W.—Assistant Medical Superintendent Infirmary and Assistant Medical Officer of Workhouse. Salary £120 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL HOSPITAL, WITH WHICH IS AMALGAMATED THE NORTH-WEST LONDON HOSPITAL.—Two Physicians and one Surgeon.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior *House Surgeon*. Salary £90 per annum, with residence, board, and washing.

INVERNESS DISTRICT ASYLUM.—Assistant Medical Officer. Salary £10 per annum, with board, lodging, and laundry.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum and board.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

LEICESTER INFIRMARY.—Assistant House Physician, for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LINDSEY COUNTY COUNCIL, Lincolnshire.—Medical Officer of Health and Medical Inspector of School Children. Salary £400 per annum, rising to £500, with expenses.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—House Surgeon, also *House Physician. Salary £80 each per* annum, with residence and maintenance.

LONDON TEMPERANCE HOSPITAL.—Medical Registrar and Surgical Registrar. Salaries 40 guineas per annum. Also *Pathologist* and Bacteriologist. Salary 50 guineas per annum. Also Anæsthetist. Salary 20 guineas per annum. Also Radiographer. Salary 10 guineas per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, &c.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Resident Anæsthetist. Salary at rate of £40 per annum. Also Casualty Officer. Salary at rate of £150 per annum.

MIDDLESEX HOSPITAL, W.—Registrar *to the* Cancer Wards, also Scholar in the Cancer Research Laboratories. Salary *of the* Registrar £40 per annum and of the Research Scholar £60 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Albany Memorial, Queen-square, *Bloomsbury*.—Assistant *Pathologist*. Salary 50 guineas per annum.

NEW HOSPITAL FOR WOMEN.—Senior Assistant, Out-patient Children's Department; Two House Surgeons; Pathologist; also Medical Woman to take Charge of the Mechano Therapeutic Department.

NORFOLK COUNTY COUNCIL.—Medical Officer of Health. Salary £500 per annum, rising to £650.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

NOTTINGHAMSHIRE EDUCATION COMMITTEE.—School Medical Officer. Salary £300 per annum, and travelling expenses.

PLYMOUTH ROYAL EYE INFIRMARY.—Honorary Surgeon.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner *in Dental* Surgery.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination *for not less than* 15 Commissions.

ST. GEORGE-IN-THE-EAST INFIRMARY AND WORKHOUSE AND CASUAL WARDS.—Assistant Medical Officer. Salary £120 per annum, with rations and apartments.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, London, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, all found.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

WARRINGTON INFIRMARY AND DISPENSARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence and board.

WORCESTERSHIRE, BARNSLEY HALL ASYLUM, Bromsgrove.—*Second* Assistant Medical Officer. Salary £150 per annum, with quarters, board, washing, and attendance.

Births, Marriages, and Deaths.

BIRTH.

TANNER.—On Feb. 4th, at Farnham, Surrey, the wife of Charles E. Tanner, M.D., F.R.C.S., of a son.

MARRIAGE.

BEAMAN—COOPER.—On Feb. 1st, at St. Barnabas Church, *Addison-road, Kensington*, W., Winfrid Kelsey Beaman, Lieutenant, Royal Army Medical Corps, to Mary Ringland Cooper, of 1, *Kensington Hall-gardens*, W., only daughter of the late Mrs. W. A. Cooper.

DEATHS.

GALTON.—On Feb. 7th, at Chunam, Sylvan-road, Upper Norwood, John Henry Galton, M.D. Lond.

REAN.—On Feb. 6th, at Oxford-gardens, W., Surgeon-General William Henry Rean, M.D., retired, Indian Army, in his 81st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

which he had discovered in 1880 in his own saliva with the coccus which he had more recently isolated in cases of lobar pneumonia, but fell into the error of supposing it to be identical also with Friedländer's micro-organism. All this confusion and misunderstanding was, however, cleared up by the researches of Fraenkel, who in April (before the Congress für Innere Medicin, Berlin) and July, 1885, independently recognised the identity of Sternberg's coccus of *sputum septicæmia* with the pneumococcus, and quoted three cases of lobar pneumonia from which he had cultivated it on *solid media*. In communications during the course of the following year he published fuller accounts of his observations and gave differential descriptions of the pneumococcus and Friedländer's pneumobacillus.

In May, 1886, Weichselbaum communicated to the Gesellschaft für Aerzte (Vienna) a report to the effect that he had examined the exudate from 129 cases of pulmonary inflammation, of which 94 were undoubted lobar pneumonia and from which he cultivated the pneumococcus. In 21 of the same series he isolated a streptococcus and from nine cases only did he obtain Friedländer's pneumobacillus.

Early observers, as I have previously remarked, adhered rigidly to the postulates of Koch and attempted to prove that the action of the pneumococcus was special and specific and that its pathogenic properties were always, and solely, directed to the production of a special form of pulmonary inflammation which resulted in the consolidation of considerable areas of the lung tissue. When, however, they attempted to reproduce this lesion in laboratory animals it was found that the experimental animals rapidly succumbed to a general septicæmia, unaccompanied by lobar pneumonia, and it was necessary to continue the investigations until a combination of conditions sufficiently comparable to that obtaining in man was discovered, when the experimental infection resulted in the production of lobar pneumonia. This combination of conditions was finally obtained by Gamaleia (1888) working in the Pasteur Institute, for by employing sheep and dogs for his inoculation experiments he was successful in reproducing the typical pathological lesions of acute lobar pneumonia.

During the early inquiries into the life-history of the pneumococcus each worker, almost, applied to the organism a different title. The chief of these were as follows:—

1. Micrococcus Pasteuri	Sternberg.
2. Micrococcus pneumoniæ crouposæ	„
3. Microbe septicémique de salive	Pasteur.
4. Coccus lanceolatus	Talamon.
5. Coccus of sputum septicæmia	Fraenkel.
6. Bacillus septicus sputigenus	Flügge.
7. *Bacillus salivarius septicus*	Biondi.
8. Diplococcus pneumoniæ	Weichselbaum.
9. Diplobacillus pneumoniæ	Fraenkel and Weichselbaum.
10. Pneumococcus	„
11. Pneumonia coccus	„
12. Meningococcus	Foà and Bordoni-*Uffreduzzi.*
13. Micrococcus lanceolatus capsulatus	„
14. Diplococcus lanceolatus capsulatus	„
15. Diplococcus lanceolatus fibrinogenicus ...	„
16. Diplococcus lanceolatus œdematogenicus	„
17. Gleococcus *of* Fraenkel	Klebs.
18. Streptococcus *lanceolatus Pasteuri*	*Gamaleia.*

Of this formidable list only three have obtained any vogue—viz., pneumococcus, diplococcus pneumoniæ, *and* streptococcus lanceolatus. The last-named has the advantage of accurately describing the organism and is the title preferred by the purist. The first possesses the virtue of brevity, is the one in commonest colloquial use, and is the one that will be adhered to throughout the present paper.

So far all the investigations had been directed to the association of the pneumococcus with lobar pneumonia, but now that the causal nature of the association of the organism with this disease had been firmly established clinical observations concerning manifestations of the pathogenetic properties of the pneumococcus other than, but frequently associated with or following, lobar pneumonia gradually accumulated. For instance, Foà and Carbone (1894) encountered lesions in the human subject which, although apparently all due to invasion of the tissues by the pneumococcus, varied so widely in their histological characters that they felt compelled to recognise two distinct varieties or strains of this organism, which they designated respectively "œdematogenetic" and "fibrinogenetic"—descriptive adjuncts which sufficiently indicate the main histological characters of the lesions produced. *The first they named* the meningococcus and the second the pneumococcus.

As the numbers of workers increased, however, and animal experiments were multiplied it was found that—as in the case of other pathogenic bacteria—one and the same strain of pneumococcus could, by varying the conditions of experiments, be induced to produce widely varying lesions, while clinical observations showed the presence of the pneumococcus, obviously in a causal capacity, in very different pathological conditions.

SOME OF THE LESIONS DUE TO PNEUMOCOCCUS INFECTION.

Meningitis.—Foà and Bordoni-Uffreduzzi reported to the Royal Academy of Medicine, Turin, their observations on lanceolate diplococci which they had discovered in the exudation of cases of epidemic cerebro-spinal meningitis. They further identified this organism with Fraenkel's pneumococcus and published a most valuable study of its biological properties and cultural varieties. Many cases of meningitis associated with or following upon pneumonia have since been recorded by Weichselbaum, Netter, and others, and the disease has been frequently reproduced in the laboratory by means of subdural inoculations of the pneumococcus. At the same time, instances of primary infection of the central nervous system by the pneumococcus have accumulated, and when Wolff in 1897 carefully analysed the literature dealing with meningitis he found that the pneumococcus was recorded as the causative factor in over 40 per cent. of the total number of cases. Osler records a series of 93 cases of meningitis, of which over 22 per cent. were due to the pneumococcus. Brodie, Rogers, and Hamilton (1898), too, have described cerebro-spinal meningitis due to the pneumococcus consecutive to an epidemic form of rhinitis in African natives; and Turner, in a still more recent (1907) article notes the presence of 17 cases of *pneumococcic meningitis* (out of a series of 70 which were investigated bacteriologically) in natives employed in the Rand mines.

Ulcerative endocarditis.—Endocarditis usually affecting the aortic valve is frequently due to the pneumococcus. Both the vegetative and ulcerative varieties have been produced experimentally by Kruse, *Pansini*, *Vanni*, Netter, and others who, however, noted that unless some injury of the valve already existed an endocarditis could rarely be set up. The method usually adopted, therefore, was to pass a sterile probe down the carotid artery into the left ventricle and injure the valve, then to inject virulent broth cultures of the pneumococcus either directly into the heart or subcutaneously.

Suppurative pericarditis.—This is practically always consecutive to lobar pneumonia and pleurisy. Sometimes the exudation is sero-pus or serum containing large flakes of fibrin rather than ordinary pus. At other times the heart is enveloped in a thick membranous layer of fibrin-entangled pus cells and the visceral layer of the pericardium lined with a similar exudation, the two surfaces being separated by a perfectly clear serous fluid.

Pleurisy.—An exudation of clear serous fluid into the pleural cavity resulting from the extension of the pneumococcus through the lung to the visceral layer of the pleura is the commonest sequel of pneumonia, and at the same time, as it is usually readily reabsorbed and the pleura rarely requires opening, is the least important. Frequently, however, the pneumococcus multiplies rapidly in this fluid which then has a sero-purulent character and contains numerous large flakes of fibrin or may gradually merge into a fluid having all the appearance of ordinary pus. The pneumococcus, however, is often able to give rise to a serous or sero-purulent pleurisy quite apart from any antecedent of pneumonia, and this observation is of frequent occurrence in experimental inoculations into the trachea of the rabbit (through a catheter passed through the larynx). Under these conditions the pneumococcus may actually enter the lung, pass through the pulmonary tissues without leaving behind it any trace of inflammatory reaction, pass through the pleura, and reaching the pleural cavity produce a marked pleurisy which often extends to the enveloping membrane of the heart and causes a large collection of serous exudation within that sac. The frequency of the pneumococcus as the exciting cause of serous pleurisy is well shown in the following table, which includes those cases investigated bacteriologically in Guy's Hospital during the past five years—24 out of a total of 82, or a percentage of 29, being the result of the analysis.

FRIDAY.—10 A.M., Dr. M. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Disease.

URDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. W. Edmunds: Surgical Aneurysm.

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

ONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. Hewlett: Some Bacteriological Methods of Diagnosis.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Cancer of the Œsophagus.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

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TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).

FRIDAY.—3.30 P.M., Lecture:—Dr. G. French: Subjective Noises in the Head.

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FRIDAY.—3.30 P.M., Lecture:—Dr. Collier: Myasthenia Gravis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: Syphilis as it Modifies other Eruptions of the Skin: Symptoms, Diagnosis, and Treatment.

CHARING CROSS HOSPITAL.

THURSDAY.—3 P.M., Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M., Demonstration:—Dr. I. Bruce: Electrical. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.

WEDNESDAY.—4 P.M. Lecture:—Dr. Perkins: Cases from the Wards.

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THURSDAY.—4 P.M., Lecture:—Dr. Still: Dyspepsia in Children past the Period of Infancy.

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METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, Feb. 13th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Feb. 7	30·63	S.W.	...	62	60	40	43	43	Foggy
" 8	30·46	W.	...	72	47	40	39	41	Fine
" 9	30·44	W.	...	57	49	40	38	40	Cloudy
" 10	30·45	S.W.	...	62	50	40	42	44	Overcast
" 11	30·58	W.	...	65	51	40	40	41	Overcast
" 12	30·49	S.W.	...	75	51	41	43	45	Cloudy
" 13	30·23	E.	...	67	43	36	36	38	Hazy

During the week marked copies of the following newspapers have been received:—*Kensington News, Westminster Gazet West Sussex Gazette, Daily Dispatch (Manchester), Montreal Gr (Canada), Dublin Daily Express, Dublin Evening Telegraph, Advertiser, Liverpool Daily Post and Mercury, Daily Ne Herald, Yorkshire Observer, Broad Arrow, &c.*

being of considerable virulence and in the third of very low virulence.

In order to gain some idea of the frequency with which the pneumococcus is met with in situations other than pulmonary tissue and of the frequency with which its presence provokes the formation of pus, I have examined the records of the bacteriological department of Guy's Hospital for the past five years. Arranged in tabular form, the results conclusively demonstrate the validity of the claim of the pneumococcus to be considered, potentially at any rate, a pyogenic coccus, for after subtracting seven cases of septicæmia, two of infective endocarditis, and 24 of pleurisy with clear fluid, we have no less than 168 instances—rather more than 1 per cent. of the total number of bacteriological specimens for the five-year period—where the presence of the pneumococcus had led to the formation of exudations possessing all the physical attributes of pus.

TABLE III.—*Pneumococcic Lesions other than Pneumonia.*

—	1903	1904	1905	1906	1907	Totals.
Septicæmia … … … … … … … …	1	2	1	1	2	7
Infective endocarditis … … … … …	—	—	1	—	1	2
Purulent pericarditis … … … … … …	3	1	4	—	1	9
Purulent peritonitis (pure) … … …	1	1	2	2	4	10
" " (mixed) … … …	—	1	—	—	—	1
Appendicular abscess (pure) … … …	—	1	—	—	—	1
" " (mixed) … …	—	1	2	1	—	4
Purulent meningitis … … … … … …	1	2	—	3	8	14
Empyema (pure) … … … … … … …	10	20	28	16	21	95
" (mixed) … … … … … …	3	—	—	1	2	6
Pleurisy … … … … … … … … …	2	5	10	3	4	24
Osteomyelitis… … … … … … … …	—	—	—	—	1	1
Periostitis (femur) … … … … …	—	1	—	—	—	1
Necrosis (rib) … … … … … … … …	—	—	1	—	—	1
Purulent arthritis, knee … … … … …	—	—	1	—	4	5
" " shoulder … … …	—	—	1	—	1	2
" " hip … … … …	—	—	—	—	1	1
Abscess, cerebrum … … … … … …	—	—	1	1	—	2
" cerebellum … … … … … …	—	—	1	—	—	1
" mastoid … … … … … … …	—	—	2	—	3	5
" liver… … … … … … … …	—	—	—	1	—	1
" pelvis … … … … … … …	—	—	—	—	1	1
" lacrymal sac… … … … … …	—	—	—	—	1	1
" (subcutaneous), thigh … …	—	—	1	—	1	2
" " back … …	—	—	—	—	1	1
" " scalp … …	—	1	—	—	—	1
" " sacrum … …	1	—	—	—	—	1
Conjunctivitis … … … … … … …	—	—	1	—	—	1
Total … … … … … … … … …	22	36	57	29	57	201
Total specimens examined … …	1065	1083	1933	4050	6301	14432

I have carefully excluded from the above table all cases in which the identity of the pneumococcus isolated from the pus was not completely established by methods above criticism, and in this connexion I would deprecate the diagnosis of "pneumococcic" suppuration by microscopical examination of stained films alone. It is far from rare when inquiring as to the attributes of the strain of pneumococcus implicated to find that the diagnosis rests on the slender foundation of the observation of "diplococci" in the pus, regardless of the fact that the pneumococcus is not by any means the only organism which assumes this morphological character in morbid exudates. The streptococcus very frequently, and the staphylococcus aureus and also staphylococcus albus by no means rarely, assume this type of division under similar conditions. Nor is the term "capsulated" as applied by observers who are satisfied with such cursory examination any more convincing, for often the note that this anatomical peculiarity of the pneumococcus is present will be found to depend solely on the "negative" evidence of an unstained halo—such as is so frequently due to the contraction of rapidly dried serum from the periphery of the paired coccus—around the organism, which halo, be it noted, will probably be found surrounding nearly every particle of dirt on the same slide.

ATTRIBUTES OF THE PNEUMOCOCCUS.

Consequently it will be well to recapitulate briefly now those essential characteristics of the pneumococcus which are deemed necessary by the bacteriologist to establish its identity—although I may at once say I have no intention of entering minutely here into the laboratory habits of this micro-organism. Incidentally it must be mentioned that for convenience of reference the particular pneumococcus isolated from each individual is designated by a name, letter, or number prefixed by the word "race," or better "strain," and when a number of strains are found to possess similar characteristics they are grouped together under the heading of "Type."

Characteristics of the Pneumococcus.

Technically described the pneumococcus is an aerobic, facultative anaerobic, non-motile, highly parasitic coccus occurring in body fluids as pairs, of which the individual members are lanceolate or "candle-flame" shaped, with the rounded bases in apposition, and surrounded by a mucinous capsule which can be positively demonstrated by MacConkey's, Muir's, or one of Hiss's staining methods; or as short chains, also capsulated; occurring in artificial cultivations as more nearly spherical bodies in pairs or short or long chains; staining with the ordinary aniline dyes and not decolourised by Gram's method; growing upon artificial nutrient media at the temperature of the body only, but not upon gelatin at 20° C. (Certain saprophytic forms devoid of virulence, or practically so, are capable of multiplication at temperatures approximating to what is spoken of as room temperature—i.e., 20° to 22° C.—but with these races we are not at present concerned.) Multiplying in broth of reaction varying from + 12 to + 6 with the production of a uniform turbidity; in litmus milk with the production of an acid reaction, occasionally accompanied by clotting; upon agar and inspissated serum as translucent discrete circular, hemispherical or slightly flattened colonies; upon agar over the surface of which sterile rabbits' or human blood has been smeared, in similar manner but more freely than upon ordinary agar, and accompanied by a discolouration of the blood due to the transformation of the oxyhæmoglobin to methæmoglobin, which is an almost pathognomonic feature of the growth of this coccus; and in the serum of animals that have been immunised to the pneumococcus in the form of a flocculent deposit in an otherwise clear fluid, the flocculi being composed of felted masses of long and convoluted chains of pneumococci.

Finally, and most important of all, is the fact that a pneumococcus isolated *from a definite lesion* in the human subject is markedly pathogenic for the rabbit. Speaking generally, if injected into the peritoneal cavity of this animal it will produce an acute septicæmia and cause the death of the animal in one, two, three, or four days, while the organism can be recovered from the blood of the general circulation and from all the organs in a state of purity. The dose usually employed for this purpose is the entire growth from the surface of one 24-hours-old blood agar tube cultivation emulsified in one cubic centimetre of broth. Usually a dose many thousand times smaller than this suffices, but I have never yet found it necessary to employ a larger one.

Interesting but of minor importance from the point of view of identity is the power possessed by the pneumococcus of splitting up certain carbohydrate substances when these are dissolved in the medium in which the organism is growing. The substances generally used in these tests are dextrose, lævulose, galactose, lactose, saccharose, maltose, mannite, dextrin, and inulin. The first six of these are always acted upon by the pneumococcus, and if the medium, originally neutral in reaction, is tinted with litmus solution, the activity of the pneumococcus is indicated by the change in colour associated with the presence of an acid reaction. The remaining three compounds are sometimes but not invariably "fermented" by the organism under discussion, hence the contention of some American observers that the fermentation of inulin by the pneumococcus is so constant a character as to be of the highest value in diagnosis is not borne out in every-day work.

Having indicated the general characters of the cocci isolated from the varied *materies morbi* already tabulated the question that next arises is how to explain the varying pathogenetic properties exhibited by the pneumococcus. Before referring to the experimental work which has been

Erasmus Wilson Lecture

ON

THE PYOGENETIC ACTIVITIES OF THE PNEUMOCOCCUS.

Delivered before the Royal College of Surgeons of England on Feb. 12th, 1908,

BY J. W. H. EYRE, M.D., M.S. DURH., M.R.C.S. ENG., D.P.H. CAMB.,

BACTERIOLOGIST TO GUY'S HOSPITAL AND TO ST. MARY'S CHILDREN'S HOSPITAL, PLAISTOW; LECTURER ON BACTERIOLOGY AT THE MEDICAL AND DENTAL SCHOOLS OF GUY'S HOSPITAL.

INTRODUCTION.

GENTLEMEN,—In 1881 Ogston of Aberdeen published an account of his observations upon the microscopical constituents of surgical pus which enabled him to state that minute spherical bodies, "micrococci," were usually present in this pathological product of infected wounds. Moreover, he differentiated these cocci into those occurring in irregular masses—"grouped micrococci"—which were usually associated with circumscribed abscess formation, and those which occurred in rows like strings of beads—"chain micrococci"—which were usually found in connexion with the spreading "cellulitis" type of suppuration. Three years later Rosenbach published the results of his investigations which fully confirmed the earlier observations of Ogston. This second worker succeeded in isolating staphylococci and streptococci, as they were now termed, cultivated them upon artificial media in the laboratory, and differentiated some of the several varieties included in this first general morphological classification. For the next decade, no matter in what situation or association it presented itself, pus was pretty generally regarded as the outcome of infection by members of the staphylococcus and streptococcus "pyogenes" groups—a result largely due to a too literal interpretation of Koch's dicta, which laid it down that in order to establish a claim for the specificity of any newly discovered bacterium, that organism must be shown to be constantly present in some particular and definite lesion; must be capable of isolation and cultivation outside the animal body; and on its reintroduction into a suitable host must *reproduce the original lesion*. Hence as the specific etiological factors of the various bacterial infections were recognised and isolated attention was invariably first directed to the reproduction of the original lesions in their entirety, and subsidiary phenomena such as the provocation of pus formation were entirely disregarded, or, again instancing the formation of pus, regarded merely as the result of accidental and preventable contamination with the so-called "pyogenic" cocci already referred to. And it is only within recent years, since, in fact, the inter-reactions of *seed and soil*, of *bacterial irritant and tissue cell*, have been the subjects of extended study that the principle has been generally recognised that practically any and every pathogenic bacterium possesses the power, under some certain combination of factors, of initiating purely pyogenic processes in place of, or in addition to, its particular specific lesion.

Perhaps the most striking illustration of the above statements that can be adduced is afforded by a study of that organism which forms the subject for our present consideration. First studied in its association with one form of inflammatory reaction in pulmonary tissue—viz., acute croupous or lobar pneumonia—its specificity in this connexion was conclusively established before its potentialities in other directions received any but the scantiest consideration. Indeed, it is not so many years ago that the definite statement was made—in all sincerity and as representing the established conviction of a large body of observers—that the pneumococcus was of itself never responsible for the formation of pus, and despite the fact that the presence of the pneumococcus could so readily be demonstrated in those purulent collections within the pleural cavity that are frequently associated with pneumonia, such empyemata were invariably regarded as the direct result of secondary infection with some one or more of the ordinary pyogenic staphylococci or streptococci. The pyogenetic activities of the pneumococcus itself have, however, now been demonstrated experimentally in so complete a manner that the present seems a fitting opportunity to review our knowledge of the subject upon which present-day opinions are based.

HISTORICAL SUMMARY.

The micro-organism I have chosen for the subject of my lecture was first discovered by Sternberg in September, 1880, in the course of some investigations on malarial fever. By means of inoculation experiments he found that his own saliva was pathogenic for rabbits and he isolated a definite diplococcus, which he considered the cause of such pathogenicity, and to it gave the name "micrococcus Pasteuri." This he described in a report to the National Board of Health (U.S.A.), which, however, was not then published but to which he refers in the National Board of Health Bulletin of April, 1881.

In January, 1881, during a discussion following the reading of a paper ("Recherches Expérimentales sur la Transmission du Virus Rabique de l'Homme au Lapin," par MM. Raynaud et Lannelogue, Jan. 18th, 1881) before the Paris Academy of Medicine, Pasteur stated that in December, 1880, he inoculated two rabbits with saliva from a fatal case of hydrophobia, that of a boy, four hours after death. The rabbits died in 36 hours and a new bacterium was discovered in their blood shaped like the figure 8 and surrounded by a gelatinous capsule. It was virulent in broth cultures where it often formed chains. He expressed his ignorance of its relation to rabies but distinguished between the new organism and his "vibrion septique"—i.e., the bacillus of malignant œdema. For the next few months communications were made to the Academy in rapid succession confirming these observations, and a commission was appointed to investigate the subject. Pasteur reported to this commission in April, 1881, that he had found the new organism in the saliva of one more fatal case of rabies and three fatal cases of broncho-pneumonia, and had failed to find it in the saliva of three persons dead from other diseases.

Vulpian (1881) stated that he had found the micro-organism in a virulent condition in the saliva of healthy individuals.

In 1881 also Ebert and Koch and in the following year Friedländer, Leyden, and Günther demonstrated microscopically the constant presence of a diplococcus in the lungs in cases of lobar pneumonia. The two latter, moreover, described the surrounding capsule as being present in specimens made from the fluid drawn from the hepatised lung itself during life by means of a sterile syringe, but they were unsuccessful in obtaining pure cultures of the organism.

In 1883 Matray and Ziehl studied cases of pneumonia and fully confirmed these observations.

In the meantime, and on the experimental side Griffini and Cambray inoculated rabbits with pneumonic sputum and regularly produced a fatal septicæmia; continuing their experiments they were equally successful in reproducing the septicæmia in other rabbits by using for the purpose of inoculation blood taken from the original rabbits after death.

In November, 1883, Friedländer described cultures upon solid media of what he considered to be the pneumococcus. He stated that his organism was an oval coccus, surrounded by a gelatinous capsule, which readily grew on gelatin at the ordinary room temperature. These observations gave a great impetus to the bacteriological study of croupous pneumonia by the modern methods, although we are now aware that Friedländer's "oval coccus" was in truth a bacillus and in no way concerned in the causation of the disease.

Two months later (1884) before the Société Anatomique Talamon described cultivations in bouillon of the genuine diplococcus and showed cultures grown at the body temperature from pneumonic exudates. Two of these cultivations were absolutely pure. Of 20 rabbits inoculated into the chest cavity with these cultures 16 died from septicæmia, often accompanied by fibrinous pleurisy and pericarditis, and sometimes by a true lobar pneumonia. The blood and exudates of these fatal cases always contained cocci, and yielded pure cultures capable of producing similar inoculation results. Guinea-pigs and dogs, he stated, were immune. He had also found the coccus in fluid drawn during life from the hepatised lung—in man—in eight cases. In one fatal case it occurred in the general circulation at the moment of death.

As Friedländer and Talamon were working with two distinct organisms a good deal of confusion resulted from their conflicting statements. As an example of this Sternberg in April, 1885, read a paper before the Pathological Society of Philadelphia, pointing out the identity of the coccus

TABLE V.—*Initial Virulence of Various Strains of Pneumococci.*

No.	Sex.	Age.	Pneumococcus isolated from—	Minimal lethal dose.	Clinical result.
1	M.	30	Peripheral blood.	0·000001 loop.	Death.
2	F.	22	,, ,,	0·000001 ,,	,,
3	M.	26	,, ,,	1·0 ,,	,,
4	M.	36	Heart blood.	0·000001 ,,	,,
5	F.	18	,, ,,	0·01 ,,	,,
6	M.	26	,, ,,	0·01 ,,	,,
7	F.	20	,, ,,	2·0 ,,	,,
8	F.	18	,, ,,	0·001 ,,	,,
9	F.	42	Vegetations on valve.	0·01 ,,	,,
10	F.	$\frac{4}{12}$	Peritoneal pus.	0·000001 ,,	Recovery.
11	M.	3	,, ,,	0·000001 ,,	Death.
12	F.	2	,, ,,	0·000001 ,,	,,
13	F.	8	,, ,,	0·000001 ,,	Recovery.
14	F.	18	,, ,,	0·001 ,,	,,
15	M.	15	,, ,,	0·001 ,,	Death.
16	M.	24	,, ,,	0·1 ,,	Recovery.
17	M.	30	,, ,,	1·0 ,,	,,
18	F.	26	,, ,,	2·0 ,,	,,
19	F.	18	Cerebro-spinal pus.	0·000001 ,,	Death.
20	M.	6	,, ,,	0·001 ,,	,,
21	F.	3	,, ,,	0·001 ,,	,,
22	M.	11	,, ,,	1·0 ,,	,,
23	M.	16	,, ,,	1 entire culture.	,,
24	M.	38	Pus from chest.	0·000001 loop.	Recovery.
25	M.	45	,, ,,	0·000001 ,,	,,
26	F.	22	,, ,,	0·000001 ,,	,,
27	M.	10	,, ,,	0·000001 ,,	,,
28	F.	10	,, ,,	0·00001 ,,	,,
29	M.	3	,, ,,	0·00001 ,,	Death.
30	M.	$1\frac{6}{12}$	,, ,,	0·1 ,,	Recovery.
31	M.	27	,, ,,	1·0 ,,	,,
32	F.	12	,, ,,	1 entire culture.	,,
33	M.	30	,, ,,	1 entire culture.	,,
34	M.	22	Fluid from chest.	0·000001 loop.	,,
35	M.	30	,, ,,	0·000001 ,,	,,
36	M.	18	,, ,,	0·000001 ,,	,,
37	F.	19	,, ,,	1·0 ,,	,,
38	M.	7	Pus from knee.	0·000001 ,,	,,
39	M.	5	,, ,, shoulder.	0·000001 ,,	,,
40	F.	9	,, ,, knee.	0·00001 ,,	Death.
41	M.	3	,, ,, hip.	0·01 ,,	Recovery.
42	F.	5	Pus from cerebral abscess.	0·00001 ,,	Death.
43	F.	15	Pus from subcutaneous abscess.	0·001 ,,	Recovery.
44	F.	3	Pus from subcutaneous abscess.	2 loops.	,,
45	F.	46	Rusty sputum.	0·000001 loop.	,,
46	F.	50	,, ,,	0·000001 ,,	Death.
47	M.	24	,, ,,	0·001 ,,	Recovery.
48	M.	36	,, ,,	1·0 ,,	,,
49	M.	45	Lung juice.	0·000001 ,,	Death.
50	F.	45	,, ,,	0·000001 ,,	,,
51	M.	38	,, ,,	2·0 ,,	,,
52	F.	28	,, ,,	1 entire culture.	,,
53	M.	$\frac{4}{12}$	,, ,,	0·000001 loop.	,,
54	M.	$\frac{3}{12}$	,, ,,	0·000001 ,,	,,
55	M.	$1\frac{6}{12}$	,, ,,	0·000001 ,,	,,
56	M.	$1\frac{4}{12}$	,, ,,	0·000001 ,,	,,
57	M.	$\frac{3}{12}$	,, ,,	0·000001 ,,	,,
58	F.	2	,, ,,	0·001 ,,	,,
59	F.	$1\frac{9}{12}$	,, ,,	0·01 ,,	,,
60	M.	$1\frac{4}{12}$	,, ,,	1·0 ,,	,,
61	M.	$1\frac{6}{12}$	,, ,,	1·0 ,,	,,

dose was either 0·000001 or 0·0000001 of a loopful, and control plate cultivations made with that quantity of the emulsion corresponding to 0·000001 showed that sometimes it contained 200 cocci, sometimes 20. If it contained 200 cocci the minimal lethal dose was 0·0000001 of a loop; if it only contained 20 the animal that received 0·0000001 of a loop was usually unaffected, and 0·000001 of a loop proved to be the minimal fatal dose.

Now in the experiments already quoted the introduction of the pneumococcus into the subcutaneous tissues of an animal of but feeble resisting power—i.e., the young rabbit—was followed by acute and rapidly fatal septicæmia, while the same organism similarly used to infect an animal of greater resistance—i.e., the full-grown rabbit—led to the formation of a localised collection of pus. Conversely, it seemed possible that septicæmia in the adult—I purposely specify the adult in order to avoid touching upon the question of greater susceptibility in the infant and the aged—would be the result of infection by a pneumococcus of extremely high virulence, while pus formation would be due to the inroads of attenuated pneumococci. Sometimes this does obtain. For instance, a recent case of primary peritonitis yielded a pure culture of a pneumococcus the virulence of which was so low that two loopfuls of the optimum cultivation were required to produce fatal infection in the rabbit, whilst a morphologically identical pneumococcus from a fatal case of septicæmia was of standard virulence—that is to say, was two million times as powerful. Now, supposing it were possible to apply the results of these observations without reservation to pneumococcic infections in man, it should be a simple matter, given the nature of the lesion produced, to forecast the approximate virulence of the strain of coccus isolated; or, given the virulence of the organism, to predict the characters of the lesion that would follow its introduction into human tissues. Thus the pneumococcus of high virulence should produce septicæmia and the pneumococcus of low virulence should induce the formation of pus. But, on the other hand, two strains of pneumococci of equal and standard virulence were isolated from two cases which differed widely in the clinical manifestations, the one being a chronic otitis media, the other being a fatal case of pneumonia, suppurative pericarditis, and suppurative cerebrospinal meningitis. However, the hypothesis I have suggested was put to the test and a large number of strains isolated and the virulence of each estimated, with the result that it proved untenable, for the simple reason that no constant relationship could be shown to exist between any given pathological manifestation of pneumococcic activity and either high, low, or medium virulence. The general results obtained will be readily appreciated from the accompanying details which are arranged in tabular form.

SIZE OF DOSE.

The next point to which my attention was directed was the relationship, if any, that existed between the size of the dose of infective material—or if you prefer it the number of pneumococci injected—and the character of the resulting lesion. Under certain conditions it was found that the size of the dose exercises a direct bearing upon the subsequent lesion—a result which was arrived at in a manner illustrated by the following example. In this experiment full-grown male rabbits were injected with cocci from one and the same

TABLE VI.—*Minimal Lethal Dose 0·000001 loop. Virulence Attenuated by Four Successive Subcultivations upon Ordinary Agar. (Pneumococcus Strain "Hunt.")*

Rabbit.	Sex.	Weight in grammes.	Dose of pneumococcus.	Method of infection.	Lesion.	Result.
No. 31	M.	1230	0·0000001	Subcutaneously.	Transient local œdema.	Unaffected.
,, 32	M.	1250	0·000001	,,	Localised abscess; necrosis of skin; raw, granulating surface.	Death in 18 days.
,, 33	M.	1280	0·001	,,	,,	Death in 12 days.
,, 34	M.	1300	1 loop.	,,	Limited fibrinous exudation; pneumococcic septicæmia.	Death in 72 hours.

Note.—0·000001 loop contained 200 pneumococci.

TABLE I.—*Clear Fluid from the Pleural Cavity.*

—	1903.	1904.	1905.	1906.	1907.
Pneumococcus (pure).	2	5	10	3	4
Other organisms (excluding bacillus tuberculosis).	10	2	4	9	8
No growth (some certainly and some possibly due to bacillus tuberculosis and others probably due to pneumococcus).	6	2	6	15	20

Empyema.—Pus due to the activities of the pneumococcus is perhaps most familiar to the surgeon in the shape of empyemata. An analysis of the cases of empyema in Guy's Hospital investigated bacteriologically during the past five years shows that 77 per cent. are due to this organism alone.

TABLE II.—*Pus from the Pleural Cavity.*

—	1903.	1904.	1905.	1906.	1907.
Pneumococcus (pure).	10	23	25	16	21
Pneumococcus associated with other bacteria.	3	—	—	1	2
Other organisms (excludin bacillus tuberculosis).	2	4	3	3	8
No growth (some certainly and others probably due to bacillus tuberculosis).	2	2	1	2	3

The naked-eye characters of the purulent fluid are sometimes practically diagnostic. While the pus from cases of pneumococcic empyema or pneumococcic peritonitis may present the greenish yellow colour and creamy consistence of what used to be called laudable pus, it is more often a yellowish fluid of somewhat thinner consistence, which, although quite homogeneous when removed from the body, if collected in a test tube and allowed to stand soon undergoes auto-sedimentation and separates into two layers of about equal bulk, the lower yellow layer consisting of pus cells and the upper a translucent, opalescent fluid quite clear except, perhaps, for the presence of a few flakes of fibrin. The microscopical examination of the fluid is often very characteristic, showing in addition to the pneumococcus itself many involution forms, empty capsules, dead cocci, and deeply staining particles. The contention of the clinician that a pneumococcic empyema is always primarily purulent and that the serous pleurisy due to this organism never becomes purulent obtains very little support either from direct observation or from inoculation experiment. If in a series of intrapleural or intraperitoneal inoculations of the rabbit the conditions are so arranged that the experimental animals shall die at varying periods it will be found at the post-mortem inspection that where death has rapidly followed on the injection the exudation is clear serum teeming with pneumococci. If death is delayed to three, four, five, or more days every gradation in the character of the exudation, from clear serum, sero-pus to creamy pus, will be met with. In the same way the gradual change in the character of the fluid can be noted clinically in many cases if exploration of the chest is repeated from day to day.

Otitis media.—The pneumococcus has been frequently isolated from, and in many cases found in pure culture in, the pus of otitis media. Zaufal (1888), who recorded many cases, was able to produce this disease experimentally by means of inoculations into the tympanic cavity.

Arthritis.—The pneumococcus has also been isolated from the serous or purulent exudation in mono- and poly-arthritis occurring either as a primary manifestation of pneumococcic septicæmia or during the course of a lobar pneumonia, the earliest cases being those described by Vogelius (1897). The sterno-clavicular joint, shoulder, hip, and knee are those most commonly affected. Gabbi produced arthritis experimentally by injuring joints, either by traumatism or the use of chemical irritants, and then inoculating virulent cultures of the pneumococcus subcutaneously.

Pneumococcic peritonitis.—Peritonitis due to the pneumococcus differs in character according to whether it occurs in adults or in children. In the former it is usually diffuse and observations are now accumulating which show that the appendix is not an uncommon point of departure. In children, on the other hand, the peritonitis is very frequently local in its distribution, being early shut off from the general cavity by fibrinous adhesions. Pneumococcic peritonitis was first noted (1880) by Sevestre. Dieulafoy collected a number of cases; and Bryant (1901) contributed a further series. Marchaux (1899) recorded vaginitis and peritonitis as common complications of pneumonia amongst natives in Africa.

Localised abscess formation.—Circumscribed collections of pus, subcutaneous, intramuscular or within some viscus, have often been described (e.g., Batten and Foulerton, 1901), and can readily be produced experimentally in laboratory animals.

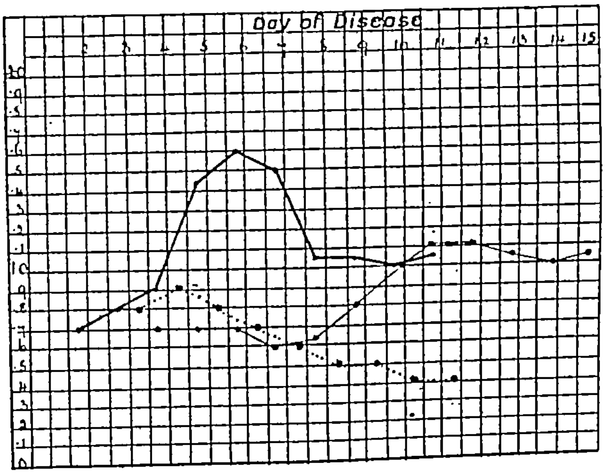
Conjunctivitis, &c.—On the continent the pneumococcus is said to infect frequently the conjunctival sac, producing an acute conjunctivitis—often in epidemic form—but is not so commonly found in this situation in England. Gasparini has also recorded the pneumococcus as giving rise to keratohypopion.

Varia.—Finally, the pneumococcus has been recorded as causing, among other lesions, epiphysitis, osteomyelitis, periostitis and necrosis, thyreoiditis, parotitis, tonsillitis, follicular and membranous, gastritis, nephritis and perinephritis, endocervitis, &c.

Enough has been said to show the protean character of the lesions for which the pneumococcus has been recorded as the responsible cause. In order to explain the presence of the pneumococcus in the widely separated situations indicated by the foregoing summary it is necessary to consider for a moment how the organism gains access to the body tissues in the first instance. I have already mentioned that the pneumococcus was first discovered as the result of the examination of the saliva of a healthy individual. Sternberg records the organism as present in the same situation in 20 per cent. of the healthy persons examined; Netter in 15 per cent.; Washbourn and myself, in a limited number of individuals (20), in 30 per cent.; in a more extended series I have found it present in 16 per cent. It is also commonly found in the normal nose, its presence being recorded by Netter, Kurth and von Besser, and others—its percentage incidence being nearly 30 and the tonsillar crypts frequently harbour the coccus. In many instances the pneumococci isolated from these situations are of low virulence; indeed, sometimes they are avirulent, and at other times of a high degree of virulence. Washbourn and I carefully studied a number of them and found that even if the original virulence was low it could readily be exalted. A few varieties, however, were only exalted in virulence with great difficulty and then soon returned to their original condition. Hence the portal of entry is in the vast majority the respiratory tract and the cells of the upper air passages form the first line of defence. The pulmonary tissues constitute the second line of defence. Once arrived at the lung alveoli the pneumococcus readily enters the blood capillaries and so reaches the general circulation. In this situation if antibodies in sufficient quantity are available the invader is destroyed; short of this the cocci become deposited in areas of lowered bacterioscopic pressure and so give rise to localised infections, or multiplying in the blood stream produce a general septicæmia. Thus pneumonia may be regarded as a defensive process designed to prevent metastases or septicæmia. At its best, however, it is not absolutely efficient. Banti, Prochaska, and others maintain that pneumococci are invariably present in the blood in pneumonia and although years ago both Washbourn and myself were of opinion that the cocci only arrived at the peripheral circulation immediately prior to the fatal termination improved methods for the examination of the blood for the presence of micro-organisms lead me to believe that the cocci are present during the first two or three days of the disease even in the least severe cases of pneumonia. Next to the respiratory system the alimentary tract is probably the most common channel of entrance. Foulerton's case of gastritis and the numerous recorded cases of pneumococcic appendicitis place this method of infection beyond doubt. It is therefore easy to see how any organ or tissue may become the seat of pneumococcic infection. Finally, as affording a possible explanation of pneumococcic peritonitis occurring more commonly in the female than the male, Doyen records the presence of non-virulent pneumococci in the healthy vagina and cervix, and I have isolated the coccus from these situations in three instances—in two the organism

Macdonald, who very carefully studied the clinical aspects of pneumonia with reference to the formation of pneumococcic opsonin throughout the course of the disease, published his results in 1906 and showed that the movements of the curve representing the opsonin index afforded an exact record of the measure of resistance opposed by the patient to the inroads of the organism. My own observations fully confirm Macdonald's, and, moreover, show that the resistance of the individual so far as can be measured by his opsonin response to any given pneumococcus infection conforms to one of three main classes which are represented by the three accompanying curves. Two of these opsonin curves are compiled from estimations carried out in connexion with that clinical form of lobar pneumonia in which crisis takes place and that which recovers by lysis in order to contrast them with the curve obtained in the acute septicæmia which terminates in death; and although we are not immediately concerned with pneumococcus infection of the lung tissue I make no excuse for presenting them here, as being derived from acute cases they illustrate my point much more concisely than would be the case if they had been derived from chronic suppurations.

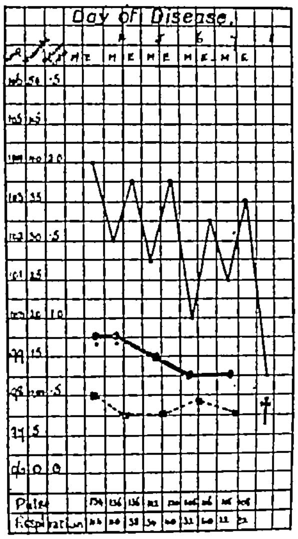
CHART 1.—*The Opsonin Index in Pneumococcic Infections; Three Leading Types.*



In the third, represented by the lowermost (continuous) curve, the process by which opsonins are elaborated is completely paralysed, as the result possibly of an extremely heavy dose of infective material, or of infection by an extremely virulent pneumococcus, or of infection directly into the blood stream, or more probably of a combination of all of these factors. In the second (dotted line), the production of pneumococcus opsonin is temporarily suspended, perhaps owing to the existence of, say, any two of the factors just enumerated, but after a time recovery of tone takes place, production goes on in excess of expenditure, and finally sufficient opsonin is produced and thrown out into the circulation to subdue the invader. Incidentally it may be mentioned that this type of case is most frequently the one in which the pneumonia is associated with suppurative lesion. In the first (thick continuous line) the immunising machinery promptly responds to the call made upon it, at once elaborates opsonin in excess, with the result that the pneumococcus is rapidly destroyed and recovery takes place. [Occasionally, be it noted, this type of curve after returning to the normal suffers a further fall, and some few pneumococci remaining in some far distant spot, in an almost moribund condition, take on a fresh lease of life and some small localised suppuration results. In such circumstances the opsonin curve would be expressed by tacking the beginning of the second curve in the chart on to the end of the first.] In other words, in the third instance the immunising machinery is badly overstrained, in the second understrained, and in the first severely but not unduly strained.

As suggesting a possible source of the pneumococcus opsonin I have inserted in the two following charts (Charts 2 and 3) the leucocyte curve as well as the opsonin curve. In the fatal case leucocytosis is absent, the opsonin index falls gradually and continuously. In the second case the fall in the opsonin index that is practically always noted in the early stages of an acute infection is associated with a considerable leucocytosis which becomes less marked as the amount of available opsonin increases.

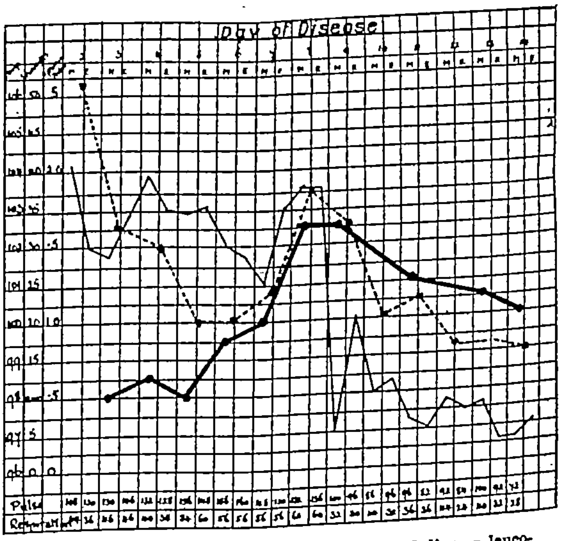
CHART 2.—*Fatal Case of Pneumococcic Septicæmia.*



Upper thin line = temperature; middle thick line = opsonic index; lower dotted line = leucocytes per cubic millimetre of blood.

I cannot conclude without a few remarks upon what may be termed the bacteriological therapy of pneumococcic infections. Many of the earliest students of the life-history of the pneumococcus—the Klemperer brothers, Foà and Carbone, and in this country Washbourn—showed that the blood serum of immunised animals protected other animals from the effects of pneumococcus inoculations if injected simultaneously or even subsequently. Washbourn early in 1897 immunised the horse and about the same time Pane immunised the donkey and the goat with a view to obtaining a potent serum for the treatment of cases in man. Such serum has never been really extensively tested in this country and therefore no very definite opinion can be expressed as to its value. What little evidence there is available is certainly in its favour; for instance, in a small series of six cases of pneumonia collected by Washbourn the serum in three cases exerted a powerful and beneficial effect

CHART 3.—*Case of Pneumonia terminating by Crisis.*



Thin continuous line = temperature; dotted line = leucocytes; thick continuous line = opsonic index.

carried out in the attempts to answer satisfactorily this question I would remind you of the essential factors that are concerned in this question of infection, or of immunity if you prefer to regard it from the standpoint of the defenders rather than that of the invaders. Briefly, those factors which we shall now deal with here are: (1) the type of the organism; (2) the virulence of the organism; (3) the numbers of the infecting organism; and (4) the defensive powers of the invaded tissues, e.g., the resistance or the susceptibility of the animal cell or of the invaded individual.

Types of Coccus.

During some of our observations upon the natural history of the pneumococcus Washbourn and I noted that although all strains of virulent pneumococci produced a rapidly fatal septicæmia when introduced into the peritoneal cavity of the rabbit, yet if the injection was made into the subcutaneous tissue the various strains frequently presented striking differences in the histological characters of the local lesions they produced. Thus in the case of strains recovered from the hepatised lung in cases of pneumonia, fibrinous exudation formed the bulk of the material at the site of inoculation; while when strains isolated from broncho-pneumonia and from suppurative lesions were injected the local reaction consisted mainly of accumulations of polymorphonuclear leucocytes. These two types of cocci which we referred to as the "fibrinous" and the "cellular" types respectively agreed in some measure with those previously described by Foà and the hope was raised that the existence of two distinct and fixed varieties of pneumococci would afford an explanation of the differing clinical phenomena provoked by the invasion of human tissues by this organism in general, and in particular of the occurrence of acute septicæmia on the one hand and of pus formation on the other. Such, however, was not the case, for it was soon found when the experiments were carried further that by varying the conditions of the experiment either type was capable of giving rise to pus formation or to septicæmia. As an example of the different results obtained by varying one factor of the experiment—viz., the resistance of the tissue cell—I may instance the infection of the subcutaneous tissue of the abdomen of the rabbit.

(*a*) If we select for the experiment a young rabbit we find that a small dose of either of these types of the pneumococcus will cause death within 48 hours from acute pneumococcic septicæmia. At the seat of inoculation the reaction, usually small in amount and limited in area, is practically always œdematous in character, and either of the serous, sero-hæmorrhagic, or more rarely the hæmorrhagic type.

(*b*) If, however, we substitute a half-grown rabbit and inject a similar dose of the same cultivation the animal survives for a much longer period, say three or four days, or even a week. Now the local reaction at the seat of infection is a much more extensive process and clearly indicates by both its macroscopical and microscopical characters the particular "type" of pneumococcus that has been employed to produce the infection. It may be either a firm gelatinous exudation consisting of fibrin and leucocytes, together with red blood discs, thrown out and occupying the subcutaneous cellular tissue for a considerable distance around the needle puncture, frequently, indeed, extending down to the peritoneum below; or else a dense, opaque, yellowish exudation consisting almost entirely of small round cells, fibrin being almost entirely absent.

(*c*) Finally, if a fully grown animal is infected with a similar dose of either type the local lesion at the seat of inoculation consists of a larger or smaller circumscribed œdema, usually noticed within 24 hours of infection, which enlarges slightly during the next few days, though remaining strictly localised, becomes soft, and in about ten days contains pus and can be made to fluctuate. If untreated the skin over the abscess undergoes necrosis, sloughs, and gives exit to a thick creamy yellowish pus literally teeming with pneumococci and the animal dies from exhaustion in a fortnight or so, or in some few instances completely recovers.

Again by varying the site of inoculation and introducing the organism either into the peritoneal cavity or directly into the general circulation each type of pneumococcus would produce an acute septicæmic infection irrespectively of the age of the experimental rabbits.

From the clinical aspect exceptions were numerous and it was found that the fibrinous type of pneumococcus was as often isolated from purulent collections unassociated with pneumonitis as the cellular type.

DEGREES OF VIRULENCE.

Then, too, in our early observations Washbourn and myself found that pneumococci isolated from pathological processes in man invariably possessed a certain amount of virulence for the rabbit and so constituted the virulent type of pneumococcus; on the other hand, some strains of pneumococci isolated from various situations in the healthy body were devoid of virulence for that rodent and constituted the avirulent type; whilst between these two extremes every grade of virulence could be recognised. Here again an obvious explanation for the various lesions produced in man as the result of infection by the pneumococcus seemed to be forthcoming and it was at once put to the test. Strains of pneumococci were isolated from various situations and from exudates of very different naked-eye characters and their virulence was tested. The usual rough-and-ready method of estimating virulence by observing the amount of a 24-hours-old broth culture of the organism under investigation needed to produce any given result did not appeal to us, as among other peculiarities of the highly parasitic pneumococcus it does not usually grow well in this medium and when it does it varies from time to time in its rate of growth and moreover rapidly loses its virulence. Cultivations upon blood agar which had previously been described by Washbourn and myself as particularly adapted for the purpose of maintaining the virulence were therefore employed and a more accurate method of estimating the size of the doses, in which a specially manufactured and calibrated loop was always used to remove the growth from the medium was devised. Briefly our method was as follows. One loopful of the 24-hours-old growth at 37° C. was taken from the surface of the blood-agar and thoroughly emulsified in a known quantity (10 cubic centimetres) of sterile broth or saline solution, in a suitable vessel. It was then easy to prepare dilutions, in tenths, of the original loopful by measuring the requisite fractions of this emulsion in sterile graduated pipettes, transferring them to other vessels and adding more saline solution to any desired volume. Thus a series of rabbits could be inoculated with decreasing amounts of the pneumococcus cultivation and the minimal lethal dose ascertained.

The accompanying table shows such a series of inoculations of a strain known as strain "Sudbury," which was originally isolated from the rusty sputum of a case of lobar pneumonia.

TABLE IV.—*Determination of the Minimal Lethal Dose of the Pneumococcus* (*Strain "Sudbury"*).

Rabbit.	Dose of culture.	Method of injection.	Result.
No. 1	1 loopful.	Intraperitoneally.	Death in 18 hours.
" 2	0·1 "	"	" 24 "
" 3	0·01 "	"	" 48 "
" 4	0·001 "	"	" 3 days.
" 5	0·0001 "	"	" 3 "
" 6	0·00001 "	"	" 7 "
" 7	0·000001 "	"	" 7 "
" 8	0·0000001 "	"	Unaffected.
" 9	0·00000001 "	"	"

It was soon found that the different strains of pneumococci differed markedly in their virulence. Of some when first isolated it was necessary to inject an entire blood agar culture to kill the animal. Others, again, were fatal in doses corresponding to one-millionth part of a loop. Usually it was found that even those of comparatively slight virulence would after one or two passages through animals be so enhanced in virulence that the very minute dose just mentioned—the one-millionth part of a loop—now proved to be the minimal lethal dose. Consequently such a degree of virulence came to be regarded as the standard, and a pneumococcus which was fatal in doses of 0·000001 of a loop was spoken of as possessing "standard virulence."

The method already described for estimating the virulence of any given strain of pneumococcus not only enables the bulk of the dose to be measured in terms of a loop with some degree of accuracy but also gives a fairly close approximation to the actual number of cocci contained in at least the smaller doses. For example, working with a pneumococcus of standard virulence it was found that the minimal lethal

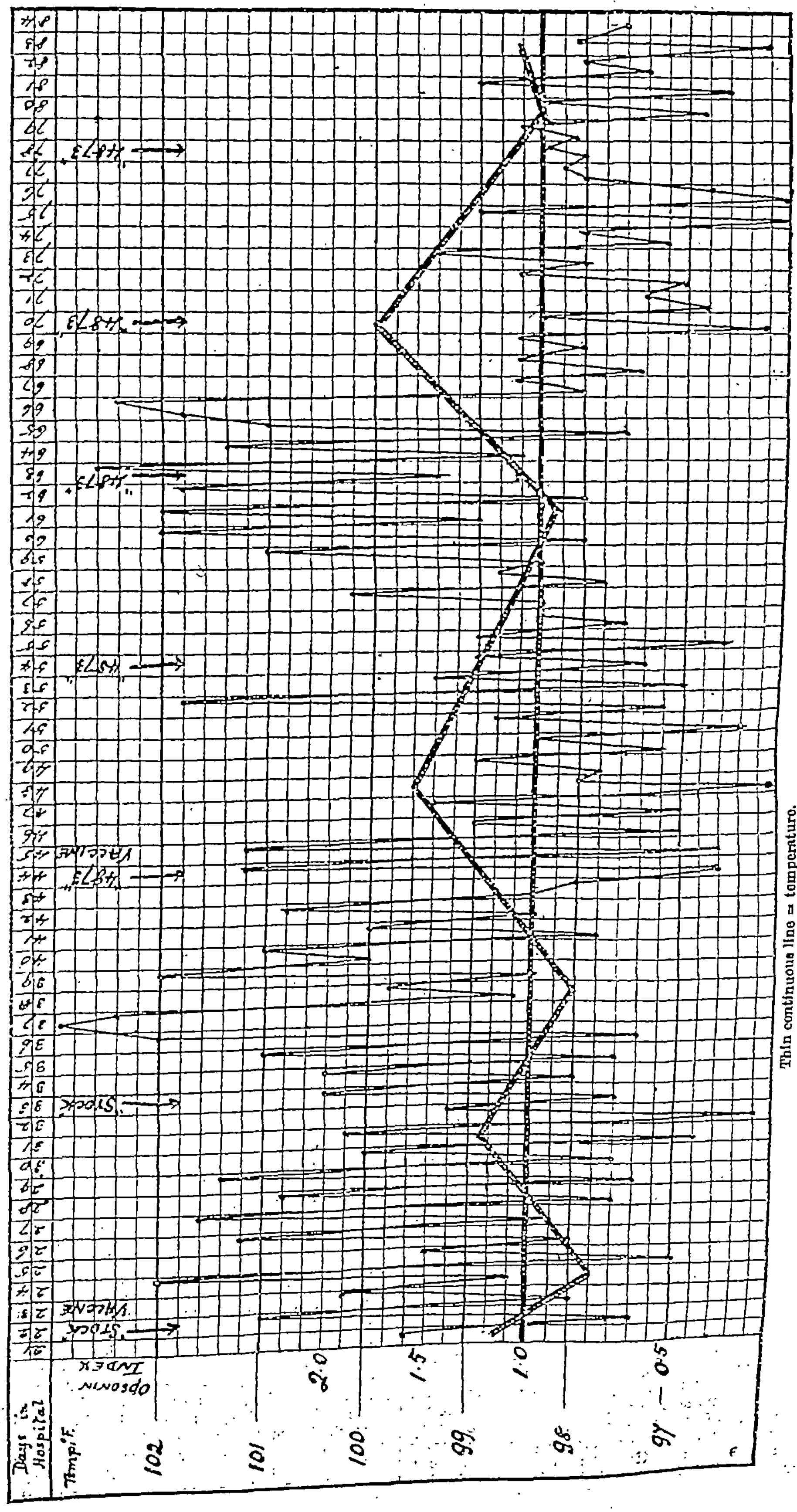


CHART 5.—CASE OF SECONDARY PNEUMOCOCCIC INFECTION OF A TUBERCULOUS PERITONEUM, SHOWING THE EFFECT OF "STOCK" AND "SPECIAL" PNEUMOCOCCUS VACCINES UPON THE OPSONIN INDEX AND UPON THE TEMPERATURE.

Thin continuous line = temperature.
Thick black line = opsonin index.
The arrows indicate the days when injections of pneumococcus vaccine were administered.

cultivation of a strain of pneumococcus (which had been isolated from the lung juice of a fatal case of lobar pneumonia). The factor that was wittingly varied was the size of the dose. The first rabbit received approximately 20 cocci, the next 200, the next 200,000, and the last 200,000,000.

CELL RESISTANCE.

Having investigated the various phases of pneumococcic infection with reference to (1) the biological type and (2) the virulence of the organism concerned, and, incidentally (3), the magnitude of the infective dose without obtaining any satisfactory explanation of the disease lesions produced in man by the invasion of his tissues by the one morphological entity, the pneumococcus, it still remains to inquire into the possibility of the resistance of the cell being the most important factor, and I may say at once that in this direction undoubtedly lies the solution we are seeking. Experimental work had already pointed to the importance of this factor. Indeed, most of the instances which I have already adduced in illustration of the action of the other factors in the problem have also demonstrated to a greater or less degree the influence of this the most important factor. Thus we have seen how the pneumococcus which in the young and immature rabbit is able to produce a rapidly fatal septicæmia, in the adult and fully formed rabbit remains localised to the seat of inoculation, and is at most only able to give rise to a circumscribed collection of pus.

The rabbit forms the subject of the bulk of the pneumococcus experiments, because it is certainly the most susceptible of all the laboratory animals to infection by this organism. The young rabbit is infected with the greatest ease, half-grown animals are slightly more resistant, and fully grown and mature ones are more resistant still, but even in the normal adult rabbit the resistance offered to the pneumococcus is very slight, and that resistance varies to no appreciable degree in different individuals. Now in the process of immunisation the method that gives the most satisfactory results is the preliminary intravenous injection on two or three suitable occasions of "killed" broth cultivations of the pneumococcus. This proceeding is found to confer a certain slight degree of immunity upon the animal, which now survives the introduction of several times the minimal lethal dose of *living* cocci into its subcutaneous tissues, but, and this is the point I wish to emphasise, a small circumscribed abscess almost invariably forms at the seat of inoculation. If this is untreated it bursts, discharges its pus, and then the cavity closes by granulating up. When completely healed the animal is found to be highly resistant to subsequent injections of living cocci.

Many experiments were undertaken in the attempt to devise some means of measuring the resistance offered by the living cell to the onslaughts of the pneumococcus, and in the course of these advantage was taken of the fact already referred to that the pneumococcus when grown in *immune serum*—that is to say, the serum of an immune animal—became agglomerated into masses of convoluted chains which formed flocculi in an otherwise clear fluid, in short because agglutinated. In the course of these observations the serum from the healthy individual of several varieties of mammals was examined as well as that of highly immunised animals of various species, and also serum from subjects suffering or convalescent from natural or experimental pneumococcic infections, and, speaking generally, the constancy of the phenomenon was established. Many other observers, particularly Issalf and Arkharow, also noted the peculiar features of growth in immune sera; indeed, Bezançon and Griffon endeavoured to utilise the agglutinins present in the blood of infected individuals as a method of diagnosis. Pneumococcus agglutinins, however, are only formed in small quantities and for a limited period, and rapidly disappear from the serum, so that it is difficult not only to measure their amount but also, in many instances, to demonstrate their existence, so that for clinical purposes the agglutination reaction in pneumococcic infections has but a very restricted application.

Next the bactericidal action of normal and of immune serum was carefully investigated, and while the observations of Baring and Nissen and Kruse and Pansini relating to the absence of bactericidal substances from the serum of the normal rabbit were fully confirmed it was further found that the serum of immunised animals varied considerably in this respect in that sometimes bactericidal substances were present in considerable amount, although on the other hand they were frequently absent or present only in amounts too minute to be appreciated. Mennes, however, pursuing this line of investigation, found that while the serum of an immunised animal frequently failed to exercise any definite bactericidal action by itself, if white blood cells from either a normal or an immunised animal were added to the mixture of cocci and immune serum the serum so acted upon the cocci as to render them sensitive to the action of the leucocytes, and many of the pneumococci in the mixture were englobed and destroyed by the white cells. This property he stated was peculiar to immune serum.

Then came the epoch-marking and now widely accepted researches of Wright and Douglas, which followed on Leishman's work on phagocytosis, in the course of which the presence of certain bodies designated "opsonins" was demonstrated in human serum—substances which enabled the serum containing them to behave in a manner similar to that described by Mennes in connexion with his pneumococcus immune serum. These observers next devised a very ingenious method for measuring the amount of opsonin in a given serum, by means of which they were able to show that as compared with normal serum, the serum obtained from a recently infected individual or animal contained a diminished amount of an opsonin special and specific for the infecting bacterium. The serum of an immune animal on contrary contained as much as or more of that specific opsonin than the serum of the normal. Finally, by injecting small doses of "killed" cultivations of the bacterium into the subcutaneous tissues of the patient they were able so to stimulate the immunising machinery in the direction of the over-production of specific opsonin as beneficially to influence the course of the infection. Such in bald outline are the experimental data around which Wright and his pupils have built up a complete and extensive system of pathology, diagnosis, and vaccine-therapy. It now remains to indicate its application to pneumococcic infections in particular.

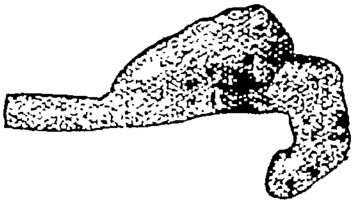
In the first place man, as compared to the adult rabbit, exhibits a very marked resistance to invasion by the pneumococcus, although this resistance varies considerably in different individuals and at different ages. These differences are, no doubt, due to many factors, of which hereditary selection may be one. Another which possibly has a bearing upon this aspect of the question is the situation of the pneumococcus in nature. Some 10 per cent. at least of the healthy population cultivate the pneumococcus in that natural incubator, the mouth and upper air passages. What is more likely than that a considerable quantity of antibodies is formed and some degree of immunity set up as a result of the continual absorption of small doses of the toxins and other metabolic products of the pneumococcus. It is not surprising to find that the opsonin content of normal human serum is on an average double that of the normal rabbit, although it must be borne in mind that opsonins probably form but one of many antibacterial substances elaborated by the body in its unceasing resistance to the attacks of external forces. Assuming the opsonin present in the normal human serum to be represented by unity, the opsonin in the normal rabbit serum only reaches half that figure. The figure expressing that ratio—viz., 0·5—is spoken of as the opsonin index. By the exercise of infinite care, however, in the process of immunisation the pneumococcus opsonin content of the rabbit's serum may be raised until it is equal to, and even greatly superior to, that of normal human serum. Under these conditions the injection of the pneumococcus of sufficient virulence and sufficient dose to cause the death of a control rabbit within 36 hours from acute septicæmia will only give rise to localised suppuration.

TABLE VII.—*Minimal Lethal Dose 0·000001 loop.* (*Pneumococcus Strain "Sudbury."*)

Rabbit.	Sex.	Weight.	Opsonin index.	Dose.	Result.
Control *a*	M.	1250	0·58	0·0000001	Unaffected.
" *b*	M.	1260	0·62	0·000001	Death in 48 hours.
" *c*	M.	1250	0·50	0·00001	Death in 26 hours.
Immune.	M.	1240	1·13	0·0001	Local abscess.

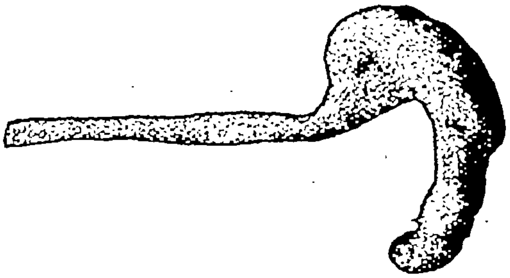
that it can no longer be regarded as a "one compartment" organ. (I am very greatly indebted to Professor Cunningham for permission to publish several of his illustrations. I should like to say that practically the whole of this paper had been written before I knew of Professor Cunningham's excellent work, and I was gratified to find that his anatomical observations supported so strongly the deductions I had made from personal clinical observations.) Tracings of x ray shadows of the stomach of "normal" individuals who have taken meals mixed with bismuth subnitrate, made by Cannon and Blake[6] and lately by Pfahler,[7] show the differentiation indicated so well by Professor Cunningham, although these authors do not point this out. The "normal" stomach when at rest—i.e., empty—appears, to judge from these anatomical studies, to be tubular in nearly its whole extent, the exception being the proximal, larger part of the cardiac end, which never loses a more or less saccular form. Judging from what one sees on "screening" a stomach which is disposing of a bismuth meal this *normal* form becomes even more marked than in the resting state. This *normal* form of the stomach is seen in its most perfect condition in the stomach of the fœtus before term. (See Figs. 2, 3, and 4.)

FIG. 2.



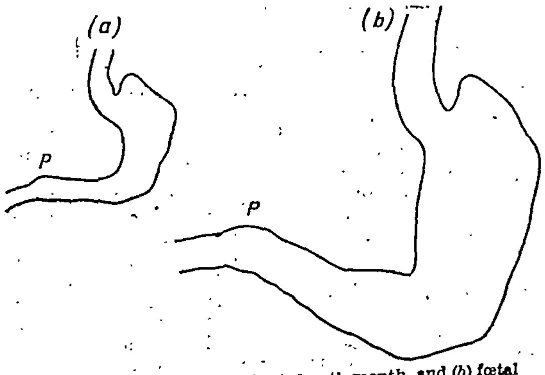
"Stomach of a full-time fœtus, showing the physiological subdivision into a cardiac saccular portion and a tubular portion." (Cunningham.)

FIG. 3.



"Stomach of a full-time fœtus in which the physiological division into two parts is seen." (Cunningham.)

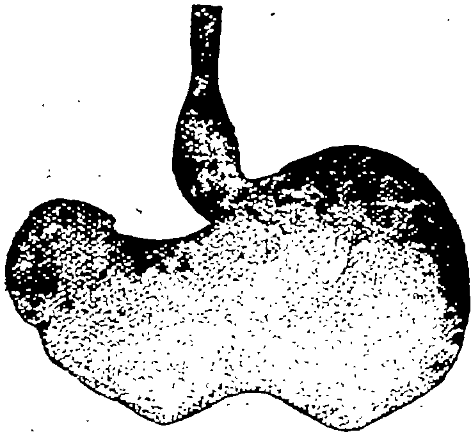
FIG. 4.



Tracings of (*a*) fœtal stomach at fourth month, and (*b*) fœtal stomach at full term. Cardiac portion distended with amniotic fluid, &c.; P, pylorus. From specimens in the Anatomical Department of Aberdeen University.

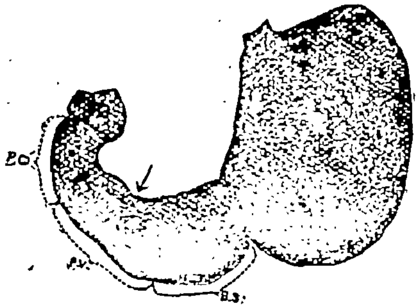
Having been impressed (from clinical observations) with the idea that the adult human stomach in its natural state should more or less conform to this type, I naturally looked for confirmation in the formalin-hardened stomachs investigated by Professor Cunningham, and, to my mind, it is not wanting. One must remember, in looking at his illustrations, that the hardening fluid was probably never injected earlier than 24 hours after death. By this time gas formation occurs. This causes irregular relaxation of the gastric walls. In one case one part dilates while another remains contracted; in another case the reverse occurs, and so on. The onset of death and the loss of contractility of unstriped muscle, in the case of arteries, varies with the condition of the individual's nutrition at death. This rule, no doubt, applies also to the unstriped muscle of the alimentary canal and must be taken into account when such observations are made. Thus an average must be struck in order to arrive at an approximately

FIG. 5.



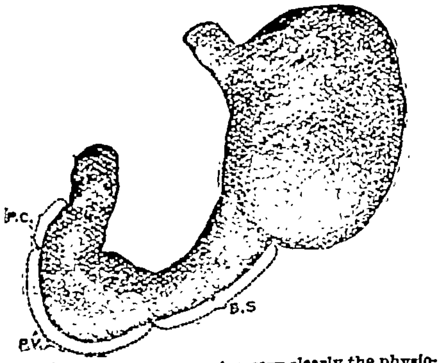
"Stomach of a young male viewed from the front and slightly from above." "From its form we may conclude that at the time of death the digestive process was in a state of abeyance, or was just at the point of beginning." (Cunningham.) May not the form be more likely due to excessive ante- or post-mortem dilatation?

FIG. 6.



"Stomach of an adult female in the early stage of the emptying process." (Cunningham.)

FIG. 7.



"Stomach of an adult male showing very clearly the physiological sub-division into a cardiac sac and a gastric tube." "B.S., Part of gastric tube formed by the body of the stomach." (Cunningham.)

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[6] Ibid.

[7] Journal of the American Medical Association, Dec. 21st, 1907.

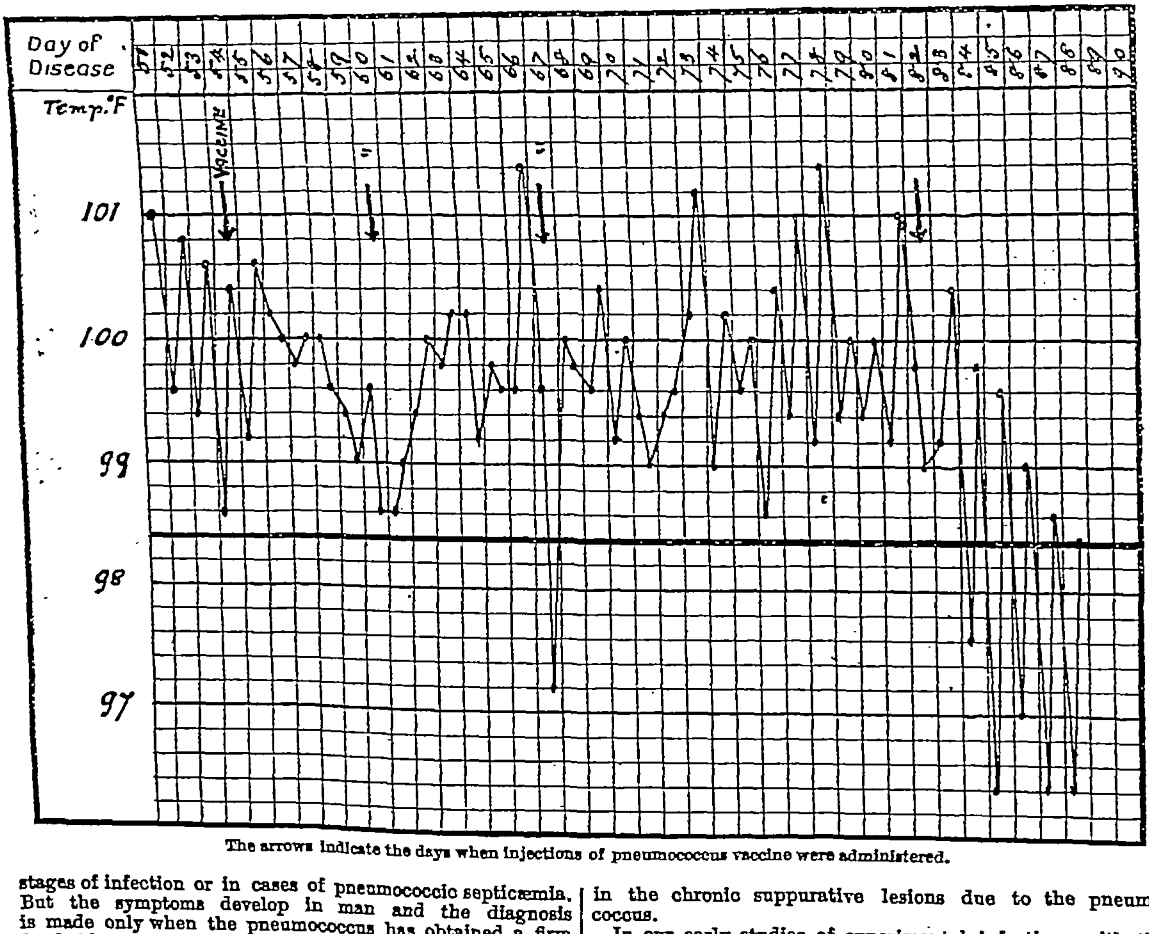
upon temperature and upon the pulse and respiration rates; in one case it appeared to have no effect whatever, and in the last case it was powerless to avert the fatal issue. Pane, in reporting 29 cases with two deaths and a further series of nine severe cases of epidemic pneumonia (in Naples) with one death, insists on the rapid improvement that follows the injection of serum.

Antipneumococcic serum has, however, nowhere achieved the striking results in acute infections that are associated with the serum treatment of diphtheria, and it has never obtained the confidence of the profession, while in chronic and suppurative pneumococcus infections the serum is quite useless. There are many reasons for its failure. In the first place, the pneumococcus elaborates but very feeble toxins *in vitro*, and the serum which is obtained from immunised animals is antibacterial only and not antitoxic, hence it would appear probable that its administration would only be effective during the very early stages of infection or in cases of pneumococcic septicæmia. But the symptoms develop in man and the diagnosis is made only when the pneumococcus has obtained a firm foothold; consequently to be of value a very powerful bactericidal serum is needed and experimentally at least the capacity to protect against some 300 minimal lethal doses per cubic centimetre of serum is the most powerful yet available. Many of the symptoms observed in pneumococcic infections are, moreover, those of profound toxæmia and a purely bactericidal serum would appear to possess very little therapeutic value in such circumstances; on the other hand, Pane states that though his serum is bactericidal it does not act directly upon the pneumococcus itself but produces its beneficial effects by establishing a true active immunity. Then, again, Washbourn and I elicited the fact that varieties exist among strains of pneumococci which can only be appreciated by the failure of the serum to protect animals infected with them, for in testing Pane's serum we found that it protected against four out of five of our strains but was absolutely powerless against the fifth. Finally, the various brands of serum vary considerably, even in their bactericidal power, probably owing to the fact that the bleeding of the immune animal is usually carried out at a date determined by purely clinical observation, and it is just possible that if the animal's blood was examined daily and the amount of some antibody—say, pneumococcus opsonin—estimated and the bleeding performed when that body was present in maximum quantity, vastly superior clinical results might follow the administration of such serum.

Turning now to the employment of killed cultivations or vaccines in the treatment of pneumococcus infections a much greater measure of success is obtained. The behaviour of acute infections such as septicæmia and lobar pneumonia under the influence of pneumococcus vaccine has not yet come under my own personal observation, but excellent results in this direction are reported by American observers. I am, however, firmly convinced of the value of vaccines in the chronic suppurative lesions due to the pneumococcus.

In our early studies of experimental infections with the pneumococcus Washbourn and I had observed the fact that when immunising rabbits by the method I have already described the healing of the subcutaneous abscess which followed the inoculation of the first dose of living pneumococci could be accelerated by a subcutaneous or an intraperitoneal injection of killed broth cultivation; indeed, in some instances, if the injection was made before definite fluctuation could be detected in the local lesion, the process of tissue necrosis was arrested and resolution took place. These happy results were not always attained, the reason, of course, being that we had no reliable guide as to when and how much to inject. I have already stated that a correct appreciation of the movements of the opsonin index forms the basis of, and renders possible, the treatment of bacterial infections by means of killed cultivations of the responsible organisms, or, more shortly, "vaccines," and

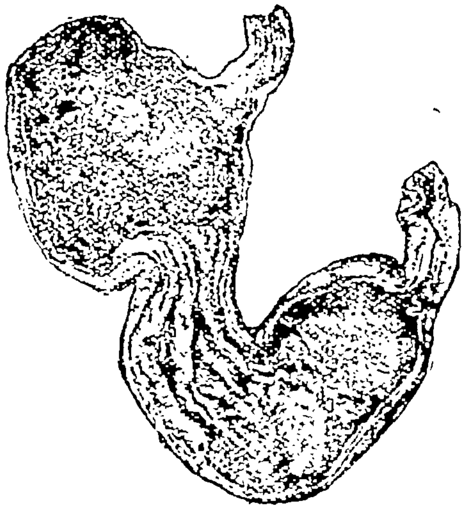
CHART 4.—CASE OF PNEUMOCOCCIC SEPTICÆMIA WITH VARIOUS METASTASES SHOWING THE EFFECT OF INJECTIONS OF PNEUMOCOCCUS VACCINE UPON THE PYREXIA.



The arrows indicate the days when injections of pneumococcus vaccine were administered.

tubular distal part is capable of peristaltic action as well (Figs. 12 and 13). The action of the oblique fibres (Fig. 14) would materially aid the sphincter aditus vestibuli. The pyloric part of the stomach is normally tubular, tonically contracted, and at certain stages of gastric digestion affected by strong peristaltic waves which increase in strength as the pylorus is approached, corresponding to the increasing amount of circular muscular tissue present. All this is easily confirmed by the use of x ray screening after a "bismuth" meal. The meal (containing from 1½ to 2 ounces of bismuth subcarb.) should be taken in two or three "courses" at intervals of from 15 to 30 minutes.

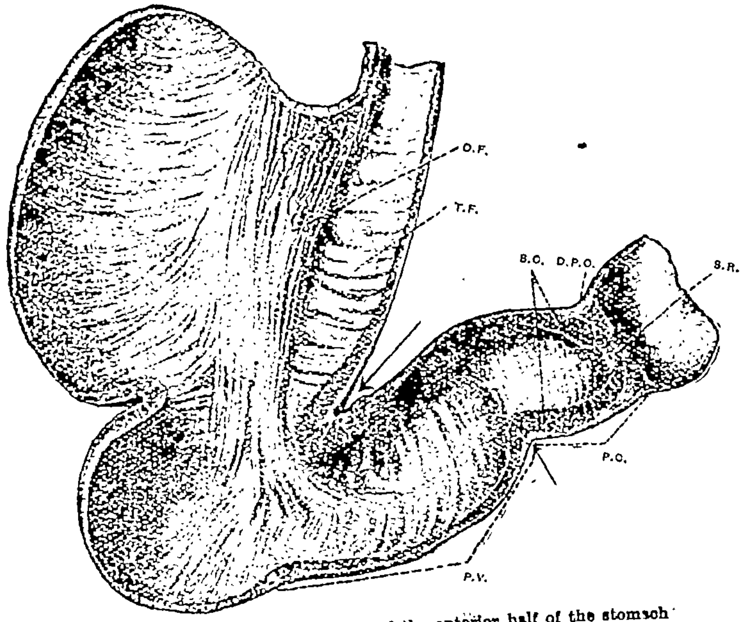
FIG. 13.



"The anterior half of the stomach depicted in Fig. 11." (Cunningham).

The pyloric portion, as I shall point out again later, thus resembles a much-hypertrophied piece of intestine, the hypertrophy becoming more marked as the pylorus is neared. There is no good reason for thinking that reversed peristalsis should occur here any more than in the small intestine. If the pylorus is closed an axial reflux stream takes place (not necessarily back into the cardiac end).[10] Yet the common idea seems to be that food is tossed or churned backwards and forwards in the stomach as a whole. It may quite reasonably be supposed that when food enters the easily dilated cardiac portion it becomes mixed with "juices" secreted there and is passed on from one compartment to another as soon as it is suitably prepared. If too much food is introduced some of it is ejected (vomited)—e.g., in the presumably normal stomach of the infant. If unsuitable food is taken abnormal secretion occurs—e.g., too much acid. This *may* be neutralised in the pyloric portion; if not, the pylorus is irritated and remains contracted, regurgitation into the cardiac end occurs, and a "vicious circle" is established and maintained till the stomach is emptied by vomiting and a fresh start can be made. This very readily occurs in the infant. In these modern days, as the individual grows older, the stomach becomes increasingly abused, the "natural" state of things is changed, and a larger and larger part of the cardiac end goes to form the passive reservoir. When the cycle of events has led to actual disease (ulceration, pyloric spasm, stenosis, &c.) more and more of the stomach is involved till it assumes the condition of a large flaccid bag which has little power of emptying itself. There are nowadays very few normal stomachs to be found. In fact, it is probable that the "normal" condition in the adult is, as I have indicated, a rather feebly acting cardiac bag and a more forcibly acting, but still too frequently relaxed, pyloric tube. Such an organ is very easily upset in its digestive powers.

FIG. 14.



"This figure shows the muscular fibres of the anterior half of the stomach represented in Fig. 10. The mucous membrane and submucous coat have been removed from the interior." (Cunningham.)

The juices secreted by the different parts of the alimentary tract interact upon one another, stimulating or inhibiting. For example, as Wertheimer and others have shown, acid in the duodenum excites the production of secretin, which in turn stimulates the secretion of pancreatic juice. This observation applies apparently to the greater part of the small intestine, although the response is more feeble in the lower parts. On the other hand, according to some authorities, secretin or some other substance in the small intestine exerts an inhibitory effect on the secretion of the gastric (acid) juice. If, then, owing to hyperacidity, pyloric spasm occurs the gastric juice cannot gain access at the proper time to the small intestine and the cycle of events referred to is broken. The effect of gastro-enterostomy, by draining the pyloric portion through the short circuit, is to act as a safety valve. A more probable explanation, in the light of the opinion of the greater number of physiologists, is the following. In a case, for example, of hyperacidity causing pyloric spasm mere drainage of the pyloric portion removes foodstuffs which serve as a chemical stimulus in the production of acid and also provides for easy escape of the excess of acid tending to be present. Therefore the hyperacidity will be reduced and consequently the pyloric spasm. As Starling[11] remarks: "The juice secreted in the second phase must vary according to the quantity of gastric hormone produced in the pyloric mucous membrane, and therefore with the nature and amount of the substances produced in the preliminary digestion of the gastric contents by means of the psychic juice. ...... The second phase of secretion will continue so long as there are substances present in the stomach to act upon the pyloric mucous membrane." Draining off these will necessarily diminish the production of juice.

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[10] Since this paper was submitted for the acceptance of the Editor of THE LANCET I have read with great interest the valuable article in the *British Medical Journal* of Jan. 18th, 1908, p. 134, by Dr. A. F. Hertz. I quote one paragraph which has a very direct bearing on what I have said: ' No mixing of the contents of the two parts of the stomach occurs. Thus, on a number of occasions I have observed that if food mixed with bismuth carbonate is eaten shortly after a meal containing none of the salt, a rounded shadow just under the left half of the diaphragm is seen, whilst the pyloric part of the stomach remains invisible. After some time the first part of the meal passes into the duodenum, and the food containing the bismuth gradually replaces it in the pyloric part of the stomach, which therefore becomes visible."

[11] Loc. cit., pp. 78, 79.

this holds good in the case of infections by the pneumococcus, and particularly those which are localised and are associated with pus formation. Cases such as these have yielded most promising results and I could cite numerous instances. I have, however, selected two which will suffice to show the possibilities of this adjunct to ordinary operative procedures.

The first (Chart 4) was a small girl in whom double lobar pneumonia was followed by empyemata, that on one side being opened on the twentieth day of the disease and on the other two days later. A subcutaneous (pneumococcic) abscess of the arm was also opened on the twenty-second day. The right hip, the seat of suppurative arthritis, was operated upon on the thirtieth day and an iliac abscess also was drained. On the fifty-fourth day an abscess in the gluteal muscles, behind the trochanter, was incised. A vaccine was prepared from a pneumococcus isolated from the empyema pus and treatment was commenced on the fifty-second day. The effect of the injections upon the temperature is well seen, and the case, which had been regarded as hopeless, was discharged to a convalescent home on the eighty-second day. The next case (Chart 5) suggests the point I have already referred to concerning particular varieties of pneumococci against which certain antipneumococcic serums were powerless. The boy was under treatment for tuberculous peritonitis complicated by a secondary pneumococcic infection, and pus crowded with pneumococci was discharged freely through the ruptured umbilicus. On the twenty-second day after the patient's admission to hospital and again on the thirty-third a "stock" pneumococcus vaccine was injected but without obvious effect so far as concerned either temperature or general clinical condition. A vaccine was then prepared from the particular pneumococcus isolated from the peritoneal pus of this patient and improvement followed the injection of a dose on the forty-fourth day. The improvement was continued, the patient put on weight, the pus gradually disappeared, and the temperature came down. Tuberculin treatment was then adopted and the patient after a short stay in a convalescent home will become an out-patient.

One other application of pneumococcus vaccines to cases in which operative treatment is needed—and these remarks hold equally in the case of other bacterial infections—and I have done. Where the opsonin content of the blood is low the preliminary injection of a suitable vaccine by stimulating the manufacture of further supplies places the patient in the most favourable condition to withstand shock and resist the further spread of infection through the disturbance of the tissues involved by the necessary operative procedures. In illustration I might mention a case of empyema and peritonitis following lobar pneumonia in an adult female under the care of Dr. W. Hale White. From the pus, the fluid portion of which had an opsonic index of less than 0·2, a virulent pneumococcus was isolated, a vaccine prepared, and a dose injected. Two days later the empyema was opened, when it was found that the pleural cavity communicated with the abdominal cavity and some five or six pints of pus were removed. The index of the liquor puris was now 0·9. The patient convalesced rapidly—a few more injections of vaccine were required—and was discharged cured.

CONSIDERATIONS CONCERNING THE FUNCTIONS OF THE STOMACH AND THE OPERATION OF GASTRO-ENTEROSTOMY.

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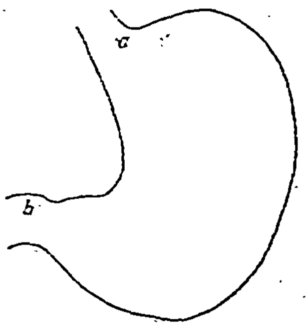
SURGEON AND LECTURER ON CLINICAL SURGERY, ABERDEEN ROYAL INFIRMARY.

ON account of the usually immediate and striking benefit obtained, the operation of gastro-enterostomy has established itself as a very valuable and necessary procedure in many diseases involving the stomach and duodenum. Nevertheless, in spite of careful selection of cases, disappointing results, such as regurgitant biliary vomiting or formation of jejunal ulcer perhaps with perforation, occur occasionally, even when the most modern method (posterior no-loop) has been followed. Why such sequelæ should occur only occasionally, when apparently the same technique has been carried out as in perfectly successful cases, is not clear. A possible explanation may be that sufficient care is not taken in the selection of the site of the opening in the stomach. Mayo's guide (that the opening should lie in a vertical line from the cardiac orifice) is probably a thoroughly sound one when the stomach is lying undisturbed in the abdominal cavity. When the stomach is pulled out, however, or otherwise manipulated the proper place may not be chosen, as the organ tends to swing round its lesser curvature. This, as I shall endeavour to show, *may* be the reason of untoward results.

The best operative procedure is that which most nearly preserves or restores the natural functions of any part requiring such interference. For this, of course, accurate knowledge of the natural functions of the part concerned is necessary. I venture to assert that this essential is not fulfilled in the case of the stomach, at least in so far as its motor functions are concerned.

It would seem that gastric surgery, as developed from experience gained in earlier operations on greatly dilated stomachs, has persisted in regarding the stomach as a "one compartment" organ. (Fig. 1.) Operations were planned with the object of "draining" these huge stomachs. To suit latter-day ideas some other term than "drainage" must be found. It does not convey a proper idea of the modern operation, which is executed more on the principle of a "short circuit" or, in some cases, of a "safety valve." Cannon and Blake[1] showed that gastro-enterostomy need not be a drainage operation; that, in fact, food preferred to pass through the pylorus rather than through the newly formed "stoma," unless the latter was made very large. Their observations have probably been too much emphasised in this connexion. They were made on normal healthy cats. Leggett and Maury's[2] more recent experiments prove little. Most of their operations, recorded in detail, seem to have resulted, more or less, in the old "vicious circle."

FIG. 1.



Tracing of stomach figured by W. J. Mayo in article on the Technique of Gastro-enterostomy in the Annals of Surgery, April, 1906 (reduced to one-third). *a*, Cardiac orifice; *b*, pyloric orifice.

To procure its beneficial results gastro-enterostomy *must* be at first a drainage operation; later, when the gastric secretions and the condition of the pyloric sphincter and of the neighbouring mucous membranes have become more normal, this function of drainage is not required and food *may* again pass naturally through the pylorus. Where permanent pyloric or duodenal stenosis is present, then, of course, "drainage" is permanent. Cannon and Blake[3] have shown that towards the end of digestion the pyloric end of the stomach is the lowest part, owing to the contraction of the longitudinal fibres of the stomach, and therefore that the "stoma" in gastro-enterostomy should be made as near the pylorus as possible. This seems rather at variance with their finding, that the operation is not a drainage one, and I shall endeavour to show that there are probably more potent reasons why the "stoma" should be made as near the pylorus as possible. The great reason is that by making the stoma in this situation gastric digestion is allowed to become more quickly and permanently normal again.

Professor D. J. Cunningham,[4] the late Professor Birmingham,[5] and others have shown very conclusively in anatomical specimens that the shape of the stomach is very different from that described until a few years ago. It is evident secretion is profuse and renders the chyme more fluid. Hyperacidity of the gastric contents causes irritation or ulceration, especially if they are retained long in this portion by spasm of the pylorus. The pyloric secretion may be insufficient to neutralise this hyperacidity and make the chyme of a proper reaction to stimulate relaxation of the pylorus. Exacerbation of the pain in gastric ulcer is due to irritation thereof by food, acid, or more or less by increased movement. In support of the foregoing statement (at the end of the last paragraph) I point out that the pain of ulcer of the pyloric region does not assert itself until a considerable interval after food is taken into the stomach, i.e., until some part of it, first rendered acid, has gained access to the pyloric part. If the pain is due to increased movement of the pyloric part, then this portion must be at rest during the earlier stage of gastric digestion (tonically contracted).

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[1] Annals of Surgery, May, 1906.

[2] Ibid., October, 1907.

[3] Loc. cit.

[4] Transactions of the Royal Society of Edinburgh, vol. xlv., Part I., No. 2.

[5] Cunningham's Text-book of Anatomy, second edition, p. 1052.

It seems that the mechanical functions of the stomach, as hitherto understood, have been deduced (1) from imperfect anatomical knowledge; (2) from direct observation (Rossbach) perforce made under abnormal conditions; (3) from chemical tests made with substances which are absorbed only when they reach the duodenum; (4) from the persistence in the stomach after varying periods of indigestible particles or ordinary food-stuffs introduced; and (5), possibly most important, from x ray screening of the stomach after a meal mixed with bismuth. Of these, only (2) and (5) may throw light on the action of the pyloric portion; (3) and (4) have reference to the action of the stomach as a "one compartment" organ. With regard to Rossbach's observations, as already stated, one often sees contraction of the pyloric portion in a fasting stomach exposed during operation. The churning action, observed at an early stage and attributed by some x-ray observers to the pyloric portion, is apparently confined to the part of the cardiac portion adjacent to the "sphincter aditus vestibuli," which is possessed of peristaltic action.

Physiologists state that the "two portions of the stomach seem to be partially or, in certain animals from time to time, completely cut off from each other by the contraction of the sphincter of the antrum" (Stewart). The part distal to this "sphincter" is in the living stomach tubular (Starling). An obvious difference in colour of the parts of the stomach is apparent in such an animal as the rat. This is sharply demarcated.

Developmentally, the greater part of the cardiac end of the adult stomach is a mere diverticulum, blown out, as it were, from one side of the gastric tube, although it is the most important part of the tube from the standpoint of the gastric digestion.

The predisposition of the pyloric portion to ulceration as compared with the cardiac end has already been referred to. The constriction in cicatricial hour-glass stomach usually occupies the site of the "sphincter aditus vestibuli." The part of the cardiac portion adjacent to the lesser curvature (the remnant of the gastric tube from which the cardiac diverticulum is developed) is to be differentiated from the rest of the cardiac portion. It resembles the pyloric portion and is the usual site of ulceration when this involves the cardiac end.

Thus developmentally, anatomically, physiologically, and pathologically, there are great differences between the pyloric and cardiac ends of the stomach.

Taking these differences into consideration, it seems extraordinary that the stomach should be looked upon, for working purposes, as a "one compartment" organ. Indeed, it seems absurd to suppose that food was meant to be tossed about inside an organ which pours out acid secretion at one end and alkaline secretion at the other end. It would be folly
the one type of secretion does not inhibit the
other by mere neutralisation alone. That a gour-
extreme digestive disturbance even although he
his stomach so that cardiac and pyloric portions
proves merely the extraordinary accommo-
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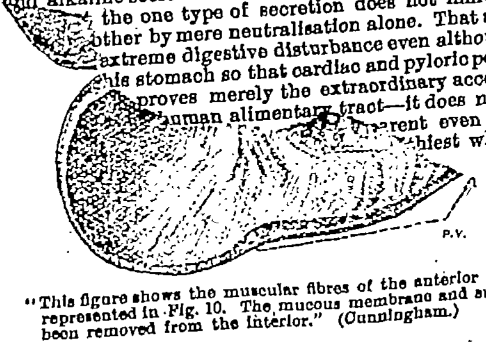

"This figure shows the muscular fibres of the anterior half of t
represented in Fig. 10. The mucous membrane and submucous
been removed from the interior." (Cunningham.)

The opening in the operation of gastro-enterostomy must be made as near the pylorus as will permit of a "comfortable" position of the duodeno-jejunal portion to be anastomosed. By fixing this portion to the stomach in a more antero-posterior line than is usually done one finds that the opening can be made an inch or two nearer the pylorus.[13] (Of course there must be no kink formed in the upper part of the bowel.) This margin may make all the difference afterwards.

The opening should be a large one, as I think it is of great importance that it should *provide "drainage,"* when this is necessary, not of the cardiac portion but *of the pyloric portion*, and thus allow exit into the jejunum of the hyperacid gastric contents when projected into the pyloric from the cardiac end. This will at once place the pyloric end practically at rest compared with its previous restlessness in attempting to overcome the resistance of the irritated and spasmodically contracted pyloric sphincter. The tendency to prolonged acidity in the pyloric end will be neutralised by "the entrance of the alkaline pancreatic juice and bile" (Paterson).[14] These two factors explain the usually immediate cessation of the severe pain of ulceration after gastro-enterostomy.

The escape of the acid chyme is not prevented by the pyloric sphincter and takes place into the jejunum through the new stoma at an early period and will stimulate pancreatic secretion at an earlier stage than previously occurred in the patient. As Mr. H. J. Paterson points out, there will then be a correspondingly earlier diminution of the gastric secretion and therefore the hyperacidity will be reduced. The early escape of foodstuffs from the stomach by diminishing normal chemical stimulus might account in large measure for this, as previously pointed out. The "abnormal excitation of the gastric mucosa which results from spasmodic stenosis of the pylorus" (Paterson) will of course be done away with.

I believe that the tonic contraction of the pyloric portion and of the sphincter aditus vestibuli is the usual and essential factor in preventing regurgitant biliary vomiting. The action of the muscular coats of this part is stronger than that of the jejunum, hence will prevent any more than a very localised escape of bile and pancreatic juice into the stomach, unless placed in such impossible conditions of vicious circle as the frequent kinking in the old loop method produced. In uncomplicated cases of gastro-enterostomy I have found, on passing the stomach tube, that bile is not present in the cardiac end of the stomach.[15] If the passage of the tube causes attempts at vomiting it is quite probable that the increased intra-abdominal pressure, especially in cases where dilatation existed previously, will cause regurgitation of bile and pancreatic juice into the cardiac end. I believe that the cases of biliary vomiting which I have heard of occurring after the no-loop method are probably due to the fact that the anastomotic opening has been made in the cardiac enlargement where the bile probably causes irritation and is vomited. In certain cases, of course, it is no doubt due to malposition of the anastomosed bowel. Even when the opening has been made in the cardiac enlargement, the muscular action of the cardiac end may keep or force back bile into the jejunum and thus prevent vomiting, but in cases of atony of this part the bile and pancreatic juice may follow the line of least resistance, fill up the cardiac end, and be vomited. Mr. Moynihan's case,[16] in which the whole of the bile and pancreatic juice had to pass back through the pylorus owing to the operative closure of the duodenum, does not necessarily prove that bile is non-irritating to the stomach. He does not record to what portion of the stomach the jejunum was attached—probably to the part presenting in the wound (the pyloric portion), in which case the bile would pass almost immediately into the jejunum. All the same, in many cases, "bile" in *small* quantity does not appear to cause irritation in the cardiac end. When fatty food is taken in excess the accurate knowledge of the condition of affairs. One expects, of course, that where circular muscular fibres preponderate, there constriction will more frequently be present. By making a composite picture therefore of the illustrations presented by Professor Cunningham one finds that the fœtal form asserts itself. (Figs. 5 to 11.) Observations on the stomach form (such as those made by Wernstedt[8]) when even artificial distension (*künstliche Dilatierung*) was often made previously to the hardening process are obviously of no value in settling this question.

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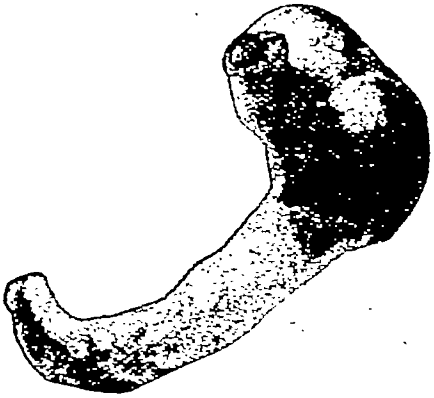
[13] On the eve of sending this paper for publication I have read Mr. B. G. A. Moynihan's article on "The Treatment of Chronic Diseases of the Stomach," Surgery, Gynæcology, and Obstetrics, January, 1908. In it he advocates this "vertical" position of the jejunal loop.

[14] THE LANCET, Sept. 21st, 1907, p. 815.

[15] I have obtained stomach contents (from two to four hours after a meal) from six cases operated on during the past six months. The specimens were examined by Dr. J. M. Macqueen in the Physiological Department, Aberdeen University. In five there was no trace of bile. (In one of these the attempt to pass the stomach tube caused vomiting.) In one there was a very faint trace of bile. In this case, pericolonic adhesions, found at operation, may have caused slight obstruction in the efferent loop of jejunum.

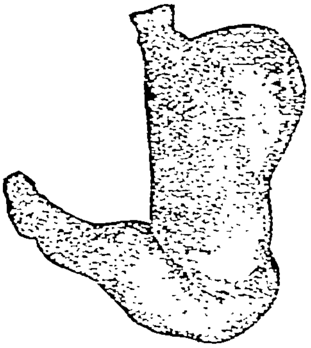
[16] Brit. Med. Jour., May 11th, 1901.

FIG. 8.



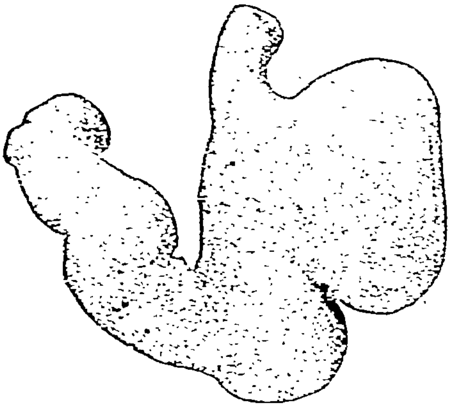
"Stomach of a young adult male viewed from above, in which the emptying process is nearly completed." (Cunningham.)

FIG. 9.



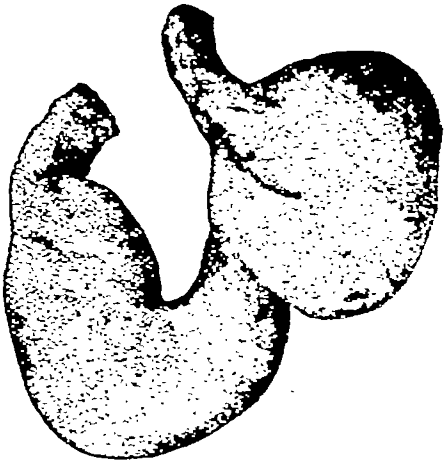
"Stomach of an adult female; aberrant form." (Cunningham.) May not this be merely modified by post-mortem dilatation?

FIG. 10.



"Stomach of an adult male; aberrant form." (Cunningham.)

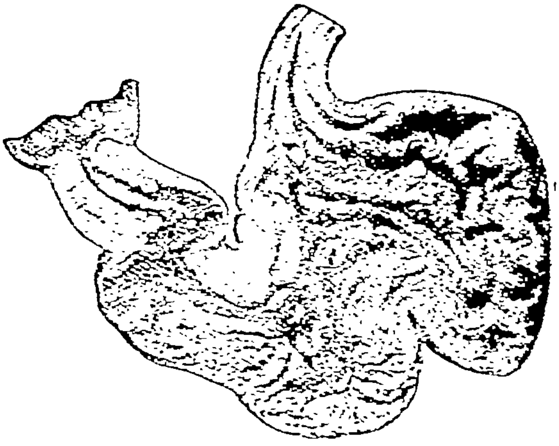
FIG. 11.



"Specimen obtained from the post-mortem room. It exhibits a form intermediate between that seen in Fig. 7 and that of a true hour-glass stomach." (Cunningham.) Might not post-mortem dilatation explain the difference in appearance?

The stomach is divided by the so-called "incisura angularis" (His), on the lesser curvature, into a more or less vertical cardiac part, to the left, and a horizontal pyloric part to the right. As stated, the proximal part of the cardiac portion is always sac-like. The distal part is well supplied with circular fibres. Into the far end of this numerous bands of oblique fibres run from the cardiac orifice (Fig. 14), reaching to the greater curvature opposite the incisura angularis. These are quite well marked and have no doubt a definite function to perform. This tubular (?) cardiac part deserves greater attention than it has hitherto received, as it is probably in it that most important preliminary "churning" of the food takes place. (Figs. 12 and 13.) The food is thus thoroughly mixed with the cardiac juices before being passed into the pyloric part. The "incisura angularis" corresponds in many specimens with a well-marked set of circular fibres (Figs. 12 and 13) previously known, by physiologists especially, as the "sphincter of the antrum" or the "transverse band." According to Starling[9] this is a physiological and not an anatomical sphincter. I suggest that "*sphincter aditus vestibuli*" is a more suitable name. The pyloric portion of the stomach is subdivided by a slightly marked sulcus on the greater curvature into a larger part, the *pyloric vestibule*, and a smaller, very muscular part, the *pyloric canal*.

FIG. 12.



"Section through the stomach of an adult male (aberrant form) along the plane of the curvatures." (Cunningham.)

The proximal sac-like part of the cardiac portion is endowed apparently only with tonic contraction. The more of parents play some considerable part. In reality the chorio-capillaris of the choroid seems to be first attacked, the retinal degeneration being secondary. As you are aware the outer layers of the retina are nourished by the chorio-capillaris and in retinitis pigmentosa the inner layers show comparatively little change. These facts help us to a reasonable conjecture as to the exact causation of the night blindness.

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[8] Archiv für Anatomie und Physiologie (Anatomische Abtheilung), 1907.

[9] Recent Advances in the Physiology of Digestion, by E. H. Starling, 1906, p. 134.

You will remember that in birds which seek their prey at night, such as the owl, the retina contains only rods; there are no cones in the neuro-epithelial layer. You will also remember that the visual purple is associated with the rods only, so that in animals possessing a fovea, where the rods are absent, there the visual purple is also absent. I may further remind you that with low illumination in man there is much more rapid depreciation of central than of peripheral vision, so that we may reasonably conclude that vision in these circumstances is chiefly carried out through the agency of the rods. Form sense, dependent upon the cones, quickly diminishes in passing from the point of fixation towards the periphery, but at night acute appreciation of variations of light and shade is much more important than accurate delineation of objects. These considerations may afford some explanation of the night blindness in retinitis pigmentosa, as well as of the partial nature of the annular scotoma and the comparative perfection of central vision. Of course, it is not suggested that the cones escape destruction in the affected zonular area, but their loss is discounted by their relatively unimportant functions in this situation.

There is another chronic form of night blindness which we occasionally meet with, differing from retinitis pigmentosa in the fact that it is stationary. This form is always hereditary and shows no gross changes in the fundus. It is a rare disease except in the families afflicted with it, when as has been recently shown in a very striking manner a large proportion of the members are attacked. Thus Mr. E. Nettleship has continued the work of Cunier on a certain family in the south of France and has discovered no less than 135 subjects of congenital night blindness amongst 2121 members of 10 generations, the first member of which, a male, himself night blind, was born in 1637. Unfortunately, no case of this disease has been examined anatomically; it may possibly be found that the retina is deficient in rods or visual purple.

A group of cases of chronic night blindness in some respects intermediate between idiopathic retinitis pigmentosa and congenital night blindness is that of syphilitic pigmentary retinitis. It does not show the same uniformity either of symptoms or of objective signs that are characteristic of idiopathic retinitis pigmentosa. The night blindness is progressive during the active stage of the disease but may then remain stationary for an indefinite period. Fundamentally, however, the night blindness must be regarded as due to the same pathological processes. Besides these chronic forms of disease manifesting this symptom there are also acute forms. Though these show a great variety of clinical types there is nearly always one feature common to all—namely, malnutrition. They are probably much less frequently seen in England now than formerly owing to the improvement in the conditions of the poor. We generally meet with them in badly nourished children and a large proportion of them have xerosis of the conjunctiva. The combination of these symptoms is not so invariable as is sometimes thought. Many cases of xerosis without night blindness and *vice versâ* occur. In some cases the cornea becomes ulcerated and in the worst there is keratomalacia; in many of these the age of the patient or the severity of the attendant symptoms prevents the demonstration of night blindness. One fact which may be definitely deduced is that there is no inherent relationship between the xerosis and the night blindness other than a common cause.

Acute night blindness was at one time common among sailors, soldiers, and the inmates of prisons and workhouses. In Russia it was, and probably still is, common during the Lenten fast. Uhthoff, amongst 500 cases of severe alcoholism, found 5 per cent. suffering from xerosis, night blindness, or both together. Less frequently night blindness has been found associated with scurvy, malaria, nephritis, the puerperium, vegetarianism, and so on. Most of these patients have reflex blepharospasm ("photophobia") in bright sunlight. That in many, most likely all, the lesion is peripheral is shown by Mr. Nettleship's interesting observation that if a sailor afflicted with the disease covers up one eye during the daytime that eye has sufficiently good vision at night for the man to carry out the duties of the watch. It would appear, therefore, that malnutrition acts by lowering the vitality of the retina in such a manner that the process of repair is delayed. Probably the visual purple is restored more slowly than normal—that is, the anabolic processes are defective. To call the condition torpor retinæ and to regard this as an explanation is futile; it is simply describing the condition by another name.

Another group of cases of night blindness, allied to those last mentioned but deserving separate treatment, are those associated with jaundice. The symptom is not very uncommon in severe cases of jaundice. In some pigmentary changes of slight degree have been found in the retina and the condition has been dignified with the name ophthalmia hepatica: in most the ophthalmoscopic signs are negative. It is noteworthy in this connexion to recall the fact that bile salts are a solvent of the visual purple, as was shown by Kühne. Night blindness is common in India among badly-nourished natives, especially during the periodic famines. It has been found that the symptom disappears when the patients are fed on liver, a fact difficult to correlate with the cases occurring with jaundice. The mode of treatment is of extreme antiquity, being advocated in the *Ebers papyrus* (B.C. 1500).

A CASE OF ANEURYSM OF THE FEMORAL ARTERY IN A MAN, AGED 78 YEARS,

IN WHICH SUPPURATION TOOK PLACE FROM PNEUMOCOCCAL INFECTION; RECOVERY.

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FOR the history and many details of this case we are indebted to Dr. A. Bevan who attended the patient throughout his illness.

The patient was an old man, aged 78 years, living in a hotel who was suddenly taken ill with a rigor and a temperature of 104° F. on Jan. 18th, 1907. He had a cough and rapid respiration but there were no signs in his chest until two days after the onset of his illness. Consolidation of the upper lobe of the right lung was then found. This was followed by a patch of dulness at the angle of the left scapula and at the right base. The temperature touched normal on the third day of the illness and then fluctuated between 100° and 103·4° until the eighth day, when there was a pseudo-crisis with a rise next day to 101·2°. It then fell again on the tenth day to 96·4°. The temperature fell to 96·4° three times with intervening slight rises to 97·2°, remaining subnormal for the following ten days. There was a very dangerous collapse during this time. The pulse-rate fell from 98 to 60, and sometimes could not be counted, as many beats failed to reach the wrist. The heart sounds were very faint from the combined effect of emphysema and feeble action but no cardiac murmur was heard at any time during the illness. The expectoration was of the "prune-juice" type rather than rusty. Dr. H. G. Turney, who saw the patient in consultation with Dr. Bevan, reports that "the pneumonia was clinically on the whole of the influenza type, though the termination was by crisis. The physical signs varied a good deal from day to day; there never was really massive consolidation and he sweated a good deal all through the attack." The patient remained in a low and feeble condition with a subnormal temperature until Feb. 10th. He then improved and the temperature became normal, but from the 20th onwards evening pyrexia (99°) was constant. There was also at this time a little swelling of the left leg and foot from œdema, and a local swelling was noticed about the middle of March in the course of the femoral vessels which was thought to be due to thrombosis of the left femoral vein. In April Dr. Bevan found that this swelling pulsated and regarded it as an aneurysm. Towards the end of April it began to increase in size and the pulsation appeared to be nearer the surface. On examination it was found to be a large swelling situated in Hunter's canal on the left side, with inflammatory exudation into the tissues around, or the aneurysm may even then

I feel that this view of the anatomical arrangement of the adult stomach is the right one owing to the fact that I have so frequently observed this condition of affairs during operations on or near the stomach. As I have stated already, one finds that, unless the stomach is much dilated as a whole, the pyloric part when exposed, and especially if handled, looks like a piece of much hypertrophied intestine. This part presents in a median epigastric incision. The cardiac part is usually flaccid. In cases where gastro-enterostomy has been indicated I have found it enlarged as well as flaccid. Indeed, the presence of this *flaccid enlargement may be an indication that gastro-enterostomy will do good, even although no pyloric stenosis exists*. This cardiac portion does not appear in the wound, but when pulled out makes a striking contrast to the contracted pyloric part and offers great temptation to those who believe in the "drainage" qualifications of gastro-enterostomy, to make the stoma at the most dependent part of the flaccid bag. Moynihan[12] refers to repeated observations of localised spasmodic constrictions "in the body of the stomach and at the pylorus, but never at the fundus." These I have also observed. They are, of course, quite different from the general contraction of the pyloric portion which I have just described. In fact, they may occur along with this, especially if the stomach be mechanically irritated.

FIG. 15.

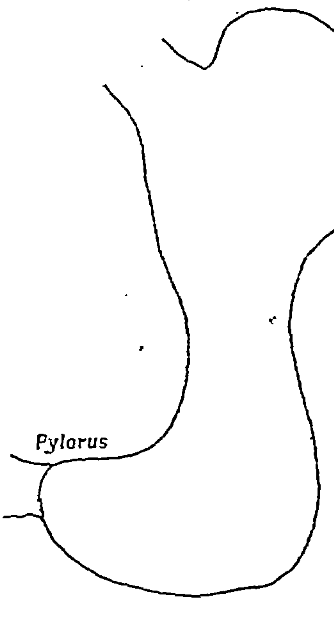


FIG. 16.

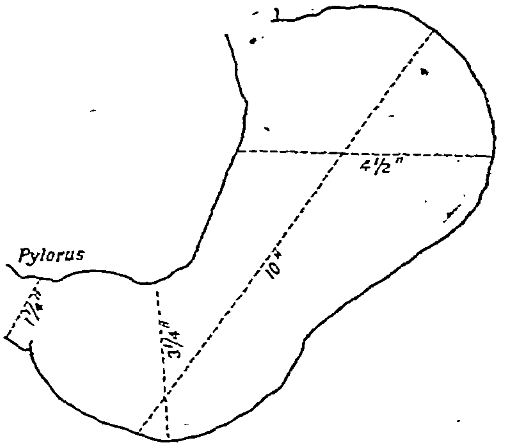
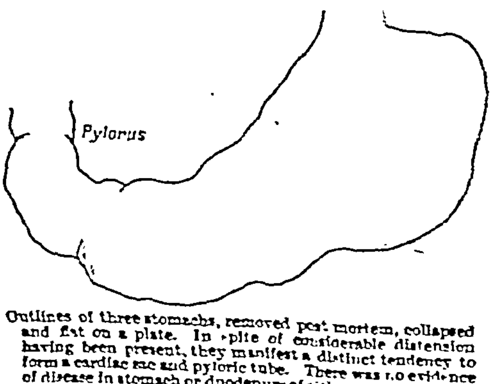


FIG. 17.



Outlines of three stomachs, removed post mortem, collapsed and flat on a plate. In spite of considerable distension having been present, they manifest a distinct tendency to form a cardiac sac and pyloric tube. There was no evidence of disease in stomach or duodenum of either case. Observed, without selection, by Dr. G. M. Duncan, Pathological Department, Aberdeen University.

It seems to me that our ideas as to what constitutes pathological dilatation of the stomach must be revised. Without doubt such dilatation occurs first in the cardiac end and may be the cause of such persistent symptoms as only operation will satisfactorily get rid of. Our present diagnostic methods of inflating the stomach are ordinarily probably too vigorous and too much attention is given to the relation of the stomach (the pyloric portion, which may still be approximately normal) to the umbilicus. Unless gastric resonance, as ascertained in the neighbourhood of the mid-line of the abdomen, reaches nearly to, or beyond, the umbilicus, there is thought to be no dilatation of the stomach. From practical experience I feel sure that more attention should be given to the condition of the outline of the cardiac portion. Careful external examination will often reveal an unexpected amount of dilatation there. The more natural the stomach the more decidedly is it in the form of "cardiac sac and pyloric tube." This may prove of much value in diagnosis.

In order to explain satisfactorily the symptoms of gastric ulcer and the beneficial effects of gastro-enterostomy the cycle of events in the stomach at work must be somewhat as follows. The cardiac portion acts as a reservoir, in which food is, in a great measure, prepared for further digestion by being subjected to the action of the juices secreted in that part. The food is intimately mixed with those juices by the churning action of the gastric muscular coats, especially of the distal part of the cardiac portion, and by the movements of the diaphragm and abdominal muscles during respiration and conversation, and still more so during forced respiratory movements, such as laughing, sneezing, and the like. (This can be confirmed by screening after a bismuth meal.) Hence we have possibly a partial scientific explanation of the adage, "laugh and grow fat," and of the custom still extant in some quarters of passing round the snuff-mull at the end of a meal. These movements, moreover, assist the circulation of the blood in the abdominal cavity and thereby are beneficial to digestion. The food, having acquired its proper chemical reaction is now (after from 15 minutes to half an hour, according to the nature of the food), by the drawing up of the greater curvature (Cannon), propelled into the pyloric portion which, by its marked peristaltic efforts, thrusts the food towards and through the pyloric sphincter. Skiagraphic tracings of the human "normal" stomach (e.g., Pfahler's) show that the part well to the left of the mid-line is filled with food first (i.e., the saccular and tubular parts of the cardiac portion—the vertical portion of the stomach). This can easily be confirmed. Even when a considerable quantity of food has been swallowed, causing a fair amount of distension, the vertical cardiac portion is still alone affected. It would seem probable that until the time when the drawing up of the greater curvature takes place there is no food or acid secretion in the pyloric part, ingress of such being prevented by its tonic contraction and higher elevation and the closure of the "sphincter aditus vestibuli" (tucked up by the action of the oblique fibres). A well-marked notch can frequently be seen (with the fluorescent screen) on the greater curvature, corresponding to the position of this sphincter, after part of the "bismuth" meal has passed into the pyloric portion.

The pyloric portion resembles the duodenum in its pathology. The reaction of its secretion is alkaline. Its on several occasions with Dr. Bevan, saw no reason to suspect infective disease of the endocardium. There were no cardiac murmurs during the whole course of the illness. The pyrexia at one time corresponded to the attack of acute pneumonia and later followed the course of the acute infection of the femoral artery. As soon as the suppuration was relieved the temperature fell to normal and has remained normal ever since, except for slight pyrexia which lasted for a few days during the period of convalescence.

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[12] Brit. Med. Jour., Feb. 20th, 1904, p. 413.

An acute embolic aneurysm which develops during the course of acute infective endocarditis is characterised by its rapidity of formation, and also by a considerable amount of pain at the seat of infection. It cannot be said that either of these phenomena was present in the case under discussion. Perhaps the most important argument against infective endocarditis is that the patient continues in good health and shows no evidence of cardiac disease. The other explanation which we have already referred to is that the patient developed an acute pneumococcal infection of an atheromatous patch in the femoral artery. Careful consideration of the facts of the case strongly suggests either direct infection of the artery leading to the formation of an aneurysm or direct infection of an aneurysm which was present previously to the acute illness. In either case the pathology is somewhat similar. The slow and feeble action of the heart, which was such a noticeable feature in the first few days after the crisis, and the alteration in the coagulability of the blood which is so commonly found in such conditions, would favour the formation of thrombosis either in the sac of an aneurysm or over an atheromatous patch in a degenerated artery. It is impossible to say whether acute infection of the arterial wall took place previously to, or subsequently to, the formation of thrombosis. In either case the pneumococcus, which may probably be regarded as the cause of the acute pneumonia, set up an acute arteritis which finally gave way into the surrounding tissues. It is probable that the infection of the tissues took place through the wall of the artery before actual leakage occurred. In any case, whether the aneurysm was primary or secondary, it appears to have been of the sacculated variety, and direct communication between the sac and the vessel was obliterated before the aneurysm was opened. It is unfortunate that it is impossible to say at what period of the patient's life the aneurysm was formed, but at any rate this does not detract from the great interest which centres round such a remarkable condition.

THREE CASES OF POISONING BY CARBONIC OXIDE; ONE RECOVERY.

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CASES of poisoning by carbonic oxide appear to me of sufficiently rare occurrence to justify a description of those which recently happened in the workhouse infirmary, Leighton Buzzard, for such a tragedy to take place in the wards of an institution the arrangements of which had been passed by expert engineers is fortunately uncommon and has a special interest.

On the night of Jan. 20th three women retired for the night in a small ward and at 9 P.M. were known to be in their usual health. A fire had been lighted in the stove as on this day the ward had been cleaned and it is probable that the women had closed the only ventilator before going to bed. On the following morning at 7 A.M. a workhouse inmate went to call the women and found them, as she thought, all dead. There was no smell in the room and the gas was burning, and the fire in the stove was still just alight. The three women were lying as if asleep. On further examination one of them, aged 76 years, was found to be alive, the workhouse master, Mr. Swaffield, at once with commendable promptitude performing and continuing artificial respiration, thus most probably saving her life. The other two women, aged 52 years and 47 years respectively, were quite dead. The master sent at once for Mr. L. Worts, the medical officer, to whom I am indebted for my subsequent conduct of the case and for permission to publish these notes.

I was sent for at 10 A.M. on the morning of Jan. 21st and found a woman, aged 52 years, and a woman, aged 47 years, lying dead. The body of the first woman had been removed from the bed to the floor. She was quite dead; some white foam was issuing from the mouth. Her attitude was one of repose and her complexion and lips were fresh and of a bright cherry colour. The body was warm and rigor mortis was hardly discernible. The body of the second woman was on the bed; the face was pallid and she had vomited some pultaceous matter. She lay on her back with her arms folded over her chest; rigor mortis was marked and the body was quite cold. The third woman, aged 76 years, was lying on the floor, totally insensible, the conjunctival reflex being absent. The pupils were equal and of moderate size. She was practically pulseless and was breathing stertorously, the cheeks blowing with each expiration. Respiration was slow (about 12 to the minute), the lips and mucous membranes were bright, and the complexion was clear. Both wrists showed abrasions the result of the continued efforts at artificial respiration, and it was noted that the reddened skin around the wrists had a peculiarly bright hue. As there was no information to go upon, and as there was a suspicion that all three had partaken of the contents of a mysterious parcel left by a visitor, after injecting $\frac{1}{30}$th of a grain of strychnine I decided to wash out the stomach. This was done with warm water and afterwards with weak Condy's fluid till the washing was clear; the washings were first of a coffee-ground colour. I then gave one and a half ounces of brandy through the stomach-tube, and after injection of ether and the application of the interrupted current in the course of the phrenic nerve, after about three hours the pulse improved, the conjunctival reflex returned, and she responded to outside stimuli. Oxygen was sent for but she recovered before it arrived. She was ordered to be fed per rectum with "panopeptone" and by 6 P.M. she was able to take it by the mouth, and she is now out of danger but can remember nothing of what happened.

Realising that the desperate illness of the third woman must be brought about by the same cause which had led to the death of the other two I decided to make a spectroscopic examination of the blood of the living woman and, being fortunate in possessing an excellent stellar spectroscope, used it with most decided results. A drop of blood from the finger was received into a test-tube two-thirds full of normal saline solution and the tube was shaken up; the resulting solution was of a bright cherry colour. On being placed before the slit of the spectroscope there were seen the two absorption bands of CO hæmoglobin most distinctly, and the reaction was unaltered on the addition of ammonium sulphide. Next day I was present at the post-mortem examination made by Mr. Worts. Both bodies presented similar appearances. The blood 30 hours after death was perfectly fluid and cherry-red in colour. The muscles, too, were bright red. There was no blood clot found at all. The mucus membranes were all bright red and the complexion fresh. The stomach of one woman was empty and presented numerous petechial hæmorrhages, and similar hæmorrhagic points appeared in the cerebral white matter on section; the cerebral ventricles were full of fluid. In both cases the lungs were markedly œdematous and the kidneys showed interstitial nephritis; the capsules were adherent. I took specimens of blood from both dead women and examined them as before, with a like result, the spectroscope giving definite evidence of CO hæmoglobin.

The cause of the carbonic oxide in the atmosphere was, on investigation, not hard to find. At first I thought that it must be due to the permeability of red-hot cast iron to gases, but since then I have had an opportunity of examining the stove with the representative of the firm who manufacture them. The stove is of ornamental cast iron with doors in front which can be opened; on the top is a circular aperture covered by an ornamental perforated cap. The stove stands in the room about two feet from the fire-place, which is blocked up. A six inch cast-iron horizontal pipe passes into the brick flue, terminating on its entrance. The flue is a long one leading from the floor below, one flue common to both landings. Inside the stove is a flame baffler, which when rightly set serves to direct the heat into the room and direct the current both from the fire and the chamber at the top of the stove into the flue. Instead of being set thus the baffler was set as shown in the diagram, thus allowing any products of combustion which passed the baffler to come into the room (Fig. 2). The normal mechanism of the pyloric apparatus is evidently in abeyance. Bile and pancreatic juice are allowed to gain their way to the cardiac part in small amount, upon which the fat there is partly digested—a marvellous provision of nature for the benefit of the gourmand.

In the majority of cases I believe that the opening *is* made in the pyloric portion but, so far as I can make out, with no proper, definite precaution to attain that end. The stomach is usually pushed *down* through an opening in the mescolon and, if the pyloric portion is contracted, the cardiac enlargement may easily be substituted for it. The plan, introduced I think by Professor H. Littlewood of Leeds, of pushing the intestine *up* through the hole in the mesocolon and making the junction with the stomach in more normal position (after tearing an opening in the omentum to get at the posterior wall of the stomach), makes it much more certain that the anastomosis is made in the pyloric portion. The thought occurs—Should one make the anastomosis in the cardiac enlargement if ulcer of the cardiac end exists, risking regurgitant vomiting, or making a Roux's (Y) operation right way? Personally, I do not think so. I have followed the usual plan in such cases of cardiac ulceration as have come under my care and the only difference I have noticed is that the pain took longer to disappear than in pyloric ulcer. The explanation of the cure is the same as in pyloric ulcer.

It is quite possible that making the anastomotic opening in the cardiac portion may explain the occurrence of jejunal ulcer after gastro-enterostomy, especially in the old loop or Y operation. The persistent trickle of acid secretion from the cardiac end compared with the intermittent ejection through the pyloric stoma may so affect a particular part of the jejunal mucosa that ulceration occurs, as the acidity is less likely to be immediately neutralised.

With regard to the effect of gastro-enterostomy on the motility of the stomach, as to whether it is a "drainage" operation, Mr. Paterson's observations,[17] to my mind, prove nothing. The point is, What part of the stomach does it drain"? A careful operator, like Mr. Paterson, is unlikely to make the opening in the cardiac enlargement and there- re in his cases food will *not* pass *at once* into the jejunum. will, as he shows, have practically the same nutritive lue. I venture to say, however, that his reasoning with gard to these facts is wrong. They do not necessarily pport his contention that gastro-enterostomy is not a ainage operation. It must procure drainage or, rather, t as a short circuit or a "safety valve" before it can bring out the good effects which it does. In Cannon's observa- ns on cats, which are so frequently referred to, in the eater number of cases the opening was evidently a small e, and food preferred to pass through the pylorus. In the y case in which the opening was without doubt a large h, food passed more readily through this opening. This is at should be aimed at in the human subject. I point out t these experiments were carried out in presumably mal animals and therefore the conditions are not com- able to those demanding gastro-enterostomy in the human ient, in whom pyloric spasm or actual stenosis compels d to pass through the new opening at all events until sm has been relieved by more normal reaction of the tric contents. There need be necessarily no marked ct on the emptying power of the cardiac portion when opening in the operation of gastro-enterostomy is made the pyloric portion. (The nutritive value of the food uld then be as good as in any other individual. It may better so far as the patient is concerned than before ration.) In the majority of operations the cardiac portion ertainly not drained, and it is into this portion that the e is passed in order to draw off the gastric contents after st meal. Mr. Paterson's findings appear to me to form rong argument in favour of the "two compartment" ry I have put forward.

esults obtained with the "salol test" uphold my con- ions. In repeated observations with this test, when the ation is done as I have indicated, *there is practically eparture from the normal in the results obtained*. These arks apply as well to cases of pyloric spasm (with ulcera- in the neighbourhood) as to cases of cicatricial stenosis. astro-enterostomy meant drainage of a "one compart- t" organ, then the salol ought to reach the small stine and hence appear in the urine at a much earlier d, especially in cases of actual pyloric stenosis.

. conclusion, I should like to say that recently I have endeavoured to practise what I have been preaching, and the results are, to my mind, all that could be desired. Since the no-loop method was introduced the results of this operation have vastly improved, i.e., practically since the opening has *not* been made in the cardiac portion. Before the introduction of this method absence of evil results, if the Y operation was not done, was hailed with satisfaction. Now it is looked for almost with certainty. I venture to assert that with attention to the points I have mentioned fortuitous openings in the cardiac portion will be avoided and the results will be more satisfactory still.

To sum up. (1) The cardiac and pyloric portions of the stomach are distinct in development, structure, function, and pathology. (2) During the early stage of gastric digestion the pyloric portion is normally empty and tonically contracted. When food has attained a proper chemical reaction in the cardiac enlargement it passes into the pyloric portion. (3) Bearing this in mind, care should be taken in performing gastro-enterostomy to make the opening in the stomach wall within the pyloric portion, as near the pylorus as possible. This will, then, if the stomach has not irremediably lost its muscular power, provide against an "uncontrolled escape of the acid gastric contents," which is asserted by Dr. H. C. Cameron[18] to occur in cases of gastro-enterostomy. If pyloric spasm be present the stoma will act as a safety-valve and remove the spasm. If pyloric stenosis exists the natural condition of things will be most nearly approached and the "regulating action" (Pawlow) of the pylorus, so necessary to perfect digestion, be most nearly approximated.

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NIGHT BLINDNESS.[1]

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WHEN a patient comes to us complaining of inability to see in the dusk or in foggy weather we at once think of the disease commonly known as retinitis pigmentosa. If we were practising in India we should be much more familiar with patients complaining of this symptom and should be less likely to attach the same importance to it. There have recently been several excellent examples of retinitis pigmentosa in my clinic and you have had the opportunity of making yourselves fully acquainted with its peculiarities. It is only necessary for me, therefore, to review very briefly its principal features. The routine examination of the patient shows that there is comparatively little disturbance of central vision, though there are exceptions to this rule. Examination of the fundus shows in the early stages in young patients a zone of characteristic retinal pigmentation in the neighbourhood of the equator; both peripheral and central to this zone the retina looks almost or quite normal. I need not dwell upon the striking characters of the pigmentation—the spots shaped like bone corpuscles and the aggregations along the perivascular sheaths of the retinal vessels. At this stage we may expect to find a ring scotoma on examination of the field of vision. My senior clinical assistant, Mr. M. L. Hepburn, has recently devoted much attention to the nature of this scotoma and has shown amongst other points that it is seldom complete, but is dotted over with areas in which vision is only partially lost. Probably these areas are closely related to the distribution of the vessels, but for an exhaustive discussion of the subject I must refer you to Mr. Hepburn's admirable paper in the last number of the Hospital Reports. At a later stage the zone of pigmentation has extended both peripherally and centrally, and the field now shows uniform contraction, the peripheral area of vision having become abolished. The progress is usually very slow and central vision is seldom lost by the extension of the choroido-retinal disease to the macular area. Before this occurs a posterior cortical opacity appears in the lens, which, however, has much the same effect upon the visual acuity. This so-called idiopathic retinitis pigmentosa is a progressive form of chronic night blindness. It is an obscure disease in which heredity and the consanguinity good apparatus it will be found that the test shadows can easily be obtained in ordinary cases.

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[17] Loc. cit.

[18] Brit. Med. Jour., Jan. 18th, 1908.

[1] From a clinical lecture delivered at the Royal London (Moorfields) Ophthalmic Hospital on Feb. 1st, 1908.

In the same way the method can be used to test the effects on the photographic plate. This is of special value when, owing to the stoutness of the patient, the shadows cannot be shown on the screen. The plate is much more sensitive than the human eye to x ray impressions and under certain conditions its results are more accurate. A radiogram is taken with the test placed between the tube and the patient in the same manner as in the screen examination. If the test shadows show on the plate another radiogram taken under exactly the same conditions, but without the test, will show any calculus in the patient. The tube, however, varies considerably during even one ordinary exposure and a quite accurate result can only be obtained by taking a radiogram to include both sides of the patient and with the test on the side opposite to that under examination. This is especially useful in renal cases. When an image of the test is shown through one kidney it can be used as before to compare any opacities in the other renal area or to prove that if there is no opacity there is no stone.

A convenient plan, when the test shadows cannot be seen with the calculi between the tube and the patient, is to place the test immediately under the screen. The rays now pass first through the patient and then the calculi and *therefore an image of the test will not prove that a calculus* in the patient must also be seen. But if the rays can show the test they will be found sufficient to give a definite image of any calculus in the patient on a radiogram.

In a comparatively small number of cases, those of very stout patients, it will be found impossible to show the test calculi by any method. In these the x rays are valueless and the diagnosis must be made from the physical signs and clinical symptoms. But it is of great practical importance to differentiate these patients from the large number in which it can be proved that no stone is present and thus to decide whether or no an exploratory operation is justifiable. A negative result with the ordinary radiographic methods may mean either that no stone is present or that the rays have failed to show it, and unless the value of the rays employed is known the diagnosis is of no practical use. Even in a simple case a good photograph showing all the so-called typical diagnostic signs may, and sometimes does, fail to show a stone and, from its very photographic excellence, be worse than useless as a radiogram.

The method gives the best results by the combined use of the screen and plate. On the former the presence and position of any opacity, its size, and relative density are noted, and especially when there is any movement on respiration, whether it is synchronous with that of the kidney shadow or of the intestines. The information obtained in this way can then be verified by a radiogram and in doubtful cases by re-examining any suspicious areas. Calculi placed outside the body have previously been demonstrated and a useful modification of the method described has been employed in searching for foreign bodies in the œsophagus, stomach, &c. In cases of urinary calculi it is in the systematic use of the method that its value lies, and in providing a standard of comparison and a practical means of estimating the actual diagnostic value of the x ray results.

Welbeck-street, W.

"DAMMED CIRCULATION" AND "INTERRUPTED CIRCULATION."

A NOTE IN NOMENCLATURE

BY WILLIAM EWART, M.D. CANTAB., F.R.C.P. LOND.,
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THE expression, "Bier's method," is a sufficient description for the initiated, but for others it offers no suggestion as to what is meant. In the past this same method failed to develop and to spread so long as it stood without a name of its own, and identified in literature merely as "v. Dumreicher's method."[1] At present there is no lack of names; the only inconvenience is their variety and, according to Dr. Alfred R. Allen,[2] their inaptness. "Passive congestion," "passive hyperæmia," "stasis hyperæmia" are all unsatisfactory for him and, with perhaps too little faith in our own language, he proposes to look elsewhere for the word. Of course, in our complicated clinical craft there is much in a name. Names should be accurate, but also if possible telling in suggestions and in reminders; and it is precisely because agreeing with the practical purpose entertained by Dr. Allen that one rather shrinks from the formidable Teutonism "Stauungs-hyperämie" which he advocates as an improvement for our daily use. *If one may be allowed to question two of his* statements, we have *not* had to search in vain "for a concise descriptive term in our own tongue"; and it is hardly in the phrase "Stauungs-hyperämie" that we shall find a complete "mental picture of the mechanics of the method": except for German ears it could only convey *ignotum per ignotius*.

As a fact, this is only an imperfect translation of our own original descriptive expression "dammed circulation," first used some 30 years ago by Hugh Owen Thomas, the pioneer of the method in this country.[3] The English name is more strictly inclusive than the German, for it implies the manœuvre and covers the entire field of its operations, arteries, veins, capillaries, and, not least important, *plasma and lymphatics;* whilst "passive hyperæmia" connotes only *the intravascular condition. As the vast extension* of the benefits of the method is entirely due to Bier his name deserves to be linked with the term, and no further excuse is needed for the suggestion which is now submitted in favour of the adoption in this country of the expression, "Bier's method of dammed circulation," which may ultimately be found a convenience in others. But there is another reason, of clinical utility. Since the Esmarchian era in surgery, and since Harvey Cushing's happy use of the tourniquet in Raynaud's disease, "interrupted circulation" has been shown to be an important therapeutic agent in clinical medicine and surgery.[4] Whilst this is physiologically the reverse of Bier's method, both are *vessel-compressing* methods, and they need to be strictly distinguished by their respective names. It would probably *be difficult to find less ambiguous terms* than "interrupted circulation" on the one hand and "dammed circulation" on the other. Indeed, the names *proposed* might almost be said to be mutually explanatory for the two methods.

Curzon-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Coxa Valga.

A MEETING of this section was held on Feb. 11th, Mr. J. WARRINGTON HAWARD being in the chair.

Mr. A. H. TUBBY read a paper on Coxa Valga. He said that coxa valga was an opening out of the angle made by the head and neck of the femur with the shaft, in some cases to such a degree that the upper extremity of the femur and the shaft appeared to be almost in a straight line. It was the *opposite* condition to coxa vara, in which the head and neck of the femur sank down until they were placed at a right angle, or even less, with the shaft. A considerable degree of terminology and mensuration had grown up in connexion with the *deformities* of the upper end of the femur. The most important was the angle of inclination, other*wise called the angle of* depression, the cervical angle, or the angle of the femur. It was estimated by drawing one line through the long axis of the shaft of the femur, and a second line through the long axis of the head and neck. The angle formed on the inner side of the point of intersection was the angle of inclination. Other lines and angles were *Hoffa's* line, Alsberg's angle, Alsberg's triangle, and the angle of declination. A list of museum have begun to leak. In the latter case its size would be in part due to extravasated blood. It is also of some interest to notice that the femoral artery could be traced over the swelling for an inch or more both above and below its centre. It therefore seemed probable that we had to deal with a sacculated aneurysm situated on the outer side of the femoral artery in Hunter's canal. In this position it would be able to cause compression of the vein against the bone and œdema of the leg and foot. This œdema of the left leg was the first indication of anything abnormal. As the swelling in the thigh increased in size and became more obvious it was again carefully examined and found to pulsate. The central part of the pulsating swelling at the end of April was quite soft and appeared to be approaching the surface. There was evening pyrexia rising to 100°. His arteries were thick and tortuous and the heart action was rather feeble. An operation therefore at the age of 78 years caused us some anxiety. On the other hand, the pulse could be felt quite plainly at the ankle, and it was hoped that ligature of the femoral artery just above the aneurysm at the apex of Scarpa's triangle would be sufficient to arrest its progress. The aneurysm with its surrounding swelling now occupied the middle of the left thigh just reaching to the apex of Scarpa's triangle.

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[1] *Cf.* Karl Nicoladoni: v. Dumreicher's Methode zur Behandlung drohender Pseudo-arthrosen, Wiener Medicinische Wochenschrift, 1875, Nos. 5, 6, and 7.

[2] Medical Record, Jan. 4th, 1908.

[3] *Cf.* The Principles of the Treatment of Fractures and Dislocations. Contributions to Surgery and Medicine, part vi., June, 1886.

[4] Interrupted Circulation as a Therapeutic Agent: Illustrated in Two Cases of Rheumatoid Arthritis, THE LANCET, August 13th, 1904, p. 442; also Transactions of the *Royal* Medical and Chirurgical Society, vol. lxxxix., 1906.

On May 2nd, four months after the onset of the pneumonia, the femoral artery was ligatured just above the margin of the swelling. Dr. Bevan gave the anæsthetic and had a good deal of anxiety over his patient, who showed signs of cardiac distress during the operation. Mr. C. A. R. Nitch gave much valuable help and assistance. The sheath was unusually adherent to the artery which had very thick walls and was rather tortuous in its course. Two double strands of floss silk, making four ligatures in all, were passed beneath the artery and separately tied without dividing the coats. Pulsation in the aneurysm and at the ankle was arrested by the ligature. The pulsation never returned at the ankle, but in the aneurysm it was occasionally detected on careful examination during the next fortnight. The foot remained warm and of good colour throughout. The temperature began slowly to rise after the sixth day from the date of the operation, when the sutures were removed. From May 10th to 22nd there was pyrexia (102°) every evening, although the wound appeared to be perfectly sound and to have healed by first intention. The aneurysm, on the other hand, whilst the temperature was rising, steadily increased in size, and finally gave one the impression of being an abscess. It roughly extended from the inner side of the knee to the buttock; the most prominent part was situated about the centre of the inner side of the thigh. As it was still doubtful whether the swelling was due to extravasated blood or to suppuration the blood was examined and the result strongly suggested suppuration.

On May 23rd an anæsthetic was given by Dr. Bevan and with Mr. Nitch's assistance an incision was cautiously made through the centre of the swelling. What appeared to be blood escaped in large quantities. Having preserved some of this fluid in sterile tubes the cavity was fully explored and found to be very large, extending far beyond the limits of the original aneurysm. As it did not appear now that there was any direct arterial communication with this cavity and that the fluid was old softened blood-clot, the wound was left open without either a drainage-tube or gauze plug being inserted. The dressing had to be frequently renewed as there was a constant discharge of a large amount of blood-stained fluid. At each dressing this fluid could be squeezed out of the wound and on careful measurement amounted in 24 hours from five to eight ounces. The temperature during this time dropped from 102° to 101°. As no further diminution of the discharge or fall in the temperature took place an anæsthetic was given on June 11th and the wound was freely enlarged. Two counter openings were also made, one towards the knee and the other at the back of the thigh towards the gluteal fold. A drainage-tube was introduced into each opening. The highest temperature in the 24 hours quickly dropped to 100°, and by June 20th it was only 99°. The whole thigh also began to diminish in size, the œdema of the foot disappeared, and the patient improved rapidly in general condition. By the end of June the discharge was of slight amount and the highest temperature was always below 99°. Our anxiety was thus at an end. On July 14th, when the wounds were nearly healed, the temperature rose slightly and he complained of pain in the left groin. The femoral artery, which had been previously pulsating up to the seat of the ligature, could not be recognised below Poupart's ligament, and œdema of the leg and foot was again apparent. Thrombosis of the artery from the seat of the ligature up to Poupart's ligament had obviously taken place. In about a week's time the pain had gone, the temperature was 99°, and the artery could be felt as a solid cord up to and beneath Poupart's ligament. The œdema of the foot, however, remained. The last drainage-tube was removed on July 21st. Early in August he was able to leave London for Mr. H. C. Crouch's home at Ascot. The wounds were practically healed and the œdema had almost disappeared. There was slight pitting on pressure over the shin but none on the dorsum of the foot. The artery in Scarpa's triangle was a painless solid cord. Once again, at the end of August, he had an attack of inflammation in the left groin. Pain, tenderness, and swelling round the femoral artery with a slight rise of temperature gave the same indications as before, and naturally aroused a suspicion of further extension of the thrombosis. But as there was no œdema of the foot it was hoped that the inflammation was confined to the part previously affected, and that there was no extension of the thrombosis to the external iliac artery. Within a week the attack had disappeared, leaving the artery as it was before.

Pathological report.—On May 21st an examination of the blood was made with a view to determine, if possible, whether suppuration had occurred in the aneurysmal sac. The result was as follows: leucocytes, 22,740 per cubic millimetre. A differential count of 500 cells was made, of which 86 per cent. were polymorphonuclear neutrophiles and 1·25 per cent. the Ehrlich type of neutrophilic myelocytes.

A bacteriological examination of the contents of the sac of the aneurysm was obtained on May 24th. Film-preparations were made from the coagulated blood which had been received in sterile tubes. The cells were chiefly microphages, the remainder macrophages. Diplococci were numerous; they were Gram-positive and the majority were extracellular. A pure culture of the diplococcus was obtained from the coagulated blood. This organism was found to be the pneumococcus. It gave the reactions which are most commonly obtained in the artificial media employed by Andrewes and Horder for the differentiation of the streptococci. On May 27th a second bacteriological examination was made. The contents of the tubes consisted of blood-stained pus, in which there were large numbers of both extra- and intra-cellular Gram-positive diplococci. A pure culture was obtained but on this occasion the organism was extremely difficult to cultivate and died out very rapidly. On June 4th a third examination was made. Film preparations of the pus showed numerous Gram-positive diplococci. A few bacilli were also present. The cultivation experiments were found to be sterile.

This case is of interest, even if it were regarded merely as an example of suppuration in an aneurysm without reference to the intrinsic cause, but owing to the fact that the pneumococcus was obtained in pure culture from the contents of the aneurysmal sac, and that the patient had only recovered from acute pneumonia quite recently, it may be considered as a case of exceptional rarity in surgical pathology. The first question which naturally arises is whether an aneurysm was present previously to the attack of pneumonia. Dr. Bevan tells us that he is unable to answer this question. If we allow that a small aneurysm of the femoral artery was present previously to the acute illness, then probably either a clot in the interior of the sac became infected by the pneumococcus, or an atheromatous patch in the wall of the aneurysm became the seat of an acute infection by this organism, with subsequent thrombosis. It has already been stated that the contents of the aneurysm, when first received in the laboratory, consisted of coagulated blood, which had undergone acute inflammation, while a few days later true suppuration had occurred. If we allow for the sake of argument that there was no aneurysm previously to the acute pneumonia, then we have to decide whether the patient developed an acute embolic aneurysm as a result of infective endocarditis, or whether the atheromatous condition of his arteries led to direct pneumococcal infection of the wall of the femoral artery.

It is well known that even the most severe forms of infective endocarditis may not be diagnosed during life, but even allowing for this fact there was no reason to suspect in the case under discussion that acute endocarditis had occurred. Dr. Turney, who was called in to consultation subject of locomotor ataxy and there was no indication that he suffered from infantile paralysis. The case illustrated the fact that *dislocation of the patella* need not necessarily interfere much with the utility of the knee and suggested that an injury to a joint in early life might determine the onset of osteo-arthritis in the joint so affected. The skiagrams of the case of old fracture of the humerus were from a patient, aged 34 years. *21 years ago, when the patient* was aged 13 years, he injured his right elbow; he said it was *dislocated*, but he did not know whether it was fractured. Three and a half years ago a small, painful swelling appeared near the elbow, which was treated in hospital. *Soon afterwards* a swelling appeared on the inner side of the back of the forearm, two inches *below the internal condyle*, which increased in size during the last year till it reached that of a walnut. It proved to be a "ganglion" with a thin wall, the pedicle of which extended up towards the joint along the internal intermuscular septum. The clear, jelly-like contents were evacuated and the pedicle was cut short. The *wound healed by first intention*. The skiagram showed an old fracture of the internal condyle and irregular masses of bone attached to both the upper ends of the ulna and the radius. The movements of the joint were almost perfect. The case illustrated the good result which might *sometimes be obtained after fracture* of the lower end of the humerus. It also suggested that an injury to a joint in youth might determine the onset of osteo-arthritis later in life. There was at present, however, no creaking in the joint. No signs of osteo-arthritis had been discovered in other joints.—After Mr. T. H. OPENSHAW and Dr. SEYMOUR TAYLOR had spoken, Dr. F. J. POYNTON remarked that osteo-arthritis could be produced experimentally in an uninjured joint—an *injury might diminish the resisting power* of a joint to some infection.—Dr. GARROD concurred with the view expressed *in regard to lowered resistance.*

Dr. SEYMOUR TAYLOR showed a case of Ruptured Aortic Valve. The patient, a man, aged *34* years, who had worked with lead for nearly two years, complained of tightness across the chest, a choking sensation on exertion, and a buzzing noise in the chest, which he heard best when lying down. These symptoms supervened suddenly after the strain of lifting a heavy weight. He denied having had syphilis or acute rheumatism but had twice suffered from lead colic. He had a typical blue line at the edge of the gums. On palpation over the cardiac region a diastolic thrill was felt, most intense over the second and third spaces on each side. On auscultation a loud *murmur* was heard, loudest over the aortic area, diastolic in period, and musical in tone. The musical note corresponded to about B below the staff. That point was of some interest, as a similar observation was made in a previous case which he had shown before the Clinical Society (*Transactions*, vol. xxxvi.). The murmur was heard all over the chest and even over the upper *thirds* of the humeri. The condition of the valve was probably one of perforation of one cusp rather than of detachment or true *rupture*. That diagnosis was made *on* the following grounds, viz.: (1) the sudden onset *of urgent* symptoms after a strain, pointing to valve injury; (2) the musical diastolic murmur; and (3) a marked diastolic thrill. If a cusp were torn from its attachments one would expect to hear harsh noises, and also to feel a thrill, not *only during diastole*, but also during systole.—Sir J. F. H. BROADBENT narrated a case in which rupture of an aortic valve was *diagnosed*, but it was found at the necropsy to be one of acute aortitis.—Dr. POYNTON observed that it was possible *for* an *aortic* valve to be ruptured without the patient experiencing pain, perhaps *only* complaining of a little discomfort.—*Dr.* THEODORE WILLIAMS said a ruptured aortic valve might act as a valve below the level of the other two valves.—After Dr. PARKES WEBER had spoken *Dr.* SEYMOUR TAYLOR replied.

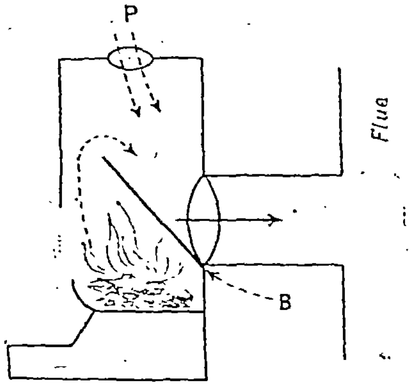
Dr. ARTHUR LATHAM showed a case of Caseating Pulmonary Tuberculosis treated *with Tuberculin* (T.R.) and Horse Serum, both given by the mouth. The patient was a man, aged 26 years, who on June 3rd, 1907, was seized with acute pneumonic tuberculosis of the left lower lobe. He had continuous fever till the beginning of October when he sought advice at Brompton Hospital for Consumption. He was admitted to St. George's Hospital on Oct. 8th and kept in bed for one month without reduction of the fever and without any evidence of improvement. On Nov. 6th 10 cubic centimetres of horse serum with $\frac{1}{1000}$th *mgrm.* tuberculin were administered by the mouth, followed by a drop in the temperature to normal for two days. On Nov. 9th the *temperature again rose to* 101° F. A further dose of serum and tuberculin was given on Nov. 11th. On the 12th the temperature was subnormal. On the 13th the temperature again rose. On the 20th and 21st serum and tuberculin were again administered with immediate effect. The temperature *remained normal* till Dec. 12th *when* the patient was allowed up; that was followed by immediate auto-inoculation and *fever*. A further administration of serum and tuberculin again reduced the temperature, which remained *near the normal* till Jan. 3rd. On that date three doses of serum (10 cubic centimetres) and tuberculin $\frac{1}{1000}$th *mgrm.* were *administered, with the* result of a summation of negative phase and increased temperature. That proved a temporary affair. For the last month the temperature had been normal or subnormal. The patient was up and about. The weight had increased 17 pounds and the sputum diminished from 6 ounces to ½ ounce. The physical signs in the left lower lobe were those of a dry cavity.—Dr. PARKES WEBER said the case might have some bearing on the feeding of consumptive patients with tuberculous meat. —Dr. THEODORE WILLIAMS thought it was important to examine the expectoration for traces of lung tissue.—Dr. LATHAM, in reply, said that immunisation by tuberculous meat was a possibility and experiments in connexion with that point were being carried out at the Pasteur Institute.

Dr. PARKES WEBER showed a case of Spurious (?) Acromegaly. The patient was a woman, aged 46 years. The case was shown because of its remarkable resemblance at first sight to acromegaly. The patient was married, rather corpulent, and very anæmic. Her *face* and head, with the large lower jaw, prominent chin, and big nose, could be used as a model for an illustration of acromegaly. She had thick, fleshy hands and thick fingers, but she had no ocular symptoms of acromegaly and her occasional headaches *and shortness of breath seemed to be connected* with her anæmia, which in its turn might be accounted for by frequent hæmorrhoidal bleeding from which she *had suffered during* the last six or seven years. There was no amenorrhœa, as there was in many genuine cases of *acromegaly. Moreover*, there was no evidence of any progressive change having occurred in the shape or size of the *hands, feet, face*, skull, or other bones of the body since she *ceased* growing at the ordinary age. An old photograph (the only *one obtainable* for comparison) which was taken three or *four years ago* showed her face looking just as it did now. She had had six children, all healthy, and at least one of the daughters somewhat resembles the patient *in the shape of* her chin. The case had probably been more than once accepted as one of genuine acromegaly.

Mr. SPENCER showed a case of Lateral Curvature rapidly developing in a boy, aged three *years, who* was an inmate of a Poor-law school, and was all at once noticed to have a marked lateral curvature, the only *previous* observation being that he *seemed* a *little* anæmic. He had a marked left thoracic and lumbar scoliosis and walked with *lordosis*; both of the curvatures *disappeared when* he was suspended by the arms. The muscles of the left side of *the* spine appeared unduly weak, the abdomen was irregularly protuberant, but there was no definite hernia, either inguinal or ventral. The hæmoglobin was 74 per cent. Beyond that the examination had *discovered* nothing distinctly abnormal; the reflexes were normal, the muscles of the spine reacted to faradism and galvanism; no *muscles were* absent.

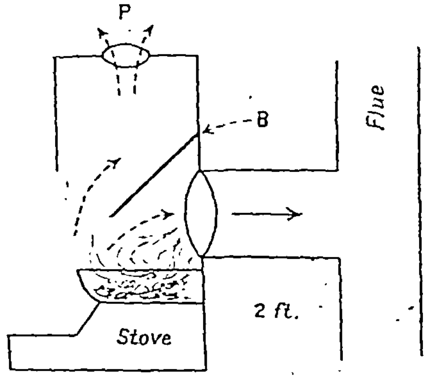
Mr. R. P. ROWLANDS showed a case of Excision of the Body of the Scapula. The patient was a man, aged 35 *years*, from whom the whole of the body of the left scapula had been excised for enchondroma 15 months ago. *It* was *possible*, and deemed advisable, to save the coracoid process with its important muscles and ligaments, the glenoid *cavity* with *the capsular ligament* of the shoulder-joint, and the acromion process with the attachments of *the* deltoid and trapezius to it. The patient showed that both the disability and the deformity following that procedure were much less than after *complete* excision of the shoulder-blade. The man had been *able to do* his work as a painter's labourer from two months after the operation. Extreme abduction was the *only* movement that was imperfect. Radiograms were exhibited to show the comparative effects *of the operation* adopted in the patient and of complete excision of the scapula for extensive sarcoma by Mr. L. A. Dunn, *who had* kindly allowed Mr. Rowlands to make use of his *case*. Photographs were also exhibited which showed the *differences* of function and degree of deformity in the two cases. Rotation of the shoulder-joint room is oblong, 18 feet × 12 feet × 11 feet high, and has a gabled roof; there are two windows on one side and a curtained door at the other. Above the door is a primitive ventilator formed by a wooden flap which is opened and closed from outside. This I am told if left open the patients close. It appears that the night of Jan. 20th was cold and heavy and the patients closed the ventilator and windows. Most probably when the stove burnt low the draught was insufficient to force its way into the long cold column of air in the brick flue and found an easy exit past the flame baffler into the room.

FIG. 1.



B, Flame baffler as it should be set. P, Perforated cap on the top of the stove.

FIG. 2.



B, Flame baffler as it was set on the occasion of the accident.

The case was full of interest especially as regards the different times of the deaths of the patients; the youngest evidently succumbed first and the other some time later, while the eldest alone survived. The insidious nature of the poison is apparent; all the patients appear to have slept away undisturbed, while the surviving one now has no recollection of anything unusual having happened. The definite proof by the spectroscope of the cause of death is also satisfactory; and the danger arising from the imperfect fixing of what are supposed to be innocuous stoves is an important point which cannot be passed over lightly.

Leighton Buzzard.

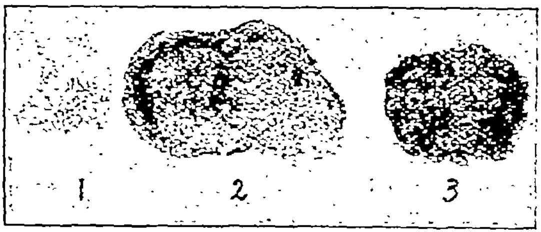
ROYAL UNITED HOSPITAL, BATH.—The annual meeting of the subscribers to this hospital was held on Jan. 29th. Mr. S. Bush, the ex-mayor, was awarded a special vote of thanks for his successful efforts in raising a fund of £6214 to free the hospital from debt. It was stated that the legacy from the late Dr. J. Bennett would result in an additional income of £700 per annum. The financial statement showed that there was a deficit of £654 on the working of 1907, and the committee decided to pay this off from capital so as to commence 1908 absolutely free from debt. The medical report was satisfactory.

A METHOD OF X RAY EXAMINATION IN CASES OF URINARY CALCULUS.

BY C. J. MORTON, M.D. EDIN.,
SURGICAL RADIOGRAPHER TO GUY'S HOSPITAL.

IN the examination of cases of suspected urinary calculus with the present x ray methods the results are not always trustworthy. While there is this uncertainty more reliance must be placed on the clinical symptoms and as these are frequently misleading accurate diagnosis is impossible and many cases are left unrelieved or are operated on unnecessarily. The chief reason for this appears to be that there is no satisfactory way of testing the efficacy of the rays and of estimating whether they are in the proper quantity and of the requisite penetrating quality to suit the particular case.

I have recently adopted a simple method by which it is possible to obtain not only more trustworthy information when stone is present, but also in most of the negative cases to demonstrate definitely that no stone can be present. It consists in the use of a set of calculi of known composition and size as a means of testing the actual effects of the rays while they are passing through the patient. These test calculi are placed between the focus tube and the patient, so that the rays pass first through the calculi and then through the part of the patient to be examined. If the rays are of sufficient strength shadows of the individual calculi will appear on the fluorescent screen and be readily recognised. If no shadows can be seen it means that the rays are inadequate and they must be modified in quantity or in penetrating quality to suit the individual case. The figure shows a radiogram of the calculi employed taken directly, not through the patient's body. Sections of three stones are mounted in a wooden handle with a metal end. Analysis of the remaining portions showed that No. 1, next the metal end, is composed of pure uric acid. The radiogram, however, shows that there are also some faint traces of more opaque matter, probably phosphates. No. 2, in the middle, is a fusible calculus of mixed phosphates, and No. 3 is a mixed stone, with a nucleus of urate of ammonium, a layer of oxalate of lime, and a coating of triple phosphates. Their relative size and density are shown in the radiogram. The oxalate stone is $\frac{3}{16}$ths of an inch and the uric acid and phosphate each $\frac{1}{4}$ of an inch in thickness. Discs of metal of corresponding density would be equally serviceable and much more easily obtained. In using this as a test the patient is placed on a couch and a focus tube fitted with a small diaphragm is moved about underneath the couch so that all the suspected area can be searched by the central rays. The examiner's eyes must be made sensitive to x ray impressions by resting for ten minutes in the dark or for from 15 to 20 minutes in a very subdued diffused light. A handle of about 12 inches in length is useful to get the stones into position and also to move them about, as they are then much more easily detected on the screen than when they are stationary.



When the shadows of the test have been obtained they are used as a standard with which any opacities in the patient can be compared and a more accurate opinion formed of their size, density, and nature. But perhaps the chief clinical value of the method is that it provides a means of deciding absolutely on the absence of stone. It is known that the nearer an object is to the screen the clearer and more defined is its shadow. If, therefore, the test calculi can be seen it follows that the shadow of any calculus of equal density lying in the patient and therefore nearer to the screen will also be seen. If no such shadow is visible no calculus can be present. With a suitable focus tube and fluid escaped and aspirated the rest with a lacrymal syringe. He then perforated the retina above and below. In the middle of January the field was quite full.

Mr. HORSFORD showed a case of Buphthalmia with Malformation of the Iris, and the causation of the condition was discussed.

Mr. J. F. CUNNINGHAM showed an Orbital Case for Diagnosis. It was thought to be apical periostitis, or caries of the apex of the orbit, or an optic nerve tumour.

Mr. J. H. FISHER showed a patient with Microphthalmia and a case of Fundus Changes resulting from injury at birth. The second of these patients was born with great difficulty and there was a huge hæmatoma of the left frontal region, and soft tissues in the right temple and orbit were much damaged and lacerated by forceps. Possibly the optic nerve was damaged and there was hæmorrhage from the lacerated vessels into the hyaloid canal, the clot forming the basis for the connective tissue organisation. He did not think there was any shrinking of the globe.

Mr. P. C. BARDSLEY showed a case of Retinitis Proliferans. A large bundle of connective tissue came forward into the vitreous. He regarded it as congenital, as there were a large detachment of the retina and only a very small field. There was no history of injury, either at birth or since, but the eye had been defective as long as the parents could remember.

Mr. C. WRAY showed a case of Follicular Conjunctivitis which he considered to be perfectly curable. It was contagious, and among 1400 children in the Croydon schools there were 12 cases of the condition.

Mr. J. H. PARSONS showed a patient the subject of a condition which he thought was probably Metastatic Neuro-retinitis. A woman had a glistening mass of exudate over the left disc with considerable swelling and some hæmorrhages on the disc. Then she suddenly lost the sight of that eye. The exudate diminished, leaving a glistening white star resembling that seen in albuminuric retinitis. She had no albuminuria.

SOCIETY OF ANÆSTHETISTS.

The Status Lymphaticus in Relation to General Anæsthesia.

A MEETING of this society was held on Feb. 7th, Dr. R. J. PROBYN-WILLIAMS, the President, being in the chair.

The discussion on Status Lymphaticus adjourned from the last meeting was resumed by Mr. R. GILL who congratulated Dr. W. G. McCardie on his paper and directed his remarks chiefly to two features which Dr. McCardie had mentioned as existing in the status lymphaticus—viz., (1) some nasopharyngeal obstruction, and (2) anæmia. These two factors were very intimately connected with the action of chloroform. Patients with nasal obstruction exhibited a long induction period and anæmic people required very little chloroform. A combination of these conditions produced a patient to whom it was difficult and dangerous to give chloroform. And this combination occurred in people who were not subjects of status lymphaticus. It was difficult to see that there could be any relation between the enlargement of such organs as the spleen, liver, glands, &c., and susceptibility to chloroform, so he concluded that there was not sufficient evidence that the status lymphaticus in itself was the cause of these deaths under chloroform.

Dr. DUDLEY W. BUXTON could not agree that Dr. McCardie's conclusions followed his premisses. He could not help feeling that the status lymphaticus which had been discovered in many cases of deaths under chloroform was coincidental and not causal. Dr. McCardie had used the word "idiosyncrasy," but he (Dr. Buxton) did not believe in idiosyncrasy to chloroform. Everybody had his dose for chloroform and it was the duty of the anæsthetist to discover it. There were two schools as to the cause of death in these cases: one said they were cases of respiratory obstruction, the other called them cases of syncope. The pathological conditions in status lymphaticus would produce more or less respiratory obstruction, and if expiration in particular were obstructed the chloroform would become locked up in the chest and absorption and poisoning would occur, especially as the myocardium in status lymphaticus was feeble to start with and the dilatation from chloroform might not be recovered from. As to these deaths being due to syncope, Embley and Martin had shown that a certain percentage of chloroform in the circulation would prevent vagal inhibition, but that with a larger percentage vagal inhibition would not be prevented and would not be recovered from. If a given percentage of chloroform enabled a heart to escape from vagal inhibition in a normal patient might not a patient the subject of status lymphaticus with the same percentage of chloroform not escape vagal inhibition and not recover from it? Patients with status lymphaticus required less chloroform. Syncopes and asphyxias might be avoided by regulating the dose and only giving as much as was required. Some German authors referred to "thymus deaths" in adolescence, but these people did not die as suddenly as the ones under chloroform, they had glottic spasm, vomiting, &c., more like post-chloroform poisoning. The latter was probably due to lymphatic hyperplasia.

Dr. J. BLUMFELD disagreed with Dr. McCardie who doubted if death ever occurred from chloroform *per se*; many cases had been reported in which status lymphaticus was not present, and even in some of Dr. McCardie's own cases status lymphaticus was probably not present, especially some of the cases of goitre. Dr. Blumfeld also disagreed with Mr. Gill who seemed to doubt the existence of the status lymphaticus as a pathological entity; and finally he disagreed with Dr. Buxton in considering all these deaths as due to simple over-dosage, because cases had been reported in which corneal and movement reflexes were present when death occurred.

Dr. J. F. W. SILK regarded the enlargement of tonsils and adenoids in these cases as important factors in causing death. The signs and symptoms of status lymphaticus were so numerous and widely distributed that any case of death under chloroform might be dragged into the status lymphaticus net. He pleaded for a better definition of the condition and agreed with Dr. Buxton that they should, and usually did, avoid trouble by adjusting the dosage to the patient's requirements.

Dr. LL. POWELL asked if pathologists could say whether a persistent thymus was not occasionally found in people dying from some independent disease.

Dr. G. A. H. BARTON said that the status lymphaticus was a question for the pathologist. How could it be recognised? Might not a committee be formed to make blood counts of all patients anæsthetised to see if it were dangerous to give chloroform to people with lymphocytosis? Might not some deaths be due to too little and not too much anæsthetic? Dr. Barton did believe in idiosyncrasy to chloroform; he had seen idiosyncrasy to iodide, belladonna, and morphine, then why should it not occur to chloroform? But even if the physiologists were right that 2 per cent. of chloroform could not kill, he maintained that 2 per cent. would not always produce anæsthesia and that death might occur from other causes than the anæsthetic.

Dr. BUXTON apologised for getting up again and said that although he held no brief for the physiologists, yet it was possible clinically to obtain and maintain anæsthesia with 2 per cent. of chloroform.

The PRESIDENT said that the question whether status lymphaticus was a clinical entity or not must be left to the pathologists to determine. Until they could point to some more definite lesions it must be considered "not proven." As to Mr. Harvey Hilliard's case, he had invited criticisms and the President saw no reason why the patient should not have been given gas and ether.

Dr. MCCARDIE, in reply to Mr. Gill, said that in no case had obstructed breathing been reported. Anæmia would make the anæsthetist careful to equate the dose of chloroform to the patient's requirements, but he did not think these two factors sufficient to account for the sudden deaths. To Dr. Buxton he said he did believe in idiosyncrasy, and overdose was ruled out because so many cases occurred during light anæsthesia. To Dr. Blumfeld he explained that he did believe death from chloroform might occur apart from status lymphaticus. To Dr. Silk he declared his belief that status lymphaticus was a clinical entity and in one suspected case the x rays showed enlargement of the thymus. He agreed with the President that more pathological work was necessary and referred to the two cases mentioned by Mr. H. T. Wightman in which the status had been diagnosed. As to its mode of action in decreasing resistance to chloroform he did not know, but probably it was due to a form of lymphotoxæmia. He always gave ether when he suspected status lymphaticus.

specimens of coxa valga and an account of the cases hitherto described in literature were then read, and particular stress was laid upon two cases of Galeazzi of Milan, in which he had operated for the condition, and one by Nathaniel Allison. As to the causes of coxa valga, they were classified as follows: congenital, which were subdivided into those in conjunction with congenital dislocation of the hip, and those not associated with abnormalities elsewhere. Considerable stress must be laid upon the coexistence of coxa valga and congenital dislocation of the hip, and its importance was great. Coxa valga might not only be a determining factor in displacement of the head from movement at or after birth, but dislocation once having occurred the nearly vertical position of the neck and head of the femur induced great difficulties in satisfactory replacement. Mr. Tubby then cited three cases occurring in his own practice of congenital dislocation of the hip with coxa valga and showed x ray photographs and two cases. In one instance of dislocation of the left hip the angle of inclination was 169°. In a second case, with double dislocation, the angles of inclination were 172° and 164°, and in a third case, with dislocation of the left hip, the angle was 154°. A second cause was traction exerted by a pendent limb, such as occurred in extensive infantile paralysis of the lower extremity, and in those instances where amputation through the shaft of the femur had been required. A case was shown of infantile paralysis of the right leg, together with x ray photographs taken in three positions—namely, with the leg fully everted, fully inverted, and with the foot to the front. The angle of inclination was found to be respectively 204°, 128°, and 150°, thus showing 76° of difference in the various positions of the right limb, as compared with 27° in the left limb. Static conditions were also influential in causing coxa valga, particularly genu valgum and scoliosis, and a case in point was shown. A traumatic form had been frequently described, following injuries of the neck and shaft of the femur, and an instance which had come under Mr. Tubby's care was exhibited, in which, after mal-union of the middle of the shaft of the femur, the angle of inclination was found to be 152°. The deformity was also met with associated with rickets and processes of bony softening affecting the neck of the femur, such as osteomyelitis and tubercle. Some authors had also described an idiopathic form but the evidence as to the existence of that was not clear. Referring to the pathogenesis, Mr. Tubby said it could be shown that the normal shape and position of the head and neck of the femur depended upon the nice adjustment of certain forces—namely, weight-pressure, resistance of the bone, and muscular effort. If any one of those factors, or all of them, were varied in degree, altered in direction or destroyed, changes took place conformable with Wolff's law, and the head and neck of the femur assumed different positions and directions. The cardinal symptoms were abduction of one or both lower extremities, associated with external rotation and limitation of adduction. Pain and spasm were often experienced at the beginning of the affection and the gait in unilateral cases was limping, with the trunk inclined towards the affected side. In bilateral cases it was rolling and unsteady. The limb was frequently lengthened to as much as two or three centimetres and it was abducted and rotated out, whilst movements of adduction and internal rotation were limited. Trendelenburg's sign was reversed and the patient when standing on the affected limb inclined the body towards that side. Flattening over the great trochanter was often noticeable, and lumbar scoliosis, with its convexity towards the affected limb, was sometimes present. Very important evidence was obtained by skiagraphy and the fallacies in connexion with that were discussed. The diagnosis must be made from coxitis with abduction of the limb, from sacro-iliac disease, and from congenital dislocation not complicated with coxa valga. With reference to the treatment, various forms of operation had been performed—namely, cuneiform osteotomy of the neck, removal of a wedge of bone with its base inwards from the sub-trochanteric region, and linear osteotomy through the base of the neck. According to the conditions and surroundings of the patient one of the last two plans should be chosen.

After Mr. C. G. WATSON had made a few remarks, in the course of which he observed that he could not understand how the weight of the body could cause the condition described, Mr. TUBBY replied, and the meeting terminated with a demonstration by him of several patients.

CLINICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on Feb. 14th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. J. P. ROUGHTON showed a case of Tumour of the Right Side of the Face. The patient was a boy, aged 11 years. The whole of the right side of the face, with the exception of the region below, and to the right of, the mouth, was occupied by a swelling of a doughy consistency, the upper eyelid especially being very swollen. This swelling crossed the middle line on the forehead and upper lip. There were many cords and knots distributed throughout the swelling, especially on the forehead, over the parotid, and in the cheek, and there was a distinct cord running immediately behind the facial artery over the ramus of the jaw. There was no pulsation. The swelling could not be diminished or displaced by pressure. There was no loss of sensation or movement except that the latter was very much impaired by the infiltration of the tissues and the muscles readily reacted to faradism. There was no leucocytosis. There was an enlarged gland under the sterno-mastoid. Eight years ago the mother noticed that the right eye looked smaller than the left and shortly afterwards the outer canthus began to swell, whence the swelling had gradually spread. The family history was good. He was at school till last December, when he left on account of pain in the upper eyelid which lasted about a fortnight and which was the only occasion on which he had had any pain.—Mr. R. J. GODLEE considered it was a case of plexiform neuroma and this was also the opinion of Dr. F. PARKES WEBER.—Mr. W. G. SPENCER and Mr. GODLEE agreed in recommending an exploratory operation and Dr. G. A. SUTHERLAND related the details of a similar case reported by him to the Clinical Society.

Dr. H. L. EASON demonstrated a case for Dr. HERBERT S. FRENCH of Tumour of the Mediastinum (? hydatid). The patient was a female, aged 42 years. She looked perfectly well and her only complaint was that she could not see properly with her left eye. For that she had seen Dr. Eason at Guy's Hospital. The cause of the defective vision was inability to accommodate. There was complete paralysis of the left cervical sympathetic nerve. That dated back for over two years. There was slight but decided ptosis of the left upper eyelid; the left pupil was continuously small; the patient could not blush upon the left side of her face and when she perspired the right side of the face sweated but the left did not. Further examination showed distinct fulness of the left external jugular vein and the veins over the upper part of the left chest in front were distinctly fuller than those over the corresponding part of the right side. Examination of the chest with the stethoscope showed complete absence of vesicular murmur and of voice sounds over the region where the upper two-thirds of the upper lobe of the left lung ought to be. The conclusion was that in the region of the left upper lobe there was a mass nearly as big as a good-sized orange, large enough to displace or to destroy the lung there, to extend back far enough to compress the cervical sympathetic nerve, and forward enough to compress the left innominate vein. The length of history and the general condition of the patient pointed to its not being malignant; there had been no improvement under treatment by mercurials and iodides, so that gumma seemed unlikely. The x rays showed a perfectly globular mass, not connected with the aorta (a point less obvious in the skiagrams than it was when the screen was used in different positions of the patient), and of a size precisely corresponding with the diagnosis made. Hydatid cyst was suggested as a possibility, chiefly on account of the perfectly globular character of the mass. The patient had no symptoms or signs of hydatid cyst elsewhere in the body.—This case was discussed by Dr. C. THEODORE WILLIAMS, Dr. A. E. GARROD, and Dr. CYRIL OGLE.

Mr. GODLEE showed a case of old-standing Dislocation of the Patella with Osteo-arthritis of the Knee in a man, aged 50 years, and Skiagrams of an old Fracture of the Humerus, with Osteo-arthritis of the Elbow. The patient with the dislocated patella was a labourer who said that his right knee had been out of shape since birth. He knew of no injury in early life. It did not cause him much, if any, inconvenience until he had a blow upon it six months ago, since which time his knee had been painful. On flexing the knee the patella slipped right over to the outer side of the joint. There was marked genu valgum and the signs of osteo-arthritis were unmistakable. The patient was not the rise in the calcium content of the blood, which seemed to show that in these cases inorganic salts or the calcium salts of the simpler organic acids were not capable of absorption. —The PRESIDENT and Dr. W. GORDON LITTLE also discussed the paper and Dr. BLAIR BELL replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

The Iliac Colon in Relation to Hernia.—Exhibition of Specimens.

A MEETING of this section was held on Jan. 24th, Professor A. FRASER being in the chair.

Dr. R. A. STONEY read a paper on the Anatomy of the Iliac Colon in Relation to Hernia, which we hope to publish at an early date.

Mr. ADRIAN STOKES exhibited a Fœtus showing Transposition of the Viscera and a Tricœlian Heart. It was obtained by Dr. Henry Jellett in 1896 and was described by him in THE LANCET of March 27th, 1897, p. 878. The fœtus was well formed and lived for a few minutes. Only the thoracic and abdominal cavities had then been opened, but in 1907 Mr. Stokes dissected the specimen and found other abnormalities. The heart had a single large ventricle and two auricles. The left or systemic auricle had no direct communication with the common ventricle, its blood passing through a large patent foramen ovale into the right or pulmonary auricle in order to reach the ventricle. This must be an extremely rare condition. There had been a few cases recorded in which the pulmonary auricle did not communicate with the ventricle, but none, so far as Mr. Stokes could find, in which the systemic auricle did not *do so*. The pulmonary artery also lay behind the aorta. Professor A. H. Young lately described a case of a tricœlian heart in a man aged about 37 years. In it the chambers of the heart were in their normal positions, but the aorta arose in front of the pulmonary artery. The condition of transposition of the viscera was rare. Only a few cases had been exhibited in Dublin, among which the best known was the one exhibited by Professor Fraser before the Academy of Medicine in 1894.

Professor FRASER exhibited—(1) the Hemispheres of an Encephalon, with well-marked Interruption of Both Central Sulci; and (2) a Duodenum of Unusual Form.

Professor E. P. M'LOUGHLIN exhibited—(1) a case of *Dorsal Origin of the Right Subclavian Artery, with associated Vascular Irregularities*; and (2) a case of *Unusual Position of the Large Intestine.*

SECTION OF MEDICINE.

Nephritis.

A meeting of this section was held on Jan. 31st, Dr. J. M. REDMOND, the President, being in the chair.

The PRESIDENT of the Academy (Dr. J. MAGEE FINNY) opened a discussion on the *Prognosis and Treatment of Nephritis*, limiting his remarks entirely to those inflammations included in the varieties—(*a*) acute nephritis due to toxic influences or exposure to cold; (*b*) subacute or chronic parenchymatous nephritis; and (*c*) chronic interstitial nephritis. He pointed out, however, that in every variety of nephritis there was more or less diffuse inflammation involving the glomeruli, the parenchyma, and the interstitial tissue. He then proceeded to discuss three principal features to be found in these cases: (1) albuminuria, (2) dropsy, and (3) the uræmic syndrome. He called attention to the harm which might be done to a patient's prospects in life by rejecting him for insurance or for admission to a post in the public services on account of albuminuria, pointing out that the condition might be due to adolescence or might be the result of temporary weakness of the heart. The treatment of albuminuria by medicine was as little encouraging as the use of hæmostatics in the hæmaturia of renal inflammation. The indications for treatment were to place the kidneys in physiological rest by cutting off all protein diet, such as meat, soups, beef extracts, and eggs; by feeding the patient at first with starvation diet when the inflammation was acute and the urine bloody and very scanty, and then allowing a very restricted diet of milk and starchy foods, with cream and sugar. The amount of liquid permissible at first must not exceed two pints in 24 hours, as the oliguria was due to renal inefficiency, and it was as harmful to try to produce diuresis by copious libations as by diuretic medicines. As soon, however, as the kidneys showed recovery by secreting more urine it was beneficial to flush them with water, or lemon and water with a small quantity of cream of tartar. This treatment by deprivation of liquids was especially necessary when the oliguria was accompanied by dropsy, local or general. The next indication for the treatment of acute nephritis was to save the kidneys by calling the bowels and the skin into activity. In some cases of acute nephritis where uræmic symptoms were at an early stage developed in a previously healthy and vigorous patient, it was right to bleed to the extent of 15 or 20 ounces from the arm or, as Baccelli had suggested, from the dorsal vein of the foot. In addition to local or general depletion the use of hot-air baths, hot packs, or hot baths was advisable, and in most acute cases of albuminuria or of dropsy this treatment alone would be followed by diuresis. The state of high tension of the arteries might be reduced and regulated by a systematic use of nitroglycerine, trinitrites, or sodium nitrite for weeks and months, as under their use tension was reduced and the left ventricle was enabled to recover from a state of dilatation to the normal state of hypertrophy present in cirrhosis of the kidney.

Dr. HENRY C. EARL read a paper on the Pathology of Nephritis. He confined his attention principally to three main points—(1) the etiology of nephritis, (2) the classification of the varieties, and (3) the changes in the cardio-vascular system.—Dr. R. TRAVERS SMITH said that in nephritis nature had two lines of defence, namely, (1) high arterial tension and hypertrophy of the left ventricle, and (2) œdema. Looking upon œdema, as well as upon high arterial tension, as conservative processes, he thought that there were certain cases of extremely severe uræmic symptoms where it might be a good thing to induce œdema. He had given sodium chloride to a man who had been for some time in uræmic convulsions and coma, with the result that at the end of 24 hours he became markedly œdematous and made a good recovery from all his symptoms.—Sir JOHN W. MOORE said that he concurred with the view put forward by Dr. Travers Smith as to the beneficial influence of œdema in cases of chronic renal disease, with regard to which he had read a paper before the British Medical Association at the Oxford meeting.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held on Jan. 15th, Dr. J. A. Dewar, Vice-President, being in the chair.—Dr. W. J. Dewar showed a boy, aged ten years, the subject of Hæmophilia, who always bled for about three weeks after any cut; a maternal uncle and a younger brother were also affected with the disease. He also showed a boy, aged seven years, the third of the family to be affected with Club foot.—Dr. J. D. Gilruth showed a young woman who seven years ago had a Gastric Ulcer excised but who since then had periodic attacks of severe pain and vomiting probably caused by adhesion of the stomach wall to the parietes. In May, 1907, Mr. D. M. Greig performed an anterior gastro-enterostomy and since then the patient had remained free from all her former discomfort. —Dr. Gilruth also showed a man, aged 35 years, who had suffered for some years from an Ulcer of the Duodenum upon whom a posterior gastro enterostomy had been performed.—Dr. Middleton Connon showed specimens of a Salivary Calculus and an Unusual Fœtal Monster in which could be *seen only one foot*, no *legs*, arms, or hands. It was a twin pregnancy and the first born was a healthy well-formed live male child.—Mr. Greig read a paper on Ankylosis after *Dislocation of the Elbow*. He stated that up to recent times considerable doubt existed as to the true cause of such conditions. It had been frequently observed that after an ordinary simple dislocation backwards of both bones at the elbow considerable stiffness with very limited movement at the joint sometimes occurred several weeks after the dislocation had been reduced; this was generally said to be due to a fracture into the joint. Since the advent of x rays it was now possible to determine at the time of the accident if any fracture existed. He described and discussed two cases in detail, including the origin of new bone formation after these injuries such as had caused the ankylosis in his second case and mentioned the theories that had been propounded to account for its was limited to one-half the natural extent and the abduction to 45° in the case of complete excision. A posterior T-shaped incision was used and through that the three groups of large vessels were tied early in the operation to minimise hæmorrhage. It was claimed that preservation of the processes and glenoid cavity was both practicable and advisable in preference to complete excision of the scapula for inflammatory conditions and innocent growths and possibly for some malignant growths.

Mr. **OPENSHAW** showed a case of Multiple Dislocations, including congenital dislocation of both hips, in a child two weeks old, incontestably the result of malposition in utero. The patient was taken to him as an out-patient at the London Hospital on Feb. 7th last presenting dislocation of both shoulders, both elbows, both hips, and both knees, and extreme double equino-cavo-varus. The child otherwise was well formed; the cranium presented no deformity. There were a large umbilical hernia and a history of snuffles. The mother had five other children and had had three miscarriages. The position in which the child lay in utero could be definitely reconstructed. The limbs in their abnormal position fitted closely to the body; the hips fully flexed, the knees hyper-extended, and the feet twisted into the position of equino-varus. The arms were flexed and rotated in at the shoulders and the hands were situated in the armpits in a position of acute flexion at the wrists. The head and neck of the right femur were rotated outwards upon the shaft to an angle of 30°. The head was dislocated and lay outside, and in front of, the anterior superior spine. The thigh was acutely flexed on the abdomen, the inner surface of the femur resting in contact with the abdomen. The condyles were visible in the popliteal space, the knee being retroflexed to an angle of 100°. The knee could only be flexed even with force to an angle of 160° and immediately dropped back to an angle of retroflexion of 110°. There was extreme congenital equino-varus, the os calcis resting on the leg and the sole of the foot looked upwards. The scaphoid was the lowest bone of the tarsus. The left leg presented a similar condition, except that the knee was hyper-extended to an angle of 110° and could only be flexed to an angle of 170°. The left foot presented the same condition as the right; the scaphoid was the lowest bone. There was a large funnel-shaped umbilical hernia which bulged between the knees when the legs were in the position in which they were in utero. There was a subcoracoid dislocation of the right shoulder. At the right elbow both bones were dislocated backwards and outwards. There was marked pronation of the right forearm. The fingers were well formed but excessively hyper-flexed at the metacarpo-phalangeal joints. The transverse metacarpal ligaments were extremely stretched, so that the heads of the metacarpals could be separated and the hand stretched out to a width equal to double the length of the palm. The left arm presented a similar condition. Mr. Openshaw considered that it was incontestably a case of congenital dislocation of hips, knees, shoulders, and elbows from intra-uterine malposition. He had seen two other cases where congenital dislocation of the hip had been associated with congenital recurvation of the knee and talipes in the same leg due to intra-uterine malposition and pressure.

Mr. **O. A. R. NITCH** showed a case of *Myositis Ossificans* in a girl, aged 10 years. The disease commenced in the muscles of the neck when the child was aged three and a half years and within a few months the pectoral, scapular, and lumbar muscles were involved. Plaques, bosses, and spicules of bone could be felt in the following muscles: the erector spinæ, latissimus dorsi, trapezius, and pectorales of both sides; the right rhomboideus major and minor, the left rhomboideus minor, the left levator anguli scapulæ, the left infra-spinatus, the geniohyoid, the sterno-mastoids, the right vastus externus, and the muscles in the popliteal space. Microdactyly of both great toes was present. The back and neck were now quite rigid, movements at the shoulder-joints were very limited, full extension of the right leg was impossible, and owing to the fixation of the thorax respiration was purely diaphragmatic.

Dr. **F. E. BATTEN** and Dr. **J. GRAHAM FORBES** communicated a note on two cases of Infection with the Bacillus Enteritidis of Gaertner. They described two cases of prolonged fever and diarrhœa in infants, the blood of whom, though repeatedly tested, gave a negative Widal reaction. The first was that of a child, aged 12 months, in whom the disease lasted for 35 days. On the nineteenth day the blood was tested with the bacillus enteritidis of Gaertner and gave a marked reaction. Purpura developed during the course of the disease. The child died and at the necropsy numerous ulcers were found throughout the small intestine. A pure growth of a Gram-negative motile bacillus was obtained from the spleen and mesenteric glands. The organism gave the characteristic reaction of the bacillus enteritidis of Gaertner. The second case was similar but towards the termination developed symptoms suggestive of a general tuberculous infection. The child died and at the necropsy no evidence of tuberculosis was found. The bacillus enteritidis of Gaertner was isolated from the stools.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Feb. 7th, Dr. **J. BARRY BALL**, the President, being in the chair.

The following cases and specimens were shown:—

Dr. **F. PARKES WEBER**: A case of Multiple Hereditary Developmental Angiomata (telangiectases).

Sir **FELIX SEMON** (for Dr. **SIDNEY P. PHILLIPS**): A case of Multiple Telangiectases.

Dr. **A. BROWN KELLY**: Sketches of three patients with Multiple Telangiectases.

Dr. **J. DONELAN**: (1) Specimen and microscopic sections of a Tumour of the Thyroid Gland from a case shown at the last meeting; and (2) a case of Intranasal Hypertrophy associated with continual sweating of the nose.

Dr. **STCLAIR THOMSON**: (1) A case of Syphilitic Pachydermia; (2) a case of Proptosis due to distension of the frontal sinus; and (3) a radiograph to show how the orbito-ethmoidal and frontal cells can be defined before operation.

Dr. **P. WATSON WILLIAMS**: (1) Microscopic sections illustrating the pathogenesis of some forms of Nasal Polypi; and (2) a universal Laryngeal Forceps for use by the direct and indirect methods.

Dr. **W. JOBSON HORNE**: A case of Unilateral Paralysis of the Tongue.

Mr. **W. J. CHICHELE NOURSE**: (1) A case of Sarcoma of the Nose after operation; and (2) a case of Epithelioma of the Tongue and Fauces after operation.

Mr. **W. STUART-LOW**: A case of Complete Closure of the Anterior Nares with Partial Atresia of the Pharynx; and (2) cases after the Radical Maxillary Antrum Operation exemplifying a simplification of the after-treatment.

Dr. **ANDREW WYLIE**: A case of Swelling of the Arytenoid.

Mr. **HERBERT TILLEY**: A case of Early Epithelioma of the Vocal Cord.

Mr. **C. A. B. HORSFORD**: A girl, aged 17 years, with a baritone voice.

Dr. **DAN MCKENZIE**: A case after removal of an Endothelioma of the Palate.

Dr. **J. DUNDAS GRANT** and Dr. **DAN MCKENZIE**: A case after operation for Median Cervical Fistula.

Dr. **W. H. KELSON**: A case of Nasal Ulceration.

Dr. **DUNDAS GRANT**: A case of Epithelioma of the Fauces.

Dr. **G. WILLIAM HILL**: A case of Laryngeal Tuberculosis.

OPHTHALMOLOGICAL SOCIETY.

Some Primary Facts of Colour Perception.—Exhibition of Cases.

A CLINICAL evening of this society was held on Feb. 13th, Mr. **E. TREACHER COLLINS** being in the chair.

Dr. **F. W. EDRIDGE-GREEN** gave a lantern demonstration on Some Primary Facts of Colour Perception, and an interesting discussion resulted in a resolution being passed, on the proposition of Mr. **C. D. MARSHALL**, that a committee of the society should be appointed to go into the question of colour-blindness and the tests for its detection and to report to the society.

Mr. **L. J. PATON** showed a case of Detachment of the Retina treated by operation. The patient abd been sent to the National Hospital for the Paralysed and Epileptic with the diagnosis of double optic neuritis and the remark that both nasal fields were lost. The right eye had been useless for 36 years and for a year there was mistiness in the *left*. Vision was then $\frac{6}{60}$; now it was $\frac{6}{18}$. To get at the main point of detachment he trephined above the tendon of the external rectus and pulled the eye well forward by a tenotomy hook under the external rectus. He cauterised through the sclera until the subretinal lymphaticus, as such patients needed special care when being anæsthetised.—Dr. F. W. Hewitt regarded the whole question as most pressing, for many of the deaths just previously narrated were preventable. The older view, that a small number of deaths is inevitable, was incorrect. Anæsthetics were not dangerous drugs unless placed in incompetent hands. The facts of the case should be stated plainly. The conditions ceased to exist as dangers when experience had been profitably gained with the use of these drugs. In fatal cases the fault did not rest with the surgeon, the patient, the operation, or the drug. The principle to be followed was that the respiratory functions were affected: the anæsthetised patient might suffer from an intercurrent asphyxia, especially in cases in which the respiration was liable to be spasmodic. On the post-mortem table no evidence of this spasmodic condition might be manifest. Much greater and more special attention should be given to the practice of anæsthetics in medical schools. He doubted if sudden cardiac and circulatory failure was ever fatal in such circumstances. "Fatty heart" was now rarely offered as the cause of death; status lymphaticus might also before long cease to be suggested. The real cause of death was auto-asphyxiation which could be guarded against if very special care was taken by the anæsthetist.—Mr. R. Henslowe Wellington did not think that 74 cases was relatively a large number in six years' inquest practice, especially as several were merely coincidental with the anæsthetisation.—Dr. Leonard E. Hill affirmed that the danger lay in paralysis of the heart. The vagus nerve centre was rendered irritable by the drug and the nerve itself was excited; the failure of respiration was due to the great fall of the blood pressure owing to the gradual poisoning of the heart. The heart could not be revived after paralytic dilatation unless it was infused with normal blood. A mechanical contrivance must be invented whereby a safe dose of the drug could be given.—Mr. John Troutbeck explained how the cases had come under his notice as coroner for one-eighth of the metropolis. Few deaths under anæsthetics were reported by private medical practitioners, possibly because it was not generally known in the profession that all such cases must be considered by the inquest jury. The anæsthetist should be a person in authority and not a junior practitioner whose freedom was biassed by the expressions of opinion of a senior surgeon. Very seldom did the relatives complain in hospital cases. A pathologist should be instructed to investigate the case who was neither the anæsthetist nor the surgeon interested, although both the latter should be allowed to be present at the necropsy and to give evidence. He had not gained much help from the lists of questions which had been published from time to time as a guide in these cases. Each coroner after some experience learnt what questions it was most profitable to put.—As the discussion had aroused great interest it was decided, on the motion of Dr. F. J. Smith, seconded by Dr. F. S. Toogood, to adjourn the meeting until Tuesday, March 24th, at which session certain medico-legal aspects of the question will be discussed. Mr. Justice Walton, the President, will be in the chair.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. L. W. Marshall, the President, being in the chair.—Mr. R. G. Hogarth showed a boy, aged seven years, the subject of Multiple Exostoses affecting the Ribs, Phalanges, Radius and Ulna at the Wrist, Tibia and Femur. A complete removal had been made of all present four years ago, but in view of their painlessness and rapid recurrence no further operation was now contemplated.—Dr. F. H. Jacob showed a breast-fed child, eight months old, who was a well-marked case of Urticaria Pigmentosa. The rash dated from birth and previously to vaccination.—Mr. W. Morley Willis and Dr. J. H. Thompson showed a girl, aged 15 years, in whose breast a painless, globular, vascular Tumour probably of sarcomatous nature had appeared a few weeks before. She had menstruated four times; a slight enlargement of an axillary gland could be made out and a somewhat cystic feel was given by the tumour in places.—The cases were discussed by the President, Mr. Willis, Mr. Hogarth, Dr. J. A. O. Briggs, Dr. Thompson, Dr. J. Watson, and others.—Dr. C. H. Cattle read a paper on Some *Difficulties* in the Diagnosis of Mediastinal Tumours. Practically these resolved themselves into the question as to aneurysm or *tumour*, the latter in the vast majority of cases being of a malignant nature. Referring to the case of a man, aged 58 years, who had been in hospital for three months under observation, it was remarked that many of the symptoms and signs usually associated with aneurysm might at times be due to tumour. Eventually, as the post-mortem specimen showed, the growth surrounded the heart and thoracic aorta, so as to exert pressure upon the left recurrent laryngeal nerve, the left bronchus, and the sympathetic nerves. There were also a systolic basal murmur, an accentuated second sound, and increased pulsation to the left of the sternum, all due to the growth enveloping the aorta and causing shrinkage and compression of the left lung. Whilst in hospital this patient gained steadily in weight. Another sign met with was compression of the left subclavian vein and enlarged superficial veins about the thorax and shoulder. This was distinctly in favour of tumour. A new growth surrounded, compressed, and invaded the veins, while an aneurysmal sac more frequently displaced them. On the other hand, alterations of the arterial circulation—*e.g.*, in the radial pulse—were in favour of a diagnosis of aneurysm. A second case was related occurring in a man, aged 34 years, whose symptoms began with breathlessness and expectoration of blood-stained phlegm. The evening temperature varied between 102° and 104° F. and often remitted as much as 3° in the morning. Friction-sounds were heard near the left nipple and in the lower axillary region. When admitted he was pale and wasted, short of breath, and unable to get about. He was hoarse and the left vocal cord was paralysed. There was dulness at the left apex in front and at the base behind. The breath-sounds were weak over the left lung in general, but of tubular quality at the apex. Pain was practically absent, but there were attacks of spasmodic cough. The puzzling features of the case were the rapid wasting, marked adynamia, and the hectic temperature without much expectoration. After an illness lasting for about four months the patient died suddenly from a profuse hæmorrhage. The clinical symptoms were thought to have pointed to rapidly growing sarcoma of the lung. At the necropsy the right lung was found greatly distended and the left was collapsed. A small aneurysm had compressed the left bronchus close to the bifurcation of the trachea, into which it had ruptured. The left pleural cavity contained three-quarters of a pint of fluid and the *visceral pleura* was thickly coated with recent fibrin.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. A. T. Wilkinson, the President, being in the chair.—The President read a paper opening a discussion on Alcoholic Cirrhosis of the Liver. He urged that due recognition should be given to tympanites as a diagnostic sign of advanced disease and claimed that this condition was equal in significance to the classical signs of ascites, jaundice, hæmatemesis, and cerebral symptoms. A typical case was described in illustration of this thesis. A tympanites of three weeks' duration in a well-nourished man, aged 36 years, who felt in his usual health, was the sole prominent symptom. Alcoholic cirrhosis was diagnosed and the patient died nine days later from coma. The diagnosis was confirmed by necropsy. The President drew attention to the neglect of this symptom of tympanites by the text-books. In most works the matter was not *mentioned*; in others tympanites was referred to as a sign which might mask others, such as ascites. There was a failure to recognise tympanites as a prominent sign *per se*. The pathology of acute *painless tympanites* in alcoholic cirrhosis was then discussed and the condition was attributed to back pressure from the portal system whereby the delicate neuro-muscular apparatus of the intestine was thrown out of gear. In speaking of the treatment of advanced hepatic cirrhosis the time-honoured pill of mercury, squill, and digitalis, of each 1 grain, was advised as the most trustworthy diuretic. As regards the etiology of cirrhosis the President declared his belief in alcohol as the causative agent to be unshaken. It was the steady "sober" *drinkers*, not the habitually *drunken* who filled our inebriate homes, who were the victims of alcoholic cirrhosis. A brain sensitive to alcohol was actually a safeguard against alcoholic cirrhosis. *Gastric catarrh* did not, in his experience, bear any causative relation to cirrhosis. It was those who "stood alcohol well" who suffered from this hepatic change.—Dr. E. S. Reynolds agreed with the President as to the different susceptibility of the "drinker" as distinguished from the "drunkard" to alcoholic cirrhosis. He believed hepatic cirrhosis to be not uncommon in children, their livers being specially susceptible to alcohol. Splenic enlargement was inversely proportional to the amount of ascites. In ascites he believed tapping should be persevered with;

LIVERPOOL MEDICAL INSTITUTION.

The Treatment of Hæmoptysis by Nitrite of Amyl.—The Physiological Importance of the Calcium Salts.

A MEETING of this society was held on Feb. 13th, Mr. T. H. BICKERTON, the President, being in the chair.

Dr. G. A. CRACE-CALVERT read a note on the Treatment of Hæmoptysis by Nitrite of Amyl. He stated that until recently the treatment of hæmoptysis had not been satisfactory and that nearly all drugs except morphine had been described as useless. Dr. F. W. E. Hare had called attention to the use of the nitrite in checking hæmorrhage and pointed out that it acted partly by causing a marked reduction in the arterial blood pressure and partly by producing an intense anæmia of the lung parenchyma, and so gave time for clotting to take place. Dr. Crace-Calvert had tried it in about 25 attacks of hæmoptysis—many of them profuse—and always found that it checked the bleeding almost instantly. Afterwards if there was excitement of any kind he gave a quarter of a grain of morphine. He considered that nitrite of amyl was the drug *par excellence* to be used first, as it saved the patient unnecessary loss of blood and prevented large accumulations of blood in the air passages. It was especially useful in sanatorium work where the patient was seen at the beginning of the attack.—Sir JAMES BARR congratulated Dr. Crace-Calvert upon pointing out the value to be obtained from the use of nitrite of amyl and such other agents in cases of hæmoptysis. He said that they often heard of blood pressure in numerous diseases without the observers having any clear idea as to what was meant by blood pressure. Blood pressure was purely a relative term, and what might be considered a very high blood pressure in pulmonary tuberculosis would be a low pressure in renal disease. In pulmonary tuberculosis the heart was small and weak, and a comparatively small resistance was more than it could cope with; therefore any slight rise in the arterial pressure in cases of pulmonary tuberculosis was very apt to dam back the blood in the pulmonic system. The great advantage of the use of morphine or morphine and atropine in cases of pulmonary tuberculosis arose from the fact that they generally stopped the cough and thus prevented any rise in the arterial pressure. Personally he had for many years used nitro glycerine in cases of hæmoptysis and as a rule he preferred it to nitrite of amyl because of its more lasting effect. If the blood was deficient in lime salts it was very important that lime salts should be administered.—Dr. NATHAN RAW could not agree that nitrite of amyl had any specific action in the control of hæmoptysis. Whilst one occasionally met with an overpowering hæmorrhage which was rapidly fatal, the fact remained that the great majority subsided spontaneously with care and rest. He could not agree that hæmoptysis was due to increased blood pressure, but rather to erosion of some small blood-vessel. He advocated absolute rest in the recumbent posture, a hypodermic injection of morphine, ice to suck, and cold turpentine applications to the chest. He had seen excellent results from adrenalin chloride in long-continued but small hæmorrhages from the lungs. By lowering the blood pressure it was possible that nitrite of amyl was occasionally useful.—Dr. W. B. WARRINGTON said it had long been recognised that a hypodermic injection of morphine was the most satisfactory drug in the treatment of hæmoptysis and for some years past nitrite of amyl in addition had been the routine treatment at the Northern Hospital.—Dr. A. G. GULLAN said that there seemed to be varied opinions on the blood pressure of pulmonary tuberculosis and he believed that in many cases it was lowered. Yet everyone was well acquainted with the excited and strong action of the heart and the strong and quick pulse which arose on the sudden occurrence of a serious hæmoptysis. The arterial blood pressure was then undoubtedly greatly increased and it was in this condition that the amyl nitrite was beneficial as a rapid means of lowering it. At the same time such good results had been obtained by rest, morphine, and purgatives in the past, and moreover these methods were invariably used in conjunction with amyl nitrite, that he felt too much credit for the good results obtained should not be given to that drug.—Dr. R. J. M. BUCHANAN drew attention to the fact that cases of pulmonary tuberculosis associated with good blood pressure generally did well and that hæmoptysis more often occurred in chronic and relatively favourable cases. The hæmoptysis was in a large majority of cases the result of raised blood pressure in the systemic arteries, and nature pointed out a method of treatment in that the hæmoptysis itself lowered pressure and thus arrested hæmorrhage. Taking the lesson from nature, the use of nitrite of amyl acting in the same way was a rational therapeutic measure and the results justified its administration.—The PRESIDENT, Dr. T. BUSHBY, Dr. T. R. BRADSHAW, and Dr. J. H. ABRAM also took part in the discussion, and Dr. CRACE-CALVERT replied.

Dr. W. BLAIR BELL read a paper on Some Observations on the Physiological Importance of the Calcium Salts. He said that his observations had been made incidentally during the work he was at present engaged upon in reference to the calcium metabolism in menstruation and pregnancy, and he considered them of sufficient importance to bring forward as he himself could not carry them any further. His method of calcium estimation, already described,[1] had been largely employed in the investigation. The diurnal variations and the value to be attached to the blood index and the interpretation thereof were fully described. He discussed what he described as the reparative function of calcium salts and stated that he considered there was always a determination of these salts to an injured or a diseased region. He also thought that there was no such thing as calcareous degeneration *per se*, but rather calcification—a reparative process—in diseased structures. The effect which lime salts had upon involuntary muscles was next mentioned and Dr. Blair Bell alluded to the work of Ringer and others in this direction. He went on to describe the attempts made by himself to discover the regulating factors in the calcium metabolism, and discussed his experiments and observations in regard to the thyroid, pituitary, and other ductless glands, which he considered acted in association, anabolically or katabolically, in connexion with the lime salts. The question of calcium and the coagulability of the blood was discussed and he brought forward evidence to show that the reduction of the coagulability of the blood on the administration of an excess of lime salts was due not to an excess in the blood but to an active resistance or immunity on the part of the subject, or increased excretion brought about probably by thyroid interference. The power which the leucocytes possessed of absorbing calcium probably in solution, and conveying it for the processes of repair and for other functions, was considered and evidence was adduced to show the probability of this property. Lastly, Dr. Blair Bell described some interesting observations upon gelatin and the contained calcium. He illustrated the fact which he had discovered that if calcium is precipitated from gelatin it will no longer coagulate by passing round a control and a specimen prepared several days before.—Sir JAMES BARR said that he considered this one of the most important papers that he had heard for a long time. He had himself been using calcium in disease for many years, and therefore felt very grateful to Dr. Blair Bell for giving a more accurate method for estimating the amount of calcium in the blood. Hitherto they had had to go by the coagulability of the blood, and in such a disease as pneumonia by the amount of the adhesiveness of the secretion. In cases of pneumonia it had a very great value, especially in those cases in which the secretion was liquid or hæmorrhagic. *Cæteris paribus*, the more scanty and viscid the expectoration in pneumonia the better the prognosis; hence in such a disease he had condemned the use of expectorants for many years. The calcium salts had a wonderful effect not only in increasing the secretion but in toning up the vessels. The variable amount of lime salts in the blood at different periods of the day scarcely affected the diseased conditions, because in the infective process the calcium was thrown out of the blood into the tissues, and in such cases there was always a tendency to a deficiency. Sir James Barr also discussed the action of calcium on the blood and circulation.—Dr. BUCHANAN considered Dr. Blair Bell's method of calcimetry by the use of the hæmocytometer sufficiently accurate for clinical purposes and that it stood on a par with erythrocytometry and leucocytometry in abnormal blood states.—Dr. P. HICK said that although the total calcium of the blood was not precipitated by Dr. Blair Bell's method, all the "ionised" calcium was, and that it was in this state that the calcium took part in such active processes as the clotting of blood, and the method gave a measure of the available calcium. Also that the calcium chloride and calcium lactate given by the mouth occasionally gave no that bougies should only be employed by experts. The chapter on acute inflammation of the middle ear contains quite a full account of the subject. Chronic middle-ear suppuration, together with its complications and sequelæ, is very fully described. The remaining chapters deal with diseases of the internal ear, specific diseases of the ear, deaf-mutism, and allied diseases of the nose and naso-pharynx, and are quite up to the standard of the rest of the book.

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[1] Brit. Med. Jour., April 20th, 1907.

We consider that this work is one well adapted to supply the needs of the student and as a handbook of reference for the general practitioner.

LIBRARY TABLE.

Text-book of Organic Chemistry for Medical Students. By Dr. G. von BUNGE, Professor of Physiological Chemistry in the University of Basle. Translated, with Additions, by R. H. ADERS PLIMMER, D.Sc. Lond. London: Longmans, Green, and Co. 1907. Pp. 260. Price 6*s.* net.—Professor Bunge's well-known faculty of presenting the principles and facts of chemistry in general, and of organic chemistry in particular, in a clear light has always gained for him a large circle of readers. Moreover, his experience in his position of professor of physiological chemistry in the University of Basle has brought him into contact with the needs of medical students in regard to that knowledge which is most useful to them in connexion with their particular study. There can be no doubt, as he says, that the domain of organic chemistry has been widened to such an enormous extent by the increasing labours of the last decades that those who devote their life to the study of organic chemistry can no longer be masters of the whole subject. If that be so it is obvious that the position of the medical student in regard to making a sound acquaintance with the facts and principles of organic chemistry grows increasingly difficult year by year. Yet he is necessarily compelled to acquire some knowledge, as otherwise his study of physiology, pathology, and so forth will be beset with obstacles. The fact is that he has to pick out for himself those portions of the science which bear more intimately on his medical studies. The purpose of this volume, in short, is to save him the labour of consulting voluminous works on the subject and to bring him into contact with just those points which concern him most as a student of medicine. In these days of rapid advances this crystallising process is obviously difficult, but in the hands of such an experienced teacher as Professor Bunge a groundwork at any rate is laid which is sufficient for the purpose in view, while of course the student if he should demand more can afterwards devote himself to more comprehensive works on the subject. We can congratulate the student who starts the strictly medical side of his studies with such an excellent knowledge of principles and facts as is outlined in this readable treatise. He further will appreciate the fact that the translator has made several additions which were introduced to meet the extra requirements of the English curriculum as compared with the German. As a companion to physiological and pathological study the book will be found most useful.

JOURNALS AND MAGAZINES.

Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXVI., Nos. 4 and 5. Dec. 31st, 1907. London: C. F. Clay. Price 10*s.*—The following are the contents of the two numbers of this journal. 1. F. S. Locke and O. Rosenheim: Contributions to the Physiology of the Isolated Heart: the Consumption of Dextrose by Mammalian Cardiac Muscle. 2. W. M. Bayliss: Researches on the Nature of Enzyme Action on the Causes of the Rise in Electrical Conductivity under the Action of Trypsin. 3. Lucas Keith: On the Rate of Variation of the Exciting Current as a Factor in Electric Excitation. 4. J. Barcroft and G. R. Mines: The Effect of Hirudin upon the Gases in Arterial Blood. 5. A. E. Boycott and G. C. C. Damant: A Note on the Quantities of Marsh Gas, Hydrogen, and Carbon Dioxide produced in the Alimentary Canal of Goats. 6. John Mellanby: The Precipitation of the Proteins of Horse Serum. 7. Keith Lucas and G. R. Mines: Temperature and Excitability. 8. J. N. Langley: On the Contraction of Muscle Chiefly in Relation to the Presence of Receptive Substances. Part 1.

The Quarterly Journal of Microscopical Science. Edited by Sir E. RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM SEDGWICK, M.A., F.R.S., SYDNEY J. HICKSON, M.A., F.R.S., and E. A. MINCHIN, M.A. With lithographic plates and text figures. New Series, No. 205. Vol. LII., Part 1. London: J. and A. Churchill. Price 10*s.* net.—The contents of this part of the journal are: 1. Spirochæta (Trypanosoma) Balbiani (Certes) and Spirochæta Anodontæ (Keysselitz); their Movements, Structure, and Affinities, by H. B. Fantham, B.Sc. Lond., Derby Research Scholar, University College, London, with three plates and 11 text figures. 2. The Structure and Life-History of Copromonas Subtilis, *nov. gen. et nov. spec.*; a contribution to our knowledge of the Flagellata, by C. Clifford Dobell, B.A., Scholar of Trinity College, Cambridge, with two plates and three text figures. 3. Notes on some Parasitic Protists, by C. Clifford Dobell, with a plate. 4. Studies in Spicule Formation: VIII., Some Observations on the Scleroblastic Development of Hexactinellid and other Siliceous Sponge Spicules, by W. Woodland, the Zoological Laboratory, King's College, London, with a plate. Mr. Fantham's memoir on the spirochæta Balbiani and spirochæta anodontæ is of great interest. It contains a good historical introduction. The specimens were obtained from English oysters, in which they occupy in particular the crystalline style and adjoining parts, few being found in the posterior part of the intestine or in the rectum. A ½ per cent. solution of methylene blue was found to be a useful *intra vitam* stain. The gut contents were fixed as quickly as possible and while still wet with osmic vapour. Of the various stains tried on fixed material the most successful results were obtained with alcoholic gentian violet, iron-alum hæmatoxylin, and other hæmatoxylin solutions. The length of the spirochæta Balbiani is from 150μ to 50μ and it is 3μ to 2μ in breadth. It is composed of homogeneous protoplasm and a nucleoid composed of about 60 rodlets of chromatin disposed transversely along the body at nearly equal distances. Attached to the body of the animal is an organella or spirally wound membrane, which is longitudinally striated and executes undulating movements with great speed. The movement of the organism as a whole is in jerks and partly results from a spiral thrusting motion due to the membrane and partly to an undulatory flexion of the body due to contractions of myonema fibrils of the periplast. Various forms of movement are described. The animals live by endosmosis. A very carefully drawn up account of the changes observed in the nucleus in division is given. The drawings which accompany the memoir are very interesting and show how much may be learned of the structure of extremely minute organisms. Mr. Dobell's article on Copromonas Subtilis is also full of interest and is well illustrated.

Journal of Anatomy and Physiology. Conducted by Sir WM. TURNER, K.C.B., ALEX. MACALISTER, D. J. CUNNINGHAM, ARTHUR THOMSON, and ARTHUR KEITH. Vol. XLII., Third Series. Vol. III., Part 2. London: Charles Griffin and Co. January, 1908.—It was intended that this part should be the first of a journal of physiology published separately from a journal of anatomy but it has been found to be impracticable to break up the well-known *Journal of Anatomy* occurrence, of which he had no doubt. Loss of resilience in the soft parts from the swelling associated with a tearing away of the periosteal attachment of the muscle in the efforts to reduce the dislocation had been the starting point of the new growth which, like callus, was derived from the osteoblasts of the periosteum. He discussed the treatment which he intended to adopt and by removing this new growth of bone he hoped to get a good result. He mentioned how careful one had to be when seeing an old injury to the elbow in which there was stiffness not to conclude that there had been a fracture when no opportunity had been given to see an x ray photograph of the condition before and after reduction.—Dr. G. A. Pirie then gave an account of the Routine Use of X Ray Photography in Private Practice and exhibited a series of photographs showing many interesting conditions in bones and chest which had occurred in his practice.——A meeting of this society was held on Feb. 6th, Professor A. M. Stalker being in the chair.—Mr. Greig showed a man after Excision of the Patella for a Chronic Periostitis of that bone. He had been invalided from the naval service as unfit, but as a result of the operation he had once more a perfectly useful limb. On comparing the legs the only visible difference was a diminution in the size of the quadriceps muscle. He commented on the rarity of the operation.—Dr. W. E. Foggie showed a man, aged 48 years, who had syphilis when 28 years of age. Two and a half years ago he had a fall from a horse injuring his right ankle. After this a progressive muscular weakness set in, first in the right leg and passing to the left. Then the right and the left arms became affected and he now exhibited all the symptoms of progressive muscular atrophy, the unusual feature being the onset in the lower limbs following the accident.—Dr. J. S. Y. Rogers showed a man with well-marked symptoms of Raynaud's disease who had been treated for 12 months with x rays for an ulcer in the ear said to be lupus but which was probably Raynaud's gangrene.—Dr. G. F. Whyte showed a man with small ulcers (Raynaud's gangrene) on both ears, who exhibited signs of that disease in both hands, the hands having been affected for several weeks with coldness and stiffness before the ear conditions developed.—Dr. A. J. Duncan read notes on the successful treatment of an obstinate case of Sciatica in a woman by the subcutaneous injection of air. The condition had existed in the left leg for four months and had resisted all the ordinary methods of treatment by drugs, the pain, which was so severe as to cause loss of sleep, only being relieved by morphine. The method adopted was that recommended by Dr. A. S. Gubb of Algiers.[1] Air was pumped into the tissues along the line of the nerve till a condition resembling surgical emphysema was produced. Repeated at intervals of three and five days, this followed by massage of the parts quickly resulted in a diminution of the pain. He quoted in further detail from Dr. Gubb's paper, in which he mentioned many successful cases, and thought that the method was worthy of a further trial.—Dr. G. T. Guild read notes on two cases of Cholesteatoma of the Temporal Bone. He said that some authorities regarded these formations as inflammatory products, others as tumours derived from endothelium, and called them endotheliomata, but Ziegler was of opinion that they had an origin from epidermic epithelium. In the ear they generally occurred during the course of chronic suppuration of the middle ear and were accompanied by a fœtid discharge which might be very scanty and apt to be overlooked. They tended to increase slowly in size and to cause destruction of the mastoid cells and walls of the antrum.—Dr. J. Rogers read notes on a case of Multiple Arthritis which he showed. The patient was a boy, aged six and a half years. He discussed the diagnosis of such conditions.—Dr. G. Halley described two unusual cases of Inguinal Hernia upon which he had operated.—Dr. Whyte described a case upon which he operated similar in many ways to one of Dr. Halley's cases.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 6th, Dr. George Williamson, the President, being in the chair.—Dr. J. Wallace Milne described two cases of Resection of the Bowel for the relief of acute obstruction supervening in a chronic condition of partial obstruction. The first case was that of a girl, aged 10 years, who was admitted to the Aberdeen Royal Infirmary with an intussusception of six days' standing. As the obstruction was not complete and her symptoms were not urgent Dr. Milne resolved to watch the case. On the seventh day after admission the patient developed symptoms of acute obstruction. Laparotomy was performed and an intussusception of the triple or telescopic variety was discovered. The ileum was seen disappearing into the cæcum, carrying with it the appendix. As there were no adhesions, the susceptum was easily expressed from the ascending colon and a tight gangrenous intussusception of the ileum was discovered. This was resected. Upon the forty-fourth day after the operation the patient developed an empyema on the left side. This was treated by resection of a rib and drainage. The subsequent history of the case was good. The second case was that of a male, aged 48 years, who was suffering from symptoms of acute obstruction due to a malignant stricture of the descending colon. The condition of the patient was too bad to permit of resection and a short circuit of the transverse colon to the sigmoid flexure was therefore made by means of Murphy's button. The condition of the patient rapidly improved and on the thirty-sixth day the tumour with six inches of the descending colon was resected. This patient made an uninterrupted recovery. He has gained nearly three stones in weight and has been able to return to work. With the exception of a slight fæcal fistula his general health is excellent.—Professor D. W. Finlay contributed particulars of a case of Chronic Pleuritic Effusion which after two ordinary tappings, yielding respectively 66 and 47 ounces of sero-fibrinous fluid, was treated on four subsequent occasions after Sir James Barr's plan of paracentesis, a solution of adrenalin chloride varying in quantity from one to five drachms (strength 1 in 1000) being injected. The quantities of fluid removed on these four occasions were 47, 75, 70, and 70 ounces respectively. There was a distinct lengthening of the periods between the tappings after the use of the adrenalin, but the pleura had filled up again and there was thus no permanent improvement.—Mr. H. M. W. Gray agreed with Professor Finlay about the adrenalin treatment. He considered that the injection of air into the pleural sac tended to reduce adhesions and to favour expansion of the lung. He was in favour of repeated tappings in such chronic cases rather than resection of the ribs with the risk of empyema.—Dr. G. Rose in this connexion quoted long-standing cases of empyema where cure resulted only after resection of ribs.—Professor Finlay, in reply, described briefly two other cases which required frequent tapping. He was of opinion that in this case resection of the ribs might be tried. He would recommend a tolerably free opening which might subsequently be extended. —Dr. T. C. Mackenzie read a paper on the Recognition and Treatment of Incipient Mental Disease in General and Hospital Practice. He commented upon the importance of treating mental cases in their early and incipient stages. These cases were not provided for under the lunacy law and were as a rule unprovided with hospital treatment. He gave an analysis of the earliest signs and symptoms in cases of insanity recently admitted to the Aberdeen Royal Asylum. Of these, headache, sleeplessness, loss of appetite, general feeling of unwellness, constipation, previous mental attack, and influenza were the most important. In the early recognition of cases of insanity a concurrence of these signs with a history of hereditary predisposition to insanity was of great importance. Dr. Mackenzie then dealt with the recent correspondence in the *Scotsman* concerning "Wards for Incipient Mental Diseases in the Edinburgh Infirmary." Personally, he thought that such wards were very desirable. They had been worked with success in Glasgow and on the continent and he thought that wards of this character, under the charge of a specialist, should be provided in every teaching hospital. He described several cases which illustrated the necessity for hospital wards where acute and transitory cases of mental disorder could be treated without the patient requiring to be certified as insane, instancing such cases as delirium tremens, epileptic confusion and excitement, and some cases of puerperal fever.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Feb. 11th, Sir William J. Collins, M.P., ex-President, being in the chair.—Dr. L. Freyberger read a paper entitled "An Analysis of 74 Cases of Sudden Death while under the Influence of Anæsthetics." The clinical facts relating to many of these cases, all of which occurred in one coroner's district in the last six years, were given. In each instance Dr. Freyberger had made a post-mortem examination and had given evidence before an inquest jury. In his opinion it was necessary to diagnose the possible presence of status phases of cancer cells which is commended to the perusal of all who are interested in the study of malignant growths.

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[1] Brit. Med. Jour., Nov. 9th, 1907.

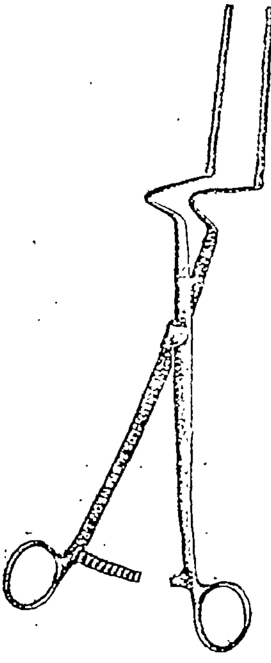
Annals of Otology, Rhinology, and Laryngology, September, 1907.—This number contains ten articles, either original communications or papers which have been read at meetings of societies. The first is by Dr. C. R. Holmes, on the Etiology of Erysipelas and its Relation to the Nasal Cavities, and Destructive Effects upon the Eye. It is a long article of nearly 100 pages and is an interesting *résumé* of the subject. There are three papers on secondary disease of the labyrinth, and several others.

Journal of Laryngology, Rhinology, and Otology. December, 1907.—This number contains two original articles, the first on Tracheo-Bronchoscopy, by Dr. Chevalier Jackson of Pittsburg, and the second, part of an article by Dr. H. M. Fish of Chicago, on a study of 36 consecutive cases of Optic Neuritis, with Nasal Accessory Sinus Disease present in 26.

New Inventions.

ABDOMINAL WOUND SUTURE AND RETRACTOR FORCEPS.

THESE consist of a pair of forceps as seen in the illustration. Two pairs are used, for the right and left sides respectively. They have two flat blades, the lower being the smaller, set on a curved shoulder with long handles and a rack. The blades are tempered so that they meet at the points first and by means of the rack any pressure desirable may be obtained. They are designed for use in the following way. The abdominal wound having been made and the peritoneum opened to the desired extent, the lower blade, or smaller of the right forceps, is introduced and placed parallel to the incision, half an inch from the cut edge on the peritoneal surface; the forceps are then closed and the upper blade presses on the skin parallel to the incision and half an inch removed from it; a firm grasp is thus taken of the one side of the incision. The left forceps is then similarly introduced and fastened. It is then easy for an assistant standing well towards the thighs of the patient to rotate each handle onward, that is to say away from the wound, and thereby to evert the edges of the abdominal wound, at the same time retracting it. If it be thought advisable to protect the edge of the wound in the abdominal wall, as in dealing with some focus of septic matter within the abdomen, this can be accomplished by placing a piece of sterile gauze round the edge of the wound before applying the forceps, when they will hold it firmly in position during any manipulation within. When the wound has to be closed layer to layer, the assistant by a little pressure can approximate the edges of the wound with the cut surfaces everted, so that it is easy to pass a continuous suture along the cut surfaces of the peritoneum and another along aponeurosis or muscle, leaving the last stitch slack until the forceps are released and the lower smaller blades withdrawn, when the stitches may be drawn taut and tied together. This materially facilitates the closing in layers of the abdominal wound and thereby saves time. The forceps could also be used for bowel clamps and would be useful in *enteranastomosis*.



These forceps have been made for me by Messrs. Reynolds and Branson, Limited, of Leeds.

B. MAYHEW BONE, M.B., C.M. Edin., F.R.C.S. Edin.

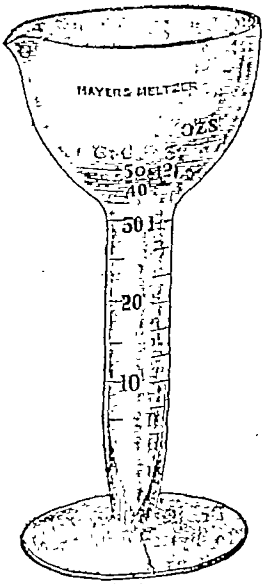
Lancaster.

THE MECHANICAL TREATMENT OF PULMONARY TUBERCULOSIS.

WE have received from the Roborat Company a specimen of Kuhn's Suction Mask for the treatment of pulmonary tuberculosis according to Professor Bier's treatment by passive hyperæmia. The apparatus consists of a light celluloid mask fitting over the mouth and nose, divided by a cross partition into two chambers, for mouth and nose respectively. In both chambers free expiration is permitted by means of valves, while inspiration can occur only through an adjustable slit in the portion allotted to the nose. The margins of the mask are well padded by means of a rubber air tube which causes the minimum of pressure, and the natural nasal inspiration, by means of the slit just referred to, can be impeded in a graduated manner for the desired length of time without discomfort to the patient. Untoward consequences are said not to occur. On placing the mask over the mouth and nose with the slit only slightly open a distinct impediment to free inspiration is experienced. In this manner a certain amount of passive hyperæmia of the lungs is induced; the circulation of the lymph stream, however, is maintained. This method of treatment is stated to have been tried by Professor von Leyden in the medical clinic of the Charité at Berlin with encouraging results. The following effects have been claimed by the use of the mask: improvement of respiration and diminution of dyspnœa; considerable widening of the thorax, reduction of the frequency of respiration, cessation of cough, and disappearance of expectoration, bacilli, and adventitious sounds in the lungs. The colour of the patient improves owing to the improvement of the blood and there is increased appetite. Further, in consequence of the improvement in the circulation, the respiratory musculature is strengthened and the heart's power is raised. We shall watch with interest to ascertain if these results are corroborated by English physicians.

A NEW FORM OF URINE TRIAL GLASS.

THE accompanying illustration represents a modified form of urine trial glass which I have found to be a decided convenience in the examination of the urine of patients and proposers for insurance. The apparatus is well adapted (1) by its wide mouth, to enable urination to be performed into it without splashing; (2) by its narrow calibre, to allow the specific gravity of a minimum amount of urine to be tested; and (3) by the bottom being tapered conically, to facilitate the collection of the sediment. These points have been effectively carried out by the manufacturers, Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W.



R. M. FRASER, B.A., M.B. R.U.I.

Mountpottinger, Belfast.

THE Society of Tropical Pathology of Paris has elected Dr. David N. Nabarro a corresponding member of the society.

this manœuvre was sometimes successful if at the same time alcohol was prohibited.—Mr. M. J. Chevers mentioned a case of "hob-nail liver" in which he had reason to believe the patient had always been a teetotaler.—Dr. F. Craven Moore laid stress on the presence of dilated abdominal veins as a diagnostic feature. He noted the change of form which post-mortem examination in recent years revealed in cirrhotic livers. The old "hob-nailed" liver was now rarely seen, its place being taken by livers of normal size with a granular surface.—Dr. R. W. Marsden thought that this change of type might be due to the change of habits in present-day drinkers.

Reviews and Notices of Books.

Text-book of Comparative General Pathology for Practitioners and Students of Veterinary Medicine. By Professor TH. KITT of Munich. Authorised translation by Dr. WILLIAM W. CADBURY, Assistant Demonstrator of Pathology in the University of Pennsylvania. Edited with notes and additional illustrations by Dr. ALLEN J. SMITH, Professor of Pathology in the University of Pennsylvania. With four coloured plates and 131 illustrations. London: Baillière, Tindall, and Cox. 1906. Pp. 471. Price 25*s.*

IT is a singular fact that great as the contributions afforded to our knowledge of the nature of pathological processes by the study of the natural or experimentally produced diseased conditions of animals have been, most text-books or treatises on general pathology have been written from the standpoint of the practitioner of human medicine and illustrated by reference to the lesions found in the human subject. The veterinary student and practitioner have thus been to some extent at a disadvantage, for although the essentials of pathological processes are closely similar in most mammalia the morbid anatomy and histology of the resulting lesions frequently differ in different animals in very important points. Professor Kitt, recognising that the education of veterinary students, to be rational and scientific, entails as a necessity a study of comparative pathology, set himself the task of writing a text-book on this subject with illustrations of the various morbid processes from the domesticated animals. We may at the outset say that he has succeeded in producing a most valuable book and one which will well repay study from the standpoint of human pathology. A knowledge of comparative pathology is of great value in the elucidation of some of the problems of disease in man, and in view of the great advances which the study of pathology is daily making, and of the valuable additions which it promises to afford to our therapeutic measures, is likely to become of increasing importance. Professor Kitt writes clearly and well and the translator has done full justice to his style, so that the book hardly conveys the impression of having been written in another language. The accounts given of pathological processes and conditions are concise without being sketchy and their results are carefully classified.

A short history of pathology with especial reference to veterinary pathology is given and it is pointed out that research in comparative pathology was completely dormant from the fourth to the eighteenth century. This is followed by a section entitled "Predisposition towards Disease," in which the recent studies on the nature of immunity are summarised and an intelligible and intelligent account of Ehrlich's theories is given. The causes of disease are categorically studied, among which the bacterial agents and the animal parasites are considered in some detail. Among other matters worthy of special mention is the section given up to the description of circulatory disturbances. The accounts of hæmorrhage, dropsy, thrombosis, and embolism are as good as any that we have read. The note contributed by the editor on the conditions leading to the production of anæmic and hæmorrhagic infarcts is especially worthy of notice, for it is much more intelligible than the accounts usually found in text-books of pathology. The retrograde changes and necrotic processes, including the degenerations and infiltrations, are also dealt with at some length, while the descriptions given of these processes and the discussion of their nature are thoroughly commendable.

Perhaps the best criterion for forming an opinion on a text-book of pathology is the account given of the process of inflammation and in this book the account leaves nothing to be desired. It is well written and clearly expressed and the various factors are separately studied, while the results and varieties of the processes are each considered in detail. Like most pathologists, Professor Kitt has his own definition of inflammation and it is a good one. Regenerative and reparative processes are described in detail and an interesting section on tumours follows. Some of the theories of tumour formation are given and luminously criticised.

The book is thoroughly well illustrated, the editorial notes appended are in all cases explanatory of the text, and they are in many instances valuable additions. There are but few misprints, though we notice on p. 259 "ecshars" for "eschars." We can cordially recommend this book to anyone who wishes to gain a clear knowledge of the principles of general pathology from a comparative point of view.

Diseases of the Ear. By HUNTER F. TOD, M.D. Cantab., F.R.C.S. Eng., Aural Surgeon to the London Hospital, &c. Oxford University Press: Henry Frowde. London: Hodder and Stoughton. 1907. Pp. 317. 15 figures and 18 plates. Price 5*s.*

THE first two chapters of this practical book are devoted to the diseases of the external ear and contain a short and useful account of the various diseases and malformations of the part, with their treatment. It is interesting to note here that the view is expressed that the old method of operating by means of a burr for the removal of exostoses through the canal is falling into disuse as being unsurgical as well as dangerous. Cutting away the growth through the meatus by means of a gouge is one of the surgical procedures described. The third chapter is devoted to diseases of the tympanic membrane. Acute myringitis, apart from a traumatic lesion, is described, and, as Mr. Hunter Tod remarks, it is met with clinically, though we cannot say that we consider this sufficient argument for considering myringitis as a separate disease. The fourth chapter deals with diseases of the middle ear and, in common with the preceding ones, is prefaced by a short description of the anatomy of the part. In this chapter the tests for hearing are dealt with. There is a fairly full description of Rinné's test, with some directions as to its application, and after the tests have been discussed and their employment indicated a brief summary is given, and it is stated that in middle-ear deafness "Weber is referred to the affected side, bone conduction is increased, Rinné is negative, &c., while in internal ear deafness bone conduction is diminished," although this does not complete the summary. We think that such a statement should not be made without very considerable qualification. In describing the methods of inflation of the middle ear a very excellent series of reasons is given to show which method is preferable and in what cases. On p. 89, in discussing the time at which inflation of the middle ear may be performed, an unfortunate printer's error causes it to read "64" instead of 48 hours. Chapter V. deals with chronic middle-ear catarrh and contains a very admirable and short account of the disease. In discussing the treatment of it a wise statement is made, many of our readers will follow these articles, even though they have no direct interest in India, for we hold that medical men as a body can exercise a notable influence on public opinion in subjects of which they have special knowledge. A strong body of public influence may materially hasten the time when the Medical Service in India shall be reorganised on lines sufficient for the demands made on it by present conditions.

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New Zealand and Public Health.

WE have received a copy of the report of the Department of Public Health for the colony of New Zealand for the year 1906–07, dated June 1st, 1907, and, with its appendices, covering 112 folio pages. A considerable amount of this space, of course, is occupied by matter of a kind undistinguishable from that with which we are familiar at home, such as the statistics of vaccination and other similar matters; but even here attention cannot fail to be arrested by a return which shows the infantile death-rate of the colony to be under 70 per 1000. In this respect it is not uninteresting to note that illegitimate children become legitimatised by the subsequent marriage of the parents, or in any case in which a man marrying a woman with illegitimate children registers them after the marriage as his own. An Act to this effect was carried in 1894 and has been taken advantage of in the case of 849 children; while two years later an Act was passed for the better protection of infant life, by which it was enacted that no one may take charge, for payment, of an infant to maintain or to nurse for more than three days without holding a licence as an "infant's home keeper." The house of every such person must be registered as an infants' home, and all these homes are periodically inspected by the police. The Police Commissioner reports that for the year ending March 31st, 1906, there were 557 of such registered homes in the colony, containing 862 infants, against 528 homes and 728 infants in the year preceding. 21 deaths occurred in the homes during the year and four licensees, three of whom were convicted, were prosecuted for breaches of the Act; but no licence was cancelled and no neglect on the part of licensees was disclosed at inquests. It is difficult, of course, and perhaps impossible, to institute any fair comparison in such matters between the colony and the mother country; but it must at least be admitted that the conditions of infant life there must in many respects be far better than those which exist at home. To take one of these respects only, we read that "there has been no epidemic of any serious nature during the past year." Measles and scarlet fever have occurred in certain districts, but the cases have been limited in number and the deaths few. Vaccination is being largely neglected, over 81 per cent. of the children born during the year under consideration being still unprotected; but the neglect is attributed chiefly to an indifference arising from ignorance of the nature of small-pox. When that disease appeared in Christchurch in 1904 11,120 people were voluntarily vaccinated in three months; and the chief health officer, Dr. J. M. MASON, seems to be of opinion that any manifest danger of a small-pox outbreak would again occasion a rush for protection. In the meanwhile, one of the most pressing dangers to public health appears to arise from the prevalence of hydatids, and special injunctions concerning the precautions to be taken in keeping and feeding dogs occupy a prominent place in the report.

The most remarkable feature of the document, however, and one which might profitably receive careful consideration from the legislatures of older countries, is the history of a campaign against certain forms of dishonesty and of quackery which has been set on foot by the agency of what is described as a "modest and unassuming amendment" to the Postal Act. By this amendment the Postmaster-General of the colony is empowered to issue under his hand an order forbidding the registration, forwarding, or delivery of any letter or postal packet to any specified address, or the issue of any money order to the same address, he having reason to believe that the correspondence thus estopped is part of a system of betting, gambling, professed prediction of future events, of any "fraudulent, obscene, immoral, or unlawful business or undertaking," or of any "advertising in direct or indirect terms the treatment of diseases of the sexual organs." In commenting upon this amendment of the law and upon its effects the chief health officer points out that "most of the vultures who fattened on the fears of the misguided youth or the simplicity of the elderly man about town have, so to speak, been warned off the course." They have, he says, used in defence such weapons as might have been expected. Newspapers have been threatened with loss of revenue, the cry of medical oppression has been raised, and some have attempted bribery, but, in spite of all, he is pleased to place on record that every paper of standing in the colony has not only gladly agreed to accept the Postmaster-General's ruling but has endeavoured in every possible way to throw out advertisements which were demonstrated to be proclaiming wares or services which were not in the best interests of the State. "I have no hesitation," he continues, "in saying that in no part of the world could a cleaner advertisement page be found than in New Zealand." Many of the operators have left the colony and the reasons assigned for their departure are curious and varied. One, because his New Zealand clients have become numerous, has determined to transfer his operations to Sydney, and on account of the greatness of his reputation he asks his New Zealand patients to send their letters to another address and inscribed to another name. "No one," writes the chief health officer, "is foolish enough to believe that quackery and fraud can be stopped entirely, but the inclusion of this section of the Post Office Act Amendment amongst our laws has satisfied me that much can be done."

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The Supply of Pure Milk to Hospitals.

THE question of the supply of pure milk to the London hospitals has during the last year been engaging very seriously the attention of the bodies responsible for their administration. Our readers may remember a report which appeared in our issue of May 11th, 1907, p. 1311, of a conference of the United Children's Hospitals of London which dealt with this important matter, and we have now received from the Central Hospital Council for London the *and Physiology* into these two divisions, and hence that journal will continue to be issued as heretofore and the present part constitutes the second part of the forty-second volume. The contents of this part are: 1. The Comparative Anatomy, Gross and Minute, of the Thyroid and Parathyroid Glands in Mammals and Birds, by David Forsyth, M.D. Lond. In this research the first-mentioned glands obtained by careful dissection from 77 animals were submitted to microscopical inspection. The thyroid gland was found to be invariably present in mammals. Parathyroids are found in most, but not in all, members of the series. When present their total number is two, three, or four. 2. A note on the Development of the Septum Transversum and the Liver, by Peter Thompson, M.D. Vict. 3. The Brains of Aboriginal Natives of Australia in the Anatomy School, Cambridge University, by W. H. Duckworth, M.D., Part II., with 13 figures in the text, showing the sulci in different brains. 4. Studies in the Anatomy of the Pelvis, with special reference to the Fasciæ and Visceral Supports, by G. Elliot Smith, M.D., F.R.S. These studies are drawn from the examination of 20 adult subjects and a series of fœtuses and children, with many illustrations. The author accords high praise to Delbet's, Pasteau's, and Rieffel's contributions on this subject to the second edition of Poirier and Charpy's treatise on human anatomy. 5. An Unusual Duodenal Diverticulum, by Professor C. M. Jackson, M.S., M.D. 6. A case of Accessory Lobe of the Right Lung, by G. C. E. Simpson, M.B., B.Sc. 7. Further Observations on the Development of the Teeth of the Australian Aboriginal, by W. Ramsay Smith, M.D. Edin. 8. Note on a Tendon found in Association with the Insertion of the Peroneus Longus and Origin of the First Dorsal Interosseous Muscles, by Lieutenant-Colonel J. C. Lamont, I.M.S.

Revue de Psychiatrie, Nos. 9, 10, and 11, 1907.—The first of these numbers (No. 9) contains a report of the Congress of Alienists and Neurologists of France and the Latin Countries held at Geneva and Lausanne in August of last year. Dr. M. G. Ballet was the *rapporteur* on the subject of medico-legal evidence and the question of responsibility, and advances the thesis that the medical witness should confine himself solely to the diagnosis of disease and should not commit himself to the extent of the responsibility of the person on trial. In the subsequent discussion Dr. Grasset said that if responsibility was a function of the mind it might, in disease, be diminished or abolished and that the medical witness was competent to decide on the extent of the enfeeblement of that function. In a discussion on the *Periodic Psychoses* Dr. Régis avowed that he regarded the conception of maniaco-depressive insanity as subversive of the well-established classifications in so far as it suppressed the entities of idiopathic mania and melancholia. To justify the exclusion of these, the partisans of the maniaco-depressive theory find it necessary to sustain the proposition that cases of mania and melancholia always relapse, but this, according to Dr. Régis, is a simple affirmation which has nothing to support it. Dr. Ballet denied the existence of the simple non-relapsing forms but suggested the terms "excito-depressive" or "maniaco-melancholic" as being more appropriate than the present term. Dr. Schnyder, *rapporteur* on hysteria, desired to refuse to hysteria the characters of a clinical entity and to define it as a psychic modification in which there are an exaggeration and perversion of physical and psycho-physical reactions.—*No. 10* contains an interesting article by M. Lucien Picqué on Surgical Psychotherapy. The author divides the more severe psychoses which are liable to complicate surgery into those that are primary and undergo exacerbations with the occurrence of some bodily injury and those that are secondary to trauma either of some part of the nervous system or of some other part of the body. He indicates the importance of the part that psycho-therapeutics may play in the treatment of such psychoses and of the various forms of hypochondriasis that are so frequently met with in surgical practice. This number also contains an account of the proceedings of the Amsterdam Congress. —In No. 11 Dr. Damaye gives accounts of certain cases of Stupor and Mental Confusion in which the iodides appear to have been of therapeutic value. He suggests as a possible explanation of the benefits which appear to be derived from their administration that the mononuclear leucocytosis, which is at least sometimes coincidental with the taking of these salts, acts as a means of defence on the part of the organism against the toxins in the circulation.

The Liverpool Medico-Chirurgical Journal.—The January issue of this journal contains several papers of more than ordinary interest. Dr. Andrew Cassels Brown contributes an admirable account of the glimpses of medical matters at the time of the Wars of the Roses shown in the "Paston Letters." We commend it and the documents upon which it is founded to the attention of all medical antiquarians. Dr. Charles J. Macalister writes on the Personal Factor in Diet and points out that, although the physiologists may draw up ideal diet tables for the average man, actual individuals differ widely in their needs and idiosyncrasies as to food. On this ground are to be explained the theories set forth as to the advisability of mankind living on nuts, fruits, and so forth, which may suit some peculiar people. In the Surgical Section is a valuable article by Mr. F. T. Paul on his experience in abdominal surgery. The continuation of Mr. William Alexander's reports on Epilepsy presents some novel views on the treatment of this malady, and some interesting cases of disease of the gall-bladder are recorded by Mr. G. Reinhardt Anderson.

The Dublin Journal of Medical Science.—In the January number appears a paper by Sir John W. Moore, entitled "Diphtheritic Fever," in which are reported the notes of a series of cases of anomalous diphtherial infection without formation of false membrane. In most of the cases there was coryza with fever and the appearance of a rash, giving rise to a very puzzling clinical picture. Bacteriological examination proved the presence of somewhat attenuated Klebs-Löffler bacilli. Dr. Alfred de Roulet pleads for the treatment of many gynæcological conditions without recourse to operative measures.

The Birmingham Medical Review.—Two papers on Prevention of Disease appear in the December number of this journal, the first by Mr. J. Jameson Evans on Prophylaxis in Ophthalmology, which deals with a large number of different conditions, toxic and occupational, as well as infective; and the second, by Dr. John Robertson, on Prevention of Infective Disease. The latter writer notes the failure to prevent the occurrence of the commoner infections—measles, scarlet fever, and whooping-cough—due to the difficulty of recognising them at their very onset. Dr. James W. Russell records some cases of cerebral hæmorrhage occurring in connexion with acute endocarditis.

Guy's Hospital Gazette.—The issue of this journal of Jan. 25th contains some remarks made by Mr. R. Clement Lucas on Inherited Syphilis, in opening a discussion on this condition at a meeting of the Society for the Study of Disease in Children. Dr. H. C. Mann's observations on Arterial Blood Pressure in Health and Disease are continued, the present instalment being devoted to diseases of the heart.

The London Hospital Gazette.—The January number opens with a paper on Lupus Vulgaris of Mucous Membranes by Mr. H. Emlyn Jones, with some illustrations of the condition. Some Hints on Extraction of the Teeth are given by Mr. Frank M. Farmer. The Clinical Supplement is devoted to an article on Massage and Exercises in the treatment of surgical cases, and a short note signed "A. E." calls attention to a recently issued book by Mr. C. E. Walker on the gametoid

Annotations.

"*Ne quid nimis.*"

A WARNING TO PRACTITIONERS.

THE Registrar of the General Medical Council has addressed a circular letter in the following terms to the licensing bodies, teaching institutions, hospitals, infirmaries, and asylums in the United Kingdom, some 1500 in all:—

> It is very desirable that practitioners should not lose the privileges attaching to registration owing to their names ceasing to appear in the Medical Register. It has been found, however, that many practitioners, not fully appreciating this, especially within a short time of qualifying and registering, fail to give to this office from time to time an address at which official communications will reach them and they thus incur the risk of their names not being retained on the Register. In the interests, therefore, of the practitioners themselves the inclosed notice has been drawn up and I shall be greatly obliged if you will cause it to be displayed in a prominent place in your institution so that it may be brought to the attention of registered practitioners.
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> Yours faithfully,
> H. E. ALLEN, Registrar.

The "enclosed notice" is a glazed card on which are printed the provisions of the Medical Act which enjoin registration on practitioners and rehearse the disabilities to which the disappearance of a name from the Medical Register renders its owner liable. All that is necessary for anyone to remember is to notify the registrar at the branch where registration was effected originally whenever a move is made which will be more than temporary. The chief offenders against this rule are probably young practitioners engaged in a series of resident hospital appointments. It is surely not much trouble to send a post-card when a change of appointment is made.

OFFICIAL ILLNESSES.

LEGISLATION has of late been busy with various forms of sickness or disease, when, that is to say, they affect employees. We are also promised a new and drastic Education Bill, but whether it will deal with the sicknesses to which teachers are liable is, of course, not yet known. The custom nowadays is to make it compulsory for the ratepayers to put their hands in their pockets for most expenses in education, and even where endowed schools exist there is a tendency "to improve" them out of existence. Our pious forefathers not only endowed schools for secular education but also provided for the teaching of religion, and, moreover, acting after that charity which the Apostle declared was the greatest of the three Christian virtues, made provision for the sickness of the teachers, or at least of one of them. Thus, we find in the statutes of "The School of St. Paul," founded by Colet in 1509, the following regulations as regards the Surmaister who was not, be it noted, the head or high master. "In sekenesse curable, as axis,[1] or suych other sekenesse for a time he shall be tollerated and have his full wagis." But the most remarkable statute is the following which shows a large-mindedness such as we doubt any educational authority would show now. "Yf after his commynge he fall sick into sickenes incurable, as Lepry, or Frenche Poxe, or after his long labour in the Scole fall into age ympotent, thenne I commit him to the charite of The Mercers, they of the cofer of the Scole to provide him a lyving as it may be possible, praying them to be charitable in that behalfe." Colet doubtless had a fellow feeling for those who were ill. The statutes for his school received their final shape in 1518 and in that same year he had his third attack of sweating sickness, of which there had been a severe epidemic in 1517. But it would be interesting to know why the "Surmaister" was allowed so much latitude in his ailments.

A ROYAL COMMISSION ON WHISKY.

WE note with satisfaction that a Royal Commission has been appointed to make inquiry upon the whisky question. The *personnel* is a strong one and includes the names of Lord James of Hereford (chairman); Mr. Laurence N. Guillemard, deputy chairman of the Board of Inland Revenue; Mr. Walter Adeney, D.Sc., F.C.S., of the Royal University of Ireland; Mr. J. Rose Bradford, M.D., D.Sc., F.R.S.; Mr. Horace T. Brown, LL.D., F.R.S.; Mr. George S. Buchanan, M.D., medical inspector and inspector of foods to the Local Government Board; Mr. John Y. Buchanan, F.R.S.; and Mr. Arthur R. Cushny, M.D., F.R.S. The terms of reference are:—

> 1. Whether, in the general interest of the consumer or in the interest of the public health or otherwise, it is desirable (*a*) To place restrictions upon the materials or the processes which may be used in the manufacture or preparation in the United Kingdom of Scotch whisky, Irish whisky, or any spirit to which the term whisky may be applied as a trade description; (*b*) to require declarations to be made as to the materials, processes of manufacture, or preparation or age of any such spirit; (*c*) to require a minimum period during which any such spirit should be matured in bond; and (*d*) to extend any requirements of the kind mentioned in the two sub-divisions immediately preceding to any such spirit imported into the United Kingdom.
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> 2. By what means, if it be found desirable that any such restrictions, declarations, or period should be prescribed, a uniform practice in this respect may be satisfactorily secured. And to make the like inquiry and report as regards other kinds of potable spirits which are manufactured in or imported into the United Kingdom.

THE OFFER OF A RECEPTION HOSPITAL FOR ACUTE MENTAL DISEASES IN LONDON.

Dr. Henry Maudsley has made the munificent offer of £30,000 to the London County Council to provide a hospital the main objects of which shall be, in his own words: "(1) The early treatment of cases of acute mental disorder, with the view, as far as possible, to prevent the necessity of sending them to the county asylums; (2) to promote exact scientific research into the causes and pathology of insanity, with the hope that much may yet be done for its prevention and successful treatment; and (3) to serve as an educational institution in which medical students might obtain good clinical instruction." The letter containing the offer was read at the meeting of the council on Feb. 18th, the scheme having already been before the asylums, the finance, and the general purposes committees. The council passed a unanimous vote of thanks to Dr. Maudsley for his offer.

THE GERMICIDAL EFFICIENCY OF LIQUOR CRESOLIS COMPOSITUS.

A CORRESPONDENT writes: "In THE LANCET of August 24th, 1907, p. 544, it was shown that the liquor cresolis compositus of the United States Pharmacopœia was a more efficient germicide than carbolic acid. Another formula for this preparation is given in the German Pharmacopœia differing from the former in containing alcohol. Both contain 50 per cent. by weight of cresol or cresylic acid. The alcoholic preparation has been examined bacteriologically with favourable results by Mr. Ernest Quant.[1] Mr. Quant, adopting the Rideal-Walker method, determined the value of the preparation in terms of carbolic acid. In the case of bacillus typhosus he found that in a solution of 1 in 400 the cresol solution was equal in germicidal power to a 1 per cent. solution of pure carbolic acid. Further experiments were conducted with a 2 per cent. solution of the cresol solution to ascertain what length of time would be required for the destruction of active strains of typhoid and diphtheria bacilli. A series of exposures lasting from one to ten minutes, was made and in every instance the bacilli were killed, thus demonstrating that these organisms may be destroyed by exposure for one minute to a 2 per cent. solution of liquor cresolis compositus."

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[1] Explained as being the *febris accessus* of Pliny, or ague.

[1] *Pharmaceutical Journal*, Dec. 14th, 1907, p. 778.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 22, 1908.

The Sanitary Administration in India.

WE have been long accustomed to keep our readers informed of the progress of sanitary affairs in India and of the chief events in connexion with the work of the Indian Medical Service. The problems resulting from the consideration of these matters have grown greatly in importance during recent years, with the result that lately official opinion in India, and even to some extent in our own country, has been compelled to recognise their gravity, and indeed to consider them as amongst the most vital concerns of the administration of our great Eastern dependency. Truly vital are they in this, that on them hangs the life or death of hundreds of thousands of our fellow beings. Signs are not wanting that this has at last been driven home to the Indian bureaucracy and that it is setting itself seriously to work to promote the sanitary welfare of its country, and especially to combat that awful scourge which for over ten years has raged amongst the people whose destinies are in its keeping. In earnest of this we publish on another page a letter addressed some two months ago by the Secretary to the Home Department of the Government of India to all local governments and administrations under its control, stating its views on the subject of Sanitary Reform in India and asking for their advice and co-operation in the matter. Without considering them in detail at present we may say that the proposed plan seems to us to be laid on a broad and safe basis, but many important decisions must be come to before the best course is made manifest through a sea of conflicting perplexities. In calling attention to this new activity of the Indian Government it must not be considered that we think the sanitary administration in India has been neglected by the officers of the Indian Medical Service who are charged with its actual performance, for only recently we published a refutation of a shameless and anonymous calumny aimed against its members.[1] That service has a record for steady continuous hard work, conspicuous even in India, which has been served by its military and civil officials, working in many spheres and often under most arduous and disheartening conditions, with a loyal devotion of which any country might well be proud. But men, though they be as giants, cannot work miracles, and the task which to-day confronts the sanitary service in India is one with which its administration can hardly cope under present conditions. In support of this opinion the terrible plague problem comes at once to mind. We have dwelt on this matter often and it will be our duty to dwell on it, even to weariness, until by some means its ravages have been stayed. The last available reports received in this country state that from the beginning of last year to the end of October more than 1,100,000 deaths had occurred from plague in India. Plague has not left the country since its outbreak in 1895, and since that year has claimed at least 5,500,000 victims, the lowest yearly mortality during this century having been 274,000 in 1901. Chiefly on this account, but partly from other causes, the death-rate of all India has greatly increased since that year. To face this task we have urged that a special Plague Service is essential, for it is not within the power of the Indian Medical Service to stem that tide without well-organised assistance, however courageously it sets about doing so.

There are other factors which make the sanitary administration of India a task of increasing difficulty. Our methods of rule, including the very existence of that administration, have greatly increased the population with whose needs it must cope. In former days, moreover, we had to deal with enormous masses of people unversed in Western knowledge and ruled by feudal overlords whose education differed widely from our own. Now we have raised up a middle class of young Indians, highly trained in many directions, with a keen appreciation of modern scientific methods and with a growing influence on popular opinion in their country; these men cannot be dictated to on matters of science as though they were an ignorant peasantry, and though their support may be of the greatest value in the sanitary reformation of India, yet they must be honestly convinced of the soundness of our methods and not coerced into accepting them. As will be seen in the circular letter of the Indian Government, it proposes to open up the Sanitary Service as a useful and suitable career for this growing class. Whatever reforms are proposed in the direction of increasing the service, it must be remembered that before the country can derive the fullest advantage from its medical service there are certain grievances to the removal of which its officers are justly entitled and to which we have from time to time called attention, such as the period of their service, the multiplicity of their duties, and the limitation of the emoluments which they may derive from civil practice.

Being thus fully alive to the growing importance of this complex problem we intend to devote an increased amount of space to reports of Indian medical and sanitary affairs in future. We are enabled to do this largely by the courtesy of the governors, lieutenant-governors, and commissioners of the various provinces and the principals of the medical schools of the Indian Empire, who have consented to forward regularly to us the published reports dealing with these matters. Out of a very large pile of figures and facts we hope to present our readers with a digest which will fairly summarise the position of the many matters under the control of the Indian Medical Service, and the first of these articles is published in this issue. Amongst the subjects with which we shall deal will be the administration of hospitals, lunatic asylums, and gaols, the work of medical colleges, the progress of research in bacteriological and pathological laboratories, general sanitary administration, and the measures employed to suppress plague. We hope that of acetic acid. 4. That spirit vinegar should be vinegar obtained wholly by acetous fermentation of a dilute alcoholic liquor which has been obtained by distillation and contains not less than 4 per cent. of acetic acid. Similar definitions are suggested for wine vinegar, cider vinegar, and fancy vinegars. It is further suggested that a system of supervision over the vinegar factories should be organised, a system which would be welcomed by many vinegar makers as a necessary part of any proposal to require the nature of different vinegars to be stated to the public in terms which conform to prescribed definitions.

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[1] THE LANCET, Jan. 4th, 1908, p. 37.

A CASE OF PAPILLOMA OF THE TRACHEA.

ALTHOUGH the trachea may be involved by growths in organs adjacent to it, such as malignant tumours of the œsophagus or of the thyroid body, primary growths of the trachea are of great rarity. Dr. M. Zondek of Berlin records an interesting case in the *Berliner Klinische Wochenschrift* of Feb. 3rd. The patient was a woman, aged 28 years, who for three years had suffered at intervals from soreness of the throat, cough, and difficulty in breathing, usually as a result of catarrhal attacks, to which she was very liable owing to her home being in a cold, damp, marshy district. She never complained of hoarseness at any time. About 15 months before admission to the Jewish Hospital in Berlin she began to suffer from persistent dyspnœa which gradually increased until she eventually had a severe asphyxial attack which lasted for some minutes and was only relieved after the expectoration of a considerable quantity of muco-purulent sputum. On admission the patient was pale, with cyanosed lips, and was breathing rapidly with marked inspiratory stridor. The muscles of the alæ nasi and of the neck were strongly contracted during inspiration but the larynx only moved slightly. The head was held forward and the chin was thrown upwards. The voice was clear and natural but speech was slow and interrupted. This position of the head and this manner of speaking both dated from childhood. On palpation of the trachea it was found to bulge forward slightly on the right side. The thyroid was not enlarged; there were no glandular enlargement and no difficulty in swallowing. The pupils were equal and reacted normally. On laryngoscopic examination a tumour with a rough surface was seen on the anterior wall of the trachea, on the right side just below the vocal cords which appeared to be natural. The tumour appeared to reach so far into the lumen of the larynx that only a small chink was seen between it and the left vocal cord; it did not, however, extend beyond the middle line and did not move either on respiration or phonation. There were no signs of syphilis or of tuberculosis. An endo-laryngeal operation was out of the question, so tracheotomy was performed. The thyroid body was pushed downwards. A large quantity of purulent material escaped from the tracheotomy wound which was then prolonged upwards to the cricoid cartilage. The tumour when exposed was found to be of the size of a walnut and its base of attachment was about the size of a sixpence, its upper margin being a thumb's breadth below the vocal cord. The consistence was soft and there was no infiltration of the surrounding mucous membrane. It was removed by means of a sharp spoon, together with a small part of the adjacent mucous membrane. There was very little bleeding. Recovery was rapid and uneventful. On microscopical examination the tumour proved to be a papilloma. About five months later the patient returned to the hospital and at the site of the operation a tumour of the size of a bean had appeared. This was removed, together with some mucous membrane, by Professor Israel after tracheo-cricotomy. About three years later the patient again suffered from the same symptoms at her home and died under anæsthesia during an operation. The interest of the case lies in its rarity and in the characteristic nature of the symptoms, demonstrating an obstructive condition of the main air passage not involving the cords. Owing to the peculiar carriage of the head and the interrupted speech Dr. Zondek is of opinion that the tumour originated in childhood. The condition is thus comparable to the laryngeal papillomata which occur in children.

THE REEK OF THE CIGAR.

SMOKING nowadays is commonly tolerated in the house, and even in the drawing-room a cigarette is sometimes permitted. The smoking of a cigar, pleasant though it may be to the smoker, and however irreproachable its quality, is banned by most careful housewives in their *sancta sanctorum* because its reek is so persistent. The stale smell of cigar smoke in a room is peculiarly unpleasant and peculiarly difficult to get rid of. It clings to the curtains and to most of the articles of furniture which present any sort of an absorbent surface. It is not so to the same extent with cigarettes or with pipes. In the case even of a single cigar books, papers, and textiles reek of its stale flavour and the room requires abundant airing before that flavour is completely eliminated. Air is an excellent scavenger but ozone is more active in removing the smell. The effect may be traced to the fact that the smoking of a cigar produces a larger quantity of pungent aromatic oils than does the smoking of a cigarette or pipe. In the case of the cigarette oils are probably burnt even if they are formed, in the pipe they condense in the stem, while in the case of the cigar they are probably for the most part discharged into the air. In the form of a cigar tobacco would appear to produce more oils than in the form of a cigarette or when burnt in a pipe. Such common observations are not without hygienic significance. Pyrridine, the most poisonous oil produced in the semi-combustion of tobacco, is an abundant product in cigar smoking, as it is also in the pipe, but in the latter there is condensation while in the former there is little or none. In the cigarette, so intimately in contact with the air is the burning portion that the production of distilled oils is, comparatively speaking, trifling. The symptoms of tobacco-smoke poisoning are not necessarily due to nicotine; they are more often due to pyrridine, or poisoning from tobacco tar oils. The tobacco heart is more often traceable to free indulgence in cigar smoking than to a similar indulgence in the pipe and the cigarette. Young boys can smoke—to their great damage, nevertheless—a considerable number of cigarettes or even pipes, but an equivalent in cigars more than satisfies their tobacco appetite so soon are the toxic effects of cigar smoking made apparent to them. The danger of excessive cigarette smoking is that though no marked symptoms may be manifested or experienced, yet in the long run decided harm is done and a dangerous habit, akin to "nipping," is cultivated which it is often found very hard to abandon.

HIRUDIN AND BLOOD GASES.

THAT the blood flowing from the bite of the leech does not coagulate has long been known and has been attributed to the action of a material secreted by the salivary glands of that animal. The advantages which it offers in the investigation of the gaseous exchange of the organs of the body by preventing clotting are obvious and have recently been made the subject of a research (recorded in the *Journal of Physiology*) by Mr. J. Barcroft and Mr. G. R. Mines who have set themselves the task of determining whether it produces any alteration in the gases of the blood. The quantity of the active principle, hirudin, prepared for them in Leipsic, which they injected was 0·2 gramme report of a committee appointed by the Council in last July to consider a reference in the following terms—namely, "Whether the London hospitals should be advised to take joint action with a view to insuring the purity of their milk-supply." The committee has had the advantage of very expert evidence in its deliberations, as it consulted several large distributors of milk on the one hand and medical officers of health and analysts on the other. It finds that the practice at present prevailing in 12 hospitals is to require from the milk contractors certain percentages of total solids and fat in the milk supplied; one hospital has no form of milk tender at all, whilst eight, in addition to the percentages, require the notification of the farms of supply and also the periodical certification of the health of the cows from which their milk is derived. The committee recommends the constituent hospitals of the council, which represents all the larger London hospitals, to require their respective contractors to agree to the following conditions which it is advised are fair and reasonable :—

1. That the milk shall be pure, genuine, with all its cream as yielded by the cow, absolutely free from any and every kind of adulteration (including preservatives), and shall be of such quality as will, between the months of August and January, both inclusive, produce at least 3·5 per cent. of butter fat, and for the remainder of the year 3·25 per cent. of butter fat.

2. That the milk shall be supplied from a farm or farms whose name or names and locality are to be notified by the contractor to the hospital.

3. That it shall be permissible for an authorised representative of the hospital to visit and inspect such farm or farms and the herds there at any reasonable times.

4. That the cows supplying the milk shall be in a good state of health and that the contractor shall give the hospital a certificate by a veterinary surgeon to that effect in the annexed form* without cost to the hospital in the first instance, and shall give subsequent certificates whenever required by the hospital at the hospital's expense.

5. That the milk shall be strained and cooled to the temperature of cold water, not exceeding 60 degrees, at the farm, and there canned and sealed with a die to be supplied by the hospital, and that all cans shall be dust and rain-proof.

6. That the contractors shall guarantee the cleanliness of the milking operation and of the men's hands and of all receptacles into which the milk is put, all of which receptacles shall be properly cleansed with a solution of boiling water and soda.

7. That the cans shall not be opened in transit except at the London railway station by the public sanitary inspectors and if so opened shall be immediately re-sealed for delivery to the hospital and shall in every case be delivered direct from the London railway station to the hospital.

8. That the milk shall not be pasteurised or treated otherwise than as mentioned in Clause 5 without the written sanction of the hospital authorities.

The percentage of butter fat insisted on is rather above the average amount found in London milk and even above that yielded by many cows, but it must be remembered that for most of the children in the hospitals and for many of the acutely ill, especially in such cases as those affected with enteric fever, milk forms the staple of the diet, and therefore milk of quality above the average is not unreasonable. The last section of the report recommends certain precautions outside the contracts to be observed by the hospitals, the chief of which is the securing of the coöperation of the medical officers of health of the districts in which the farms are situated in supplying reports of their sanitation and the freedom from infectious disease of their employees. It advises at least one weekly analysis of the milk, made on irregular days, and suggests the joint employment by a group of hospitals of an inspector to visit the farms. It is further suggested that the contracts should be framed with a summer and winter price for the milk instead of with an average all the year round price. The committee is of opinion that in view of the serious interests involved the risk of a slight increase in price which these more strict conditions will entail may be justifiably incurred, and with this opinion we are in complete concord. The committee has been well advised to make its conditions such that any well-equipped farm can reasonably comply with them. The aim in the imposing of the above conditions has been to insure not merely the delivery of milk of a high quality as regards the percentage of its important constituents but also the absence of harmful substances, whether accidentally present or added with a view of preventing decomposition. It will be noticed that no bacteriological test is suggested; the reason for this omission is that the committee recognised the difficulty of applying any such test; the avoidance of the presence of harmful micro-organisms must be insured, not by occasionally looking for them in the milk but by the maintenance of hygienic conditions in the farms whence the milk comes and amongst those engaged in the milking.

It is, however, not enough to lay down elaborate conditions under which the milk is to be produced and delivered; it is essential that by inspection the maintenance of these conditions should be assured. One of the constituent hospitals has for several years required that the farms whence its milk comes shall be liable to inspection by a representative from the hospital, but on no single occasion has any farm been visited. It is very harmful to lay down stringent conditions without taking care that these conditions are maintained, and it may well be that worse milk is supplied than if no conditions had been imposed, for the more conscientious milk providers will gradually be shut out and will cease to tender. For if a milk provider knows that the conditions will never be enforced, and if he be not perfectly scrupulous he will be able to underbid those who fully intend to carry out the letter of their tenders, and therefore the milk supplied will be worse than the conditions imply. It is of the first importance, therefore, that any condition inserted in a tender should be enforced by the hospital authorities and this requires not only that the milk supplied should be periodically tested at the hospital but also that the farms, the cows, and the *personnel* of the farms should be periodically inspected. An individual hospital could not afford to employ regularly an inspector, but if all the hospitals in London were to combine the cost of inspection need not be great. The visits must be fairly frequent and at irregular intervals if they are to be really useful. It is possible that the Central Hospital Council might serve to organise such an inspection. The quantity of milk consumed by the hospitals in London must be so enormous that they should be able to carry out great reforms in the methods of production and supply of milk, and indirectly to improve the quality of the milk obtained by London.

WESTON-SUPER-MARE HOSPITAL.—On Jan. 21st a ward containing a single bed was formally opened at this hospital by the Rev. Prebendary Salis in the presence of a large gathering. The ward is called the "Poole Ward," as the late Mr. E. Poole bequeathed £1200 to endow the bed.

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* This paper contains a form for the veterinary surgeon's report on the cows, an undertaking to be signed by the contractor not to supply milk from any animal found to be diseased, and on the back a blank form for the description of the disease of such animals and of their treatment.

is of the sclerous type, i.e., of slow evolution and compatible with prolonged survival. In the words of Professor Landouzy, "The little finger of a patient tells his past, shows his temperament, and foretells his future."

PLAGUE ON THE GOLD COAST.

IN another column of this issue there will be found an advertisement from the Colonial Office stating that six medical men are wanted for plague duty on the Gold Coast. The terms as tersely put in the advertisment are, "six months' engagement, free passages to and fro, travelling expenses paid, camp equipment and tents provided; pay £50 a month," while experience in plague duty is naturally desired. The forms of application may be obtained before March 7th from the Assistant Private Secretary, Colonial Office, Downing-street, S.W. The decision of the Government to send extra medical help to the Gold Coast must not be taken to indicate that the outbreak has reached alarming dimensions. On the contrary, with the exception of a few cases at a small coast town called Brewa, the disease is still confined to Accra where it began early in January. The latest reports give a mortality of one, two, and three a day, and since the beginning the mortality has never exceeded six in one day. As has been already announced in our columns, Professor W. J. R. Simpson, M.D., was despatched to Accra with an assistant at the beginning of the year, and very energetic measures have been taken; but the available medical staff is felt not to be sufficient to enable a close watch to be kept over the various towns on the coast which are at present free from infection, but where, as a measure of precaution, it is very desirable to have competent observers stationed so as to detect at the outset any cases or suspected cases of plague. Hence the demand for special officers is a valuable preventive measure, and we trust that the Government will have no difficulty in obtaining what is sought.

DEAR BUTTER.

THE substantial advance in the price of pure butter will come as a hardship to many families. Accounts are more or less conflicting as to the causes which have led to the increased price, but two factors have been mentioned as responsible, one of which is a shortage in the supply, and the other fresh legislation in regard to the sale of butter substitutes. We are inclined to attribute the rise in price entirely to the new Butter and Margarine Act which came into force on the first day of this year. If we are right in this view, then the conclusion is inevitable that enormous quantities of foreign fat have been sold in the past as genuine butter. The new Act, in short, is the death-blow to this dealing, and the fact that the supply of genuine butter has become short is significant. The effect should be a great stimulus to the genuine butter industry and we have little doubt that the demand for genuine butter will be more than adequately met as the position is accepted. Meanwhile the public need not suffer any shortage in regard to that most important element in diet, namely, fat. It may be true that genuine butter fat is the most digestible of all fats, but there can be little doubt that many of the substitutes are nearly if not quite as good in this respect. Margarine, cotton-seed and other vegetable oils, and dripping are perfectly wholesome and palatable substances and afford good human food. It is no argument against their use for dietetic purposes that certain of them have been employed wherewith to adulterate butter. The question never has been that these substitutes were injurious or unfit for food; it was purely one of misrepresentation. They were sold entirely or in part as butter when they were not butter, and that fact alone has created a prejudice against them as articles of food—a prejudice which we hope will disappear now that the sale of the genuine article has been placed on a satisfactory basis. We welcome this new Act because it is an Act calculated to make things what they seem, and the present dear price of genuine butter will, we are inclined to think, be only temporary.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

H.R.H. the Prince of Wales, at the suggestion of the Executive Committee of King Edward's Hospital Fund for London, has decided to appoint a committee to inquire into the system prevailing in the London voluntary hospitals with regard to the admission of out-patients. We learn this fact with pleasure, for provided that the committee be well chosen its pronouncement upon the best way of dealing with the acknowledged troubles of hospital abuse might be regarded in some sort as authoritative. The evils of hospital abuse are many and are not apparently on the decrease, but great difference of opinion exists, even among those who have studied the problems most closely, as to the direction in which remedy should be sought, this difference being equally present whether the right of the sick poor or the wrongs of the exploited medical profession are under consideration. We are informed that in view of the fact that some portion of the subject of inquiry by such a committee would probably fall within the subjects to be reported upon by the Royal Commission on the Poor-laws the committee will not be appointed until that Commission has reported.

The Department of Public Health of Queensland, in a bulletin dated Jan. 11th, states that no case of plague in man has occurred since Jan. 1st. The Acting Governor of the Gold Coast, in a telegram received at the Colonial Office on Feb. 13th, states that the total number of deaths from plague at Accra for the three days ending Feb. 12th were 5. The new cases numbered 6. Further telegrams received respectively on Feb. 14th and 15th state that 1 death occurred from plague at Accra on Feb. 13th and 1 on Feb. 14th. No fresh cases had been notified.

AS we have already announced, the 135th anniversary dinner of the Medical Society of London will take place at the Whitehall Rooms, Hôtel Métropole, London, on March 11th, under the chairmanship of the President of the society, Dr. J. Kingston Fowler. Applications for tickets should be made to the honorary secretaries, Dr. F. J. Poynton and Mr. T. H. Kellock, 11, Chandos-street, Cavendish-square, W.

FAVOURED for the greater part of his short visit with good weather for the time of year, His Majesty the King derived great benefit from his week's stay at Brighton. His Majesty's personal assurance that he had benefited by his stay has been made public, as well as his hope to pay another visit to Brighton.

Mr. Charters J. Symonds delivered the second Lettsomian Lecture for 1908 before the Medical Society of London on Feb. 17th, the President, Dr. J. K. Fowler, being in the chair. This lecture will be published in THE LANCET in a future issue.

CREMATORIUM FOR ST. PETERSBURG.—The president of the sanitary committee has submitted his report to the St. Petersburg town council in favour of the establishment of a crematorium in the town to be used with due regard to the interests of justice and in fulfilment only of the testamentary instructions of such deceased persons as may have decided to be cremated.

SUNSHINE AND RAINFALL DURING 1907.

—	Total number of hours sunshine.	Difference from average.	Days with rain.	Total fall.	Difference from average.
				Ins.	Ins.
East Coast (England).					
Scarborough...	1433	*	173	22·7	−5·6
Whitby...	1551	*	150	22·0	−3·7
Hull...	951	*	185	24·3	−1·0
Skegness...	1739	*	201	21·5	*
Cromer	1667	*	215	22·0	*
Lowestoft	1719	*	172	21·4	−2·5
Felixstowe	1725	*	154	20·3	*
Clacton	1729	*	150	16·7	*
South Coast (England).					
Margate	1523	+ 83	172	20·4	−2·3
Broadstairs	1739	*	171	22·7	*
Ramsgate	1735	*	—	—	*
Folkestone	1733	*	155	19·2	−8·2
Hastings	1823	+ 20	177	23·3	−5·8
Eastbourne	1848	+109	177	25·4	−4·5
Brighton	1691	− 40	155	20·6	−7·0
Worthing	1721	*	158	21·8	−5·2
Bognor	1809	*	155	23·6	*
Bournemouth	1790	*	163	31·0	*
Southampton	1729	+ 44	182	32·3	−0·1
Totland Bay	1756	*	163	25·8	−2·3
Ventnor	1736	+ 13	176	24·2	−5·4
Torquay	1739	+ 8	201	33·2	−1·0
Plymouth	1655	+ 5	226	36·3	+0·4
Falmouth	1563	−223	220	45·1	−0·5
Guernsey	1850	− 45	192	34·0	−3·6
Jersey	1839	− 83	211	25·5	−5·6
Scilly	1523	−223	221	28·5	−4·4
West Coast (England and Wales).					
Newquay	1580	− 27	211	30·9	−4·1
Tenby	1643	− 43	—	—	—
Pembroke	1574	− 63	223	37·2	+2·1
Aberystwyth	1538	*	—	—	—
Aberdovey	1458	*	221	41·0	*
Llandudno	1540	+ 84	223	25·3	−4·5
Rhyl...	1640	*	211	24·2	−1·8
Hoylake	1493	*	206	28·3	*
Southport	1474	+ 8	205	32·6	−0·3
Blackpool	1520	+111	217	35·3	−0·5
Carnforth	1558	*	229	43·0	*
Douglas, Isle of Man... ...	1524	− 86	214	44·0	+1·7
Places Inland.					
Durham	1333	+ 16	157	24·6	−2·4
Newcastle	1022	− 44	183	25·2	−2·2
York...	1255	− 11	211	25·6	+0·3
Huddersfield...	1058	*	231	35·5	*
Belvoir Castle	1545	*	227	25·5	+0·4
Sheffield	1423	*	233	31·6	−1·0
Aspatria	1579	*	211	43·0	+4·0
Stonyhurst	1181	−175	220	50·0	+3·2
Prestwich	1157	+ 3	223	40·4	+3·4
Manchester City...	894	*	224	35·9	−1·3
Birmingham...	1105	*	173	27·9	+1·5
Nottingham	1250	*	157	23·5	−1·3
Cirencester	1575	+ 67	175	23·9	−1·8
Harrogate	1354	*	220	34·1	+4·6
Cheltenham	1602	*	174	28·0	+1·4
Bath...	1674	*	157	32·3	+1·8
Tunbridge Wells...	1635	+ 47	173	28·5	−1·0
Llangammarch Wells ...	1273	*	255	46·9	*
Bettws-y-Coed	1222	*	227	45·9	*
Oxford	1521	+ 23	175	25·9	+1·9
Cambridge	1454	− 45	189	21·2	−1·5
Rothamsted	1556	+ 23	210	25·3	−2·6
Marlborough...	1354	− 42	183	29·3	−2·5
London District.					
Westminster	1234	+ 93	152	19·5	−4·9
Bunhill Row, E.C.	1153	+ 43	—	—	—
Greenwich	1417	− 85	153	22·3	−1·8
Tottenham	1424	*	149	23·8	—
Norwood, S.E.	—	*	153	23·0	−1·9
Kew	1453	− 4	152	23·6	−0·2
Scotland.					
Edinburgh	1173	+ 22	†197	29·7	+7·0
Strathpeffer	1191	+ 3	213	29·0	−3·2
Fort Augustus	957	+ 63	233	42·0	−2·5
Glasgow	1012	− 83	224	42·6	+3·9
Nairn	1323	*	233	25·7	+4·0
Aberdeen	1400	− 1	211	28·7	−2·0
Ireland.					
Dublin, Trinity College ...	1225	*	195	26·7	*
Birr Castle	1245	−135	186	33·9	+0·9
Armagh	1233	− 57	187	31·6	−0·3
Markree	1221	− 45	223	46·2	+3·2
Valencia I.	1333	−124	253	52·8	−5·7

* No trustworthy average.

† This rainfall is for Leith.

The figures above represent the number of hours of bright sunshine, the number of days with rain (at least 0·01 inch), and the aggregate fall for 1907. All the figures have been published by the Meteorological Office and the sunshine values have been obtained by the burning recorder known as the Campbell-Stokes instrument. Along the east coast the sunniest spot was Skegness with 1739 hours, followed closely by Clacton-on-Sea, Felixstowe, and Lowestoft; and on the south coast the brightest resort was Eastbourne, with an aggregate of 1848 hours. This resort was, with the exception of Guernsey, the sunniest place in the Kingdom, although Jersey, Bognor, and Hastings were not far behind. In the south-west of England none of the resorts equalled Torquay with its total of 1739 hours, while in the north-west the brightest place was Rhyl with 1640 hours. Among the inland localities the brightest was Bath, with 1674 sunny hours, followed by Tunbridge Wells with 1635 hours, while the dullest was Manchester, with no more than 894 hours. In the metropolitan district Kew received about three-quarters of an hour per day more sunshine than the City, but the City station, Bunhill-row, had more than three quarters of an hour per day more than Manchester. The mean daily difference between the City and Eastbourne was nearly two hours, while the mean difference between the two extremes, Eastbourne and Manchester, exceeded two and a half hours per day. It will be seen that most places in the south-west, and also those in Ireland, had less sunshine than usual, and that the greatest plus differences from the average were at Blackpool and Eastbourne. Referring to the rainfall it will be observed that Clacton-on-Sea was the driest place, with less than 17 inches of rain, and that inland the driest place was Westminster, where the total was 19·5 inches. Over the country as a whole the rainfall was almost identical with the normal, but most places in the south and east were drier than during an average year.

WHAT IS VINEGAR?

SOME interesting information on the preparation and sale of vinegar in relation to the administration of the Sale of Food and Drugs Acts is contained in a recently issued report to the Local Government Board by Dr. J. M. Hamill. It appears that various questions relating to alleged adulteration and misdescription of vinegar have been brought to the notice of the Board from time to time by vinegar manufacturers, public analysts, and others. Dr. Hamill in the course of his inquiry has visited the works of some 20 important firms of vinegar makers in London and the provinces and also those of smaller manufacturers of different kinds of vinegar. He has also gained information from public analysts, chemical advisers of vinegar brewers, acetic acid importers, and others. The view of many vinegar makers and public analysts is that a set of official definitions is demanded, and the following suggestions are made: 1. That vinegar or brewed vinegar should be a product obtained wholly by the alcoholic and subsequent acetous fermentation of a saccharine fluid obtained from malted barley, unmalted cereals, grain, or sugar, and should contain not less than 4 per cent. of acetic acid (in malt vinegar, in addition, the saccharine fluid should be obtained either wholly from barley malt or from a mixture of malted and unmalted barley, together with such proportions of additional substances as may from time to time be permitted by official regulation). 2. That artificial vinegar should be any vinegar or substitute for vinegar containing any added acetic acid which is not wholly the product of alcoholic and subsequent acetous fermentation and should contain not less than 4 per cent. of acetic acid. 3. That distilled vinegar and distilled artificial vinegar should be respectively the products of distillation of vinegar and artificial vinegar and contain not less than 4 per cent.

From this examination there were certain indirect results that are worthy of note. For instance, we learn that children, not necessarily consumptive, were found to be suffering from physical defects which either interfered with school progress or were likely seriously to influence the future life of the children, and for these medical treatment was enjoined. Many cases of heart trouble, greatly enlarged tonsils or adenoids, and carious teeth were thus detected and placed under treatment. As to the actual returns respecting the two schools above specified, out of 1670 children examined, signs in the lungs that would justify a diagnosis of tuberculosis were found in *eight cases only*. In 14 other children slight signs were found—prolonged expiratory breath sounds, or dry fine crepitation at the margin of the lungs—which might possibly be due to tuberculous infection. Even if these are included as actual cases of tuberculous disease, the percentage of possible pulmonary tuberculosis reaches only 1·3 per cent. There is a further small proportion in which enlarged veins on the chest suggest the possibility of enlargement of bronchial glands due to tuberculous changes, but without any evident lung affection. Nearly three-fourths of the children examined presented enlargement of the cervical lymphatics and over 40 per cent. had enlarged tonsils.

Within the administrative County of London there are at the present time 23 invalid schools containing about 1800 physically defective children. These children are daily conveyed to and from school in 35 ambulances and 11 omnibuses, and their conveyance to school as well as their care there are provided for by the employment of 24 nurses. The admission of an invalid or crippled child to these schools is permitted only after medical examination. In most cases the decision as to whether or not a child is fit for admission is an easy matter. But there is clearly an advantage in securing for special cases the opinion of an expert surgeon. It is necessary to have regard to the possible future of the child in each particular case. Some children would be the better for gentle exercise or work suited to their strength, whilst for others absolute rest is a necessity. During the past year Mr. R. C. Elmslie has carefully examined every case on admission to school with manifest advantage to the children under his care. He has examined more than a thousand children in 15 "physically defective" centres, and has noted in each case the nature of the disease or defect, the prevalence of active disease or of deformity, and the efficiency of any treatment adopted. Of these cases in the aggregate 80 per cent. began before the age of seven years and 67 per cent. below five. Of the spinal cases 72 per cent. occurred before the fifth year of life, whilst of the hip cases 64 per cent. occurred between the ages of two years and six. In the large majority of cases of tuberculous disease of the spine the onset of the disease occurs quite early in life, somewhere between the second and the fifth year. Tuberculous disease of the hip-joint is evident at a somewhat later age than spinal caries. The age distribution of tuberculous disease of the knee-joint is much more even than that of the two preceding forms of infection, the disease appearing for the most part about equally in each year of the first nine. Of the 83 cases observed two were bilateral, in 27 of which the disease was active and in 54 inactive. Very interesting particulars are given of the results of tuberculous bone disease, as regards deformity, crippling, &c., but for these reference must be made to the report itself.

SANITARY REFORM IN INDIA.

I.

AN important letter has been recently addressed by the Secretary to the Government of India, Home Department, to all local governments and administrations upon the subject of sanitary reform. We reproduce it verbatim and hope that our readers will appreciate the fact that a grand effort is now being made to improve the public health of our enormous Eastern Empire:—

1. I am directed to address you on the important subject of the improvement of the sanitary services in India and the development of the present establishment on lines which will bring it abreast of modern requirements.

2. The history of sanitary administration in India was reviewed in the Home Department Resolution of Sept. 8th, 1904, in which the appointment of a Sanitary Commissioner with the Government of India was announced. That resolution concluded with the expression of a hope that, with the assistance of the Sanitary Commissioner's advice and in consultation with local governments, substantial progress might in the course of time be made towards a complete reorganisation of the Sanitary Department. The Governor-General in Council is of the opinion that the time has come when an endeavour may be made to realise expectations and I am accordingly directed to offer for consideration the following suggestions regarding the nature and direction of the advance which should now be made.

3. The administrative machinery of the sanitary department is already, in most respects, fairly complete and efficient. Additional deputy sanitary commissioners are probably needed in some provinces, and I am desired to request that the question of increasing their numbers may be borne in mind. These officers are at present recruited *solely* from the Indian Medical Service, and though that arrangement must probably continue for some little time, the Government of India are disposed to think that the appointment should not be reserved exclusively for officers of that service, but should be open also to the medical officers of health referred to below. And they are further of the opinion that no officer of the Indian Medical Service should be appointed a deputy sanitary commissioner, unless he is of less than seven years' service and has secured a degree or diploma in public health. The latter condition would be applied to all candidates whether members of the Indian Medical Service or not.

Sanitary Boards.

4. Another part of the administrative machinery which has been developed in different degrees and has attained positions of varying usefulness in different provinces is the Sanitary Board. The Government of India believe that these boards are beneficial in emphasising the importance of the subject of sanitation, in correlating sanitary schemes with administrative exigencies, and in securing direct discussion between sanitary experts and those who are in a position to appreciate and represent the attitude of the general population. They are disposed to think that the Board should consist of from three to five members, including a senior officer of the Civil Service, who is in close touch with the local administration, the sanitary commissioner, and the sanitary engineer as experts, and one or two natives of India, preferably non-officials. If the chief engineer and the head of the Provincial Medical Service are placed on the board the local government is deprived of the independent expert advice which it requires when dealing with the board's recommendations. The functions of these boards have hitherto been mainly advisory, but it is possible that they might be so constituted as to be able to relieve local governments of much work of minor importance. I am directed to suggest that the question of the constitution and powers of the sanitary board should be examined and to request that the Government of India may be favoured with your opinion and proposals upon this question.

Medical Officers of Health.

5. Turning now to the executive establishment the first defect that forces itself upon the attention is the inadequacy of the staff of medical officers of health. The Presidency towns and a few other cities have such officers, but speaking generally the civil surgeon is the only health officer of the towns in a district. It is often difficult for him to give sufficient attention to the sanitary requirements even of the headquarters town. It is quite impossible for him to do more than make an occasional inspection of other towns. A complete and qualified staff of sanitary experts is a necessary preliminary to any substantial improvement of sanitation. If reforms are to be planned on right lines and carried out with efficiency and economy the work cannot be left in the hands of officers who have only a general knowledge of the subject and whose time is largely occupied by other duties.

6. The Indian Plague Commission of 1900 recommended that a special European medical officer of health should be attached to every town which contains a population of 100,000 inhabitants, and that one European assistant health officer should be provided for each additional 100,000 inhabitants. The Government of India consider that the standard of population suggested is reasonable and moderate. They are of opinion, however, that it is unnecessary and even inexpedient to require that all these health officers should be Europeans. A sanitary service offers a suitable and

for every five kilogrammes of body-weight of the animal, the strength of the solution being about 1 per cent. It was found in some preliminary experiments that hirudin has no specific effect on the gases in drawn blood. When subcutaneously injected it was found that the oxygen in the arterial blood rose to a variable extent whilst the carbonic acid fell. The respiration was quickened, an effect that followed quickly upon a considerable fall in the blood pressure. The fall in blood pressure is consequent upon dilatation of the peripheral vessels in the visceral area and presumably elsewhere. Cerebral anæmia is thereby caused and consequently increased respiration. The increased respiration decreases the amount of carbonic acid in the blood to a slight extent and tends also to increase the oxygen. If hirudin be injected too rapidly death may occur.

THE LATE DR. W. S. PLAYFAIR.

THE sum of £1000 has been collected among the patients and friends of the late Dr. W. S. Playfair and is to be presented to King's College Hospital with a view to erect a memorial to him at the institution with which he was so long associated. In view of the eminent services rendered to the hospital in the past by Dr. Playfair, and in deference to the wishes of his family, it has been decided by the removal fund committee to devote this money to the building and equipment of an appropriate department of the new hospital shortly to be erected at Denmark-hill, this department to be named after him and to bear an inscription recording his 35 years' work at King's College Hospital.

A DEPILATORY FOR USE BEFORE SURGICAL OPERATIONS.

IN the *Journal de Médecine et de Chirurgie Pratiques* a formula is given for preparing a depilatory for use before operations. It consists of sodium monosulphide, 1 part; calcium oxide, 1 part; starch, 2 parts; and sufficient water to form a stiff paste. The longer hairs are removed with scissors and then, after washing the patient thoroughly, the paste is spread in a uniform layer with a spatula. After five minutes the paste is removed by means of a sterile swab of cotton and the skin is washed freely with sterile water to remove the alkali.

THE LOCKING OF MILK CHURNS.

THE proposal of the London County Council in a clause in its General Powers Bill to examine samples of milk at railway stations in its area is to be petitioned against by the East Sussex County Council. The London authority is anxious to trace the origin of any unwholesome milk that may arrive in the metropolis but the rural authority objects to the proposed power on the score of the possible hardship to the farmer. Many hours frequently elapse from the time when the farmer places the milk in a train at a country railway station and its process of being doled out at one of the London termini. Is the farmer to be responsible for the milk in the interim? The East Sussex County Council at its meeting on Feb. 11th replied in the negative. It asks that the particular clause may be amended by providing that the person producing or consigning the milk shall not be liable if he can prove that the milk contained no matter rendering it unwholesome or unfit for the food of man when so produced or consigned. To some extent the object of the farmer could be surmounted by the lids of the churns being locked during transit. This would prevent any possible tampering either during the railway journey or on the platform at any station, except by some authorised person. The general practice, as was pointed out over and over again in a series of articles which appeared last year in our columns dealing with the subject of the railway transport of milk to London, is not to lock up the churns: the contents are accessible to anyone—and anything that comes along. Of course, locking the churns would not obviate the harm that may occur through delay in transit, but it would stop much gross defilement.

"CAMPTODACTYLIA."

IN a clinical lecture delivered at the Charité Hospital in 1885 and in an article which appeared in the *Presse Médicale* of April 21st, 1906, Professor Landouzy has described under the name of "camptodactylie" (καμπτός, bent, and δάκτυλος, finger) a condition of permanent and irreducible inflexibility of one or several fingers which develops gradually without pain or inflammation and affects only the interphalangeal joints, never the metacarpo-phalangeal. The palmar fascia is intact and the ends of the bones do not present nodosities. At a meeting of the Société Médicale des Hôpitaux of Paris on Jan. 10th M. Ch. Lesieur read an important paper on camptodactylia which, he said, might be unilateral or bilateral. When unilateral the right hand is the more frequently affected; when bilateral the condition most frequently commences in this hand and predominates there. Usually only one finger is affected, even in the bilateral form, and that finger is nearly always the little one. When more than one finger are affected the fingers involved are the little and ring, sometimes the little, ring, and middle fingers; the index participates only exceptionally. When several fingers are involved the little finger is always the most affected, the ring finger less, and the middle finger least. Each affected finger may be inflexible at one interphalangeal joint or at both joints. In the first case the deformity forms a more or less obtuse angle; in the second the finger has the aspect of a hook formed by a line broken at two points corresponding to the joints. It also may happen that the second phalanx is flexed on the first and the third extended on the second. A pathognomonic characteristic of camptodactylia is its irreducibility: extension of the finger is limited by the degree of the deformity and the impression is given of tension of the flexor tendon. On the other hand, there is no obstacle to flexion, and in some cases this movement shows adhesion of the retracted tendon to the overlying skin. Even when marked, camptodactylia does not interfere with the use of the hand. Professor Landouzy regards camptodactylia as a stigma of "neuro-arthritism" and due to some functional disturbance at the confines of the cervical and dorsal region of the spinal cord. But M. Lesieur thinks that the condition has some causal relation to tuberculosis for the following reasons: Camptodactylia resembles the retraction of the tendo Achillis which has been observed in tuberculous ulcers of the leg. In the condition termed by French writers "tuberculous abarticular rheumatism" fibrous tissue is involved. Finally, camptodactylia clinically resembles contraction of the palmar fascia, which some French writers regard as tuberculous. M. Lesieur therefore investigated 100 cases of camptodactylia. In these 87 of the patients were avowedly tuberculous, seven probably tuberculous, and six appeared to be free from the disease. But of the last group several gave a family history of tuberculosis and the greater number showed slight lesions, such as acrocyanosis which is regarded as a tuberculide. In the 87 cases of avowed tuberculosis the lungs were affected in 78, the lymphatic glands in 23, and the bones in seven. In most of the tuberculous cases the lesions were of attenuated virulence, with a tendency to sclerosis, progressing for the most part towards cure or even already cured. Thus camptodactylia is of great use both in diagnosis and prognosis of tuberculosis. It is possible to say that a patient is tuberculous simply by examination of his fingers, for camptodactylia is a stigma of tuberculosis. In prognosis it is equally useful; it shows that the tuberculosis and festivals. Their services would further be valuable in connexion with measures against plague and other epidemics. If a supply of trained men is brought into existence local bodies should be encouraged to avail themselves of it for services of this nature, but in most provinces it is probably undesirable to go farther than to require that where sanitary inspectors are employed none but trained men should be appointed.

Sanitary Engineers.

13. The question of providing an efficient staff of sanitary engineers has been engaging the attention of the Government of India for some time and the conclusions at which they have arrived will be announced in a separate communication. The matter is mentioned here only in order to give an assurance that its great importance in connexion with the subject of sanitary advancement has not been overlooked.

14. I am directed, in conclusion, to request that the various suggestions which have been put forward in this letter may be considered and that after consulting such official and non-official opinion as may seem desirable you will favour the Government of India with an expression of your views upon the whole subject. The Government of India would like at the same time to learn what specific action you propose to take in order to give effect to the accepted policy of sanitary improvement.

Postscript (to Madras only).—The Governor-General in Council is aware that there already exists in Madras a body of trained sanitary inspectors and that rules regarding their employment and remuneration have been issued by the local Government. Much of the foregoing discussion of this subject is, therefore, inapplicable to the circumstances of that Presidency. On the other hand, the experience gained there will be valuable in dealing with the questions under consideration and the Government of India hope that the Governor in Council will favour them with an account of the Madras system, together with his opinion on the value of the results obtained and the direction in which amendment may be desirable.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 13th, MR. HENRY MORRIS, the President, being in the chair.

The SECRETARY reported the death of Mr. William Allingham, past member of the Council. The following motion was carried:—

That the Council hereby express their sincere regret at the death of Mr. William Allingham and their sympathy with the members of his family. The Council do also record their appreciation of Mr. Allingham's services to the College while Member of Council and their regard for the skill and ability which won for him a prominent position among the surgeons of the time.

It was resolved to issue diplomas of Membership to 66 successful candidates. It was also resolved to issue, in conjunction with the Royal College of Physicians of London, diplomas in Public Health to 12 successful candidates.

The Council then proceeded to the election of the Conservator of the Museum, and from the candidates, all of whom were zoologists, the Council selected Mr. Arthur Keith, M.D. Aberd., F.R.C.S. Eng., lecturer on anatomy and Curator of the Museum at the London Hospital Medical School.

At the last annual meeting of Fellows and Members the following motion was carried:—

That the President and Council of the Royal College of Surgeons be asked to use their moral influence with hospital authorities to recognise Members of the College (who are also in almost all cases Licentiates of the Royal College of Physicians) as having equal rights with Provincial, Scotch, and Irish graduates to become candidates for hospital appointments.

In accordance with the report of the committee which had been considering this resolution the Council decided to send the following memorandum to the hospitals in England and Wales:—

Attention having been called to a regulation in force at some hospitals, under which the ordinary pass degree of any British University is accepted as qualifying for appointments on the staff, whereas the diplomas of *M.R.C.S. Eng.* and *L.R.C.P. Lond.* are not so accepted, the Council of the Royal College of Surgeons of England desire to point out the injustice of this regulation to Diplomates of the two Royal Colleges. In the first place the Council would call attention to the fact that since the introduction of the five years' curriculum the course of professional study required at the universities has not been longer than that required by the Colleges. Moreover, statistics recently compiled by a committee of the General Medical Council show that the average course of study in England is longer than that in Scotland or Ireland, and the inference is drawn by the committee that this difference is due to the regulation of the Royal Colleges in England which guarantees for the subjects of the final examination an uninterrupted period of study of two years from the date of the completion of the intermediate examination.

With regard to the standard of examination, the Council maintain that the examinations in professional subjects, which candidates for the diplomas of the Royal Colleges in England are required to pass, are not less exacting than those required for the pass degrees of most universities. In support of this contention the Council would point to the marked success of the diplomates of the Royal Colleges in England at the examinations for the Royal Navy Medical Service, the Royal Army Medical Corps, and the Indian Medical Service. (See below.)

The Council believe that, in many cases, the regulation in question was made at a time when there were not more than four universities in England, and when the conditions for obtaining the degrees of those universities were in some respects more exacting than those imposed upon candidates *for the diplomas of the two Royal* Colleges; but, having regard to existing conditions, they are of opinion that, in all cases in which those holding only the pass degree of a university are accepted as eligible for staff appointments, the same privilege should be accorded to those who hold the diplomas of *M.R.C.S. Eng. and L.R.C.P. Lond.*

The Council therefore trust that the authorities of hospitals in England and Wales, who make this distinction between diplomates and graduates, will see their way to modify a regulation which affects unjustly many who have studied and qualified in London, where the clinical advantages for medical and surgical education are unsurpassed and places them at a disadvantage with those who have graduated in Scotland, Ireland, and elsewhere.

Analysis of Returns as to the Examinations for the Medical Department of the Royal Navy, the Royal Army Medical Corps and the Indian Medical Service during the five years 1903-07, compiled from Tables presented to the General Medical Council.

	Passed.	Re-jected.	Per-centage passed.
M.R.C.S. Eng. L.R.C.P. Lond.	344	32	91·5
English University Graduates	103	12	89·5
Irish University Graduates	153	25	85·9
Scottish University Graduates	162	40	80·1
L.S.A. Lond.	14	5	73·6
Indian and Colonial University Graduates	16	9	64·0
Irish Conjoint Diplomates	76	46	62·2
Scottish Conjoint Diplomates	50	42	54·3

The foregoing statistics are compiled from the results of 27 examinations, and the high position in order of merit obtained by the diplomates of the two English Royal Colleges is shown by the following table:—

First place gained by	M.R.C.S. Eng. L.R.C.P. Lond.	18 times in 27 examinations
Second	" "	20 " " "
Third	" "	14 " " "
Fourth	" "	15 " " "
Fifth	" "	16 " " "

It was resolved that the Royal College of Physicians be informed that the Council is preparing to issue a circular to Fellows and Members of the Royal College of Surgeons of England asking their opinion as to whether or not it is desirable that women should be admitted to examination for the diplomas of the College, and that pending the result of this inquiry it is not proposed by the Council to take any further steps with regard to the petition from the London School of Medicine for Women. The following is the circular to the Fellows and Members:—

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DEAR SIR,—The Council, although they have decided that it is desirable to admit women to examination for the Diploma of Member, and although they have power to act upon this opinion, are anxious, in accordance with a resolution passed at a meeting of the Council on May 9th, 1907, to obtain the views of the Fellows and Members on the matter.

In regard to the corporate position of women if the diplomas of the College be granted to them, the Council have taken legal opinion and are advised that, while under the Medical Act of 1876 (39 & 40 Vict. Ch. 41) women can be admitted as Members or as Fellows, no woman so admitted would thereby be entitled to take any part in the government, management, or proceedings of the College.

It is hoped that you will answer the questions on the accompanying post card, and return the card at your early convenience. In order to give time for the arrival of replies from the colonies and other distant localities, the poll will be kept open until the day of , 1908.

Voting Card.

	Answer.
A. In your opinion is it desirable that women should be admitted by examination as Members of the College.	
B. In your opinion is it desirable that women, after admission to the Membership, should be admitted by examination as Fellows of the College.	

(Please answer YES or NO.)

Dr. J. Ward Cousins was reappointed the representative of the College on the Central Midwives Board.

ANNUAL REPORT FOR 1906 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.[1]

III.

IF justification were required of the policy of the London County Council in combining under one authority the administrative functions of public health and elementary education, it is difficult to conceive how this could have been more completely accomplished than by the publication of the comprehensive and instructive report that lies before us.

The second appendix to this report is from the pen of Dr. James Kerr, the Council's medical officer for education. This report shows that, as regards the metropolis, a good beginning has been made to give effect to some of the chief recommendations of the Duke of Devonshire's Committee on Physical Deterioration. It will be remembered that one of the most important of these recommendations was that a medical examination should be made as to the mental and physical condition of every child on admission to an elementary school. Even a cursory reading of this report will suffice to indicate that a very serious amount of mental as well as of physical defect has been discovered among children in attendance at those of the London schools which have already been medically examined. To some of these we propose very briefly to allude.

It will surprise no one to hear that supreme importance is attached by the education authority to the medical inspection of the very youngest children—the "infants," as they are technically classed. It is at the earliest ages that slight defects or diseases have a profoundly modifying influence on the future; and it is of special importance that children of from three to five years should be examined in order that the beginnings of tuberculous bone and joint diseases amongst others may be detected, and thus permanent crippling may in all probability be avoided. With the staff at present at the department's disposal detailed examination is impracticable, but an attempt has been made by sampling to ascertain what medical inspection of infants really means and what it is likely eventually to lead to when effectually carried out. For this purpose examination was made by Dr. E. M. Niall of 14 schools, varying from the slum areas of Vauxhall, through the artizan areas of Lambeth, to the better class districts of Brixton and Norwood. The effect of environment appears at once from the fact that the survivors of the slum children at the age of five are as a rule sturdier and quicker than the more carefully nurtured children who have not been exposed to hard climatic conditions, but who on the other hand appear to present larger numbers of dull and backward children with anæmia, nasal obstruction, and glandular troubles. Two neighbouring schools, Lollard-street and Walnut Tree Walk, presented respectively the highest and the lowest number of defectives. Lollard-street, the school with the highest proportion (27 per cent.), is in a poor district abounding in fried-fish shops. Many of the mothers are wage-earners, returning home late at night too tired to look after the children. As might have been anticipated, semi-starvation and home neglect are factors in these unhealthy surroundings. The high percentage of defectives in this school was due in part to the presence of large numbers of children below the average in mental ability in one of the classes—a dullards' class containing 47 per cent. of children with some obvious defect. It is for such a class as this more particularly that early medical inspection is imperatively necessary, for by this means many cases of corneal ulceration, marginal blepharitis, incipient ophthalmia, and otitis may be detected and presumably remedied. Very harmful are what are designated "dirt conditions," especially in relation to the eyes, nose, and ears, ulceration of the corneal surface often leaving permanent damage. In many cases the parents will do nothing, even when asked by the teachers. These "dirt" inflammations in children of debilitated constitution are the chief conditions of slum schools.

But Dr. Kerr is careful to remind us that general medical inspection must eventually lead to the establishment of "school clinics" for treatment in ways which he takes pains to define. Without such treatment mere medical inspection is, in his judgment, incomplete and generally means time and trouble wasted. Most of these cases are neglected. Some few are attended to at hospital, but generally this is unsatisfactory and of late very many cases have been refused treatment.

If individual medical inspection of school children becomes general, we are warned that all the hospitals in London would not provide for the treatment of one-tenth of the children that would require treatment for diseases of the eyes, ears, and teeth alone. In order to cope with these cases Dr. Kerr suggests that the question of school clinics ought to become a subject of careful inquiry and as a question of elementary education should receive the early consideration of the County Council. To anyone fairly conversant with the untoward conditions normally obtaining among the infant denizens of our slum neighbourhoods it will occasion no surprise that of all the morbid conditions revealed by medical examination of school children by far the most important are those in which tuberculosis in one or other of its forms plays a prominent part. In the course of an investigation concerning the prevalence of tuberculosis in elementary schools Dr. Annie C. Gowdey reported on the condition of the spinal column of more than 400 young girls at Addison-gardens school. Of these girls, whose ages varied from six to 16 years, not less than 64 per cent. showed more or less abnormality. Very many of these girls had "round backs," whilst the scapulæ of not fewer than half of them were reported to be "growing out," with or without some lateral curvature. Unless the state of matters at this school be exceptionally bad, and if the condition of the children there is typical of what obtains among school children of the same age elsewhere, it is obvious that further investigation is required with a view of obviating some of the incidents of school life which, at this school at any rate, appear to have produced deplorable results. Dr. Kerr comments on the excessive prevalence of deformity of the back among girls as compared with boys, and points out that this is due to some specific cause, such, e.g., as a want of regular development of the trunk muscles induced by various constrictions and supports in the way of binders and corsets. Meantime, he suggests the desirability of directing the attention of teachers who superintend drill to the many causes that have been assigned for this condition, such as the imperfect lighting of schoolrooms, the habit of sitting cross-legged, and of standing with the weight of the body constantly resting on one leg.

The examination of girls in the secondary schools has also been carried out on a limited scale during 1906. In so doing Dr. Janet M. Campbell found it possible to conduct inquiry respecting the general physique of the girls with more detail than was possible in the case of the elementary school children before referred to. Out of 604 girls examined, 138 showed definite lateral curvature. Definite osseous deformity, not admitting of correction, was presented by seven of these girls, their ages being from 15 to 22 years. In all the other cases the deformity could be made to disappear by changes of posture. These girls migrate, for the most part, from the elementary schools, and their average standard of physique is not high. As they have all been previously examined medically, many defects had already been remedied. Of the 138 girls with spinal curvature, 10 were above and 37 were below the average in general physique.

Exaggerated and even alarmist reports having appeared from time to time to the effect that pulmonary tuberculosis is excessively prevalent among children of school age, the medical officer has very usefully addressed himself to the task of ascertaining how far children at school age are really affected with pulmonary tuberculosis, and also how far they are likely to be a danger to others. It should be premised that in the metropolitan schools there has long existed the salutary regulation that whenever a child is supposed to be suffering from consumption, and especially if he coughs and expectorates, he is forthwith excluded from school. Teachers similarly affected are likewise excluded for at least 12 months. The risks of infection from persons obviously suffering from pulmonary tuberculosis are therefore believed to be small. In order to ascertain by careful medical inspection the extent to which children of school age are actually suffering from pulmonary tuberculosis, the boys and girls, 1670 in number, in attendance at two large schools situate in Latimer-road and Addison-gardens respectively, were examined and the results tabulated for the present report.

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[1] Previous notices of this report appeared in THE LANCET of Jan. 25th, p. 250, and Feb. 8th, 1908, p. 445.

congenital syphilis, small-pox, enteric fever, meningitis, fits, mumps, &c. The effects of these, if still traceable, should be recorded.

3. State if any case of, or death from, phthisis, &c., in family.

4. Note backwardness.

5. Age to be stated in years and months, thus $5\frac{4}{12}$.

6. Insufficiency, need of repair, and uncleanliness should be recorded (good, average, bad).

7. Without boots, standing erect with feet together, and the weight thrown on heels and not on toes or outside of feet.

8. Without boots, otherwise ordinary indoor clothes.

Height and weight may be recorded in English measures if preferred. n annual report, however, the final averages should be recorded in both English and metric measures.

9. General nutrition as distinct from muscular development or physique as such. State whether good, normal, below normal, or bad. Under-nourishment is the point to determine. Appearance of skin and hair, expression, and redness or pallor of mucous membrane are among the indications.

10. Cleanliness may be stated generally as clean, somewhat dirty, dirty. It must be judged for head and body separately. The skin of the body should be examined for cleanliness, vermin, &c.; and the hair for scurf, nits, vermin, or sores. At the same time ringworm and other skin diseases should be looked for.

11. General condition and cleanliness of temporary and permanent teeth, and amount of decay. Exceptional features, such as Hutchinsonian teeth, should be noted. Oral sepsis.

12. The presence or absence of obstruction in the naso-pharynx is the chief point to note. Observation should include mouth-breathing; inflammation, enlargement, or suppuration of tonsils; probable or obvious presence of adenoids, polypi; specific or other nasal discharge, catarrh, malformation (palate), &c.

13. Including blepharitis, conjunctivitis, diseases of cornea and lens, muscular defects (squints, nystagmus, twitchings), &c.

14. To be tested by Snellen's test types at 20 feet distance (= 6 metres). Result to be recorded in the usual way—e.g., normal V. = $\frac{6}{6}$. Examination of each eye (R. and L.) should, as a rule, be undertaken separately. If the V. be worse than $\frac{6}{6}$, or if there be signs of eye strain or headache, fuller examination should be made subsequently. *Omit vision testing of children under six years of age.*

15. Including suppuration, obstruction, &c.

16. If hearing be abnormal or such as interferes with class work, subsequent examination of each ear should be undertaken separately. *Apply tests only in general way in case of children under six years of age.*

17. Including defects of articulation, lisping, stammering, &c.

18. Including attention, response, signs of overstrain, &c. The general intelligence may be recorded under the following heads: (*a*) bright, fair, dull, backward; (*b*) mentally defective; (*c*) imbecile. *Omit testing mental capacity of children under six years of age.*

19. Under the following headings should be inserted particulars of diseased conditions actually present or signs of incipient disease. The extent of this part of the inspection will largely depend upon the findings under previous headings.

20. Include heart sounds, position of apex beat, anæmia, &c., in case of anything abnormal or requiring modification of school conditions or exercises.

21. Including physical and clinical signs and symptoms.

22. Including chorea, epilepsy, paralyses, and nervous strains and disorders.

23. Glandular, osseous, pulmonary, or other forms.

24. State particular form, especially in younger children.

25. Including defects and deformities of head, trunk, limbs. Spinal curvature, bone disease, deformed chest, shortened limbs, &c.

26. Including any present infectious, parasitical, or contagious disease, or any sequelæ existing. At each inspection the occurrence of any such diseases since last inspection should be noted.

27. Any weakness, defect, or disease not included above (e.g., ruptures) specially unfitting child for ordinary school life or physical drill, or requiring either exemption from special branches of instruction, or particular supervision.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on Feb 13th, Dr. F. H. CHAMPNEYS being in the chair.

Medical Men v. *Midwives.*

The Standing Committee reported that a letter from the clerk of the Council transmitting a copy of a letter from the Local Government Board inclosing a letter from the executive committee of the Rural Midwives Association in regard to the question of the training of midwives, and the possibility of the grant of State aid in respect thereof, had been further considered. A letter from the clerk of the Council transmitting a copy of a memorandum addressed to the Secretary of State for the Home Department by Canon Dobell on the subject of the supply of midwives in rural districts was further considered at the same time. The committee reported that it had considered and settled a reply drafted by the chairman, and recommended that the same be sent to the Privy Council. The Board considered the letter which was discussed without being read *in extenso.* Dr. Champneys, in the course of his remarks, observed that there had been tension between medical practitioners and midwives in many parts of the country for some years. That condition of things must be recognised and a remedy must be found. If practitioners liked to coöperate with midwives more than they did there would be a *modus vivendi* found. Dr. Champneys also said he was not proud of the attitude of a large number of the members of the medical profession in the matter and quoted from a nursing journal some remarks alleged to have been made by a medical practitioner whose name Miss R. Paget said she could produce. Mr. E. Parker Young stoutly maintained that it should be widely known that the Midwives Act was unworkable. The medical profession had on all sides and by all manner of means shown that the Act was unworkable. The remedy was to pay medical men an adequate sum when they were called in on the advice of midwives. The Government must be put in full possession of all the facts of the case. If the Government was going to do any good it must take action in the matter. The Government was greatly to blame for not grappling with the difficulty.

The Board decided to send the letter to the Privy Council and the following is a copy kindly supplied for publication by the Board:—

CENTRAL MIDWIVES BOARD.

Caxton House, Westminster, London, S.W.,
Feb. 15th, 1908.

SIR,—I am directed to advert to your letter of the 12th December, 1907, transmitting a copy of a letter from the Local Government Board inclosing a letter from the executive committee of the Rural Midwives Association in regard to the question of the training of midwives and the possibility of the grant of State aid towards the cost of such training. These matters have now received the careful consideration of the Board and I am to forward to you for the information of the Lord President the observations of the Board on the questions raised in your letter.

With regard to "the number of midwives likely to be available on April 1st, 1910, their distribution in urban and rural districts, to what extent the supply will probably fall short of the requirements, and how the deficiency is to be made good," the Central Midwives Board has not hitherto considered that these questions fall within the scope of the Act, "to secure the better training of midwives and to regulate their practice," although many of its members who are interested in the larger question of the care of the poor mothers of England and their infants have taken part in movements with that object. The Board is, however, glad to do what it can towards the solution of the difficulties, and is earnestly considering the subject with a view to making recommendations at an early date. The returns of the local supervising authorities under Section 8 (5) of the Midwives Act, 1902, are the only data from which the Board can ascertain the approximate number of practising midwives and their distribution in the urban and rural districts. These returns are now coming in, and it is hoped that by March the Board will be in possession of tolerably complete information as to the number of midwives practising in England and Wales at the present time. But in taking these figures as the basis of an estimate of the number likely to be available on April 1st, 1910, it must be remembered that undoubtedly a large number of uncertified women still practise as midwives. There are no means available of ascertaining to what extent the total number of practising midwives will be affected by the fact that these uncertified women will be debarred from legitimate practice after March 31st, 1910.

As regards the opinion of Mrs. Hobhouse quoted in your letter, but not otherwise within the knowledge of the Board, it may be well to inform the Lord President that that lady no doubt refers to the action of the Board in removing the Cottage Nurses' Home, Kingswood, Bristol, from the list of recognised training schools. This institution has neither a visiting nor a resident medical staff and its work is purely extern. It is situated about three miles from Bristol, in which city the Board recognises two training schools, the Royal Infirmary and the General Hospital. Mrs. Hobhouse was interested in the Kingswood Nurses' Home and warmly supported its application for approval as a training school. After considerable discussion the Board granted its approval in March, 1905. Dr. James McMurray was appointed lecturer to the pupil midwives and training was carried on under these conditions until June, 1906. Dr. McMurray then resigned his post and the pupil midwives received their theoretical training from Dr. W. C. Swayne, professor of midwifery at University College, Bristol. This course met with the approval of the Board, but as Dr. Swayne was a recognised teacher there was no longer any necessity for the recognition of the Kingswood Nurses' Home in order to enable training to be carried on there. The Board accordingly, on the revision of the list of training schools in April, 1907, removed the name of Kingswood Nurses' Home. This in no way interferes with the training at the home, which continues under precisely the same conditions as before the name was removed from the list. 21 candidates were sent up from the home while it was a recognised training school. Of these, 13 passed and 8 failed. Since the change was made the number of candidates has been 13, with 11 successes and 2 failures, the percentage of failure falling from 38 to 15.

The opinion as quoted alleges that the Board (*a*) has "raised the standard of examination," (*b*) has "lengthened the syllabus," (*c*) has "refused to recognise several old-established training schools." As regards the first, (*a*), the standard aimed at by the Board has always been strictly limited to such knowledge as it would be dangerous for a midwife to lack. It must be remembered that imperfect instruction is one of the objections alleged against midwives, especially by members of the medical profession. The Board has always endeavoured to restrict the scope of its examinations to this standard, and these are visited by many members of the Board, including the chairman, who makes a rule of being present if possible at every examination. To require less than is now required would not, in the opinion of the Board, be safe. As regard the second, (*b*), "lengthening the syllabus," the Board does not quite understand the meaning of the phrase, as there has been no "syllabus" in existence to lengthen. But possibly it may mean much the same as (*a*), and, in such case, the answer of the Board would be congenial career for educated natives of the country, and by fully utilising this source of supply the Government will avoid the expense of materially enlarging the Indian Medical Service or of importing specially trained officers from England for the present. At least it will be necessary to insist upon a training in Europe as a qualification for employment, as the experience gained thereby would be wider and more valuable than could as yet be obtained in India. A health officer who has undergone such a training and is at the same time possessed of an intimate acquaintance with the customs and prejudices of the people would be singularly well equipped for the difficult and delicate duties connected with sanitation in India. He would on the one hand have the best scientific knowledge available, and he would on the other be able to avoid arousing that opposition which the application of Western sanitary science to Eastern conditions too often excites. The Governor-General in Council does not suggest that the combination of these qualities is not found in European officers or that it will always be found in natives of India. He knows that the contrary is the case. He proposes, therefore, that the new appointments shall be open to both classes alike, but on grounds of economy preference would naturally be given to Indian candidates when men with the necessary qualifications are forthcoming.

7. For towns with a population between 20,000 and 100,000 a medical officer of health will also ordinarily be necessary, but financial considerations will render it compulsory to accept a somewhat lower standard of scientific attainments than that prescribed for the larger cities. These appointments may, the Government of India think, be recruited from natives of India of the civil assistant surgeon class, who on the completion of their medical training have taken a special course in public health at one of the medical colleges. The appointment of such an officer may not be necessary for every town of the class referred to, and where the head-quarters town of a district is small it will probably be possible to combine the appointment of health officer with the medical charge of the district. In that case it will probably be desirable that the civil surgeon should be chairman of the sanitary subcommittee where there is one.

8. The Government of India are advised that it should be laid down as an inviolable rule that a medical officer of health should not be allowed to undertake private practice. Although a small amount of such medical work might not interfere with the performance of the health officer's proper duties, yet if private practice is once allowed it is impossible to put a limit to it and it is, therefore, best to forbid it altogether. This restriction will necessitate the salaries of health officers being fixed on a more liberal scale than would otherwise be required, but the advantage of securing the officers' whole time and undivided energies far outweighs the somewhat problematical economy that might be effected by permitting private practice.

Sanitary Inspectors.

9. The subordinate supervising staff of the Conservancy Establishment also calls urgently for improvement. In most towns there is an official whose functions resemble those performed by an inspector of nuisances in England. Except in the presidency towns, however, and in the Madras municipalities, it is very rare to find in this position a man who has any technical knowledge of his subject. The Government of India are assured that one of the most crying needs of municipal sanitation in India is a body of men fit to undertake the duties of sanitary supervision, which are performed by inspectors of nuisances in Great Britain. It is urged that medical officers of health will not and cannot be expected to undertake work of this subordinate character and that the existing establishments of untrained supervisors and overseers are not able to give the health officer the assistance which he has a right to demand. If this assistance is denied, many petty and irksome duties will be imposed on the health officer, and suitable men will not be obtained for that office. Just as a trained subordinate acts as a link between the executive engineer and the working labourer, so a trained subordinate is required by the executive sanitary officer. It is imperative, therefore, that measures should be taken without delay to remedy this defect in the administration. The strength of the establishment required will depend not on the population alone but on other local circumstances also. In the large cities a trained inspector will probably be needed for each sanitary division, with perhaps a chief inspector in addition. For other towns the number of inspectors required will vary with the population, the area, and sanitary condition. In many a single officer will ordinarily prove sufficient.

10. The training of these sanitary inspectors is a question which will require very careful consideration. The standard required should be that prescribed by the Royal Sanitary Institute, with whom arrangements could no doubt be made for the issue of certificates to successful candidates. If that is thought desirable the course of instruction should embrace lectures in elementary physics, physiology, general hygiene, and minor sanitary engineering. Admission to the courses of instruction should be confined to candidates who have passed some examination not lower than the school final or the university matriculation examination and are of good physique, satisfactory character, and suitable caste and social status, the consideration to be borne in mind in fixing this last qualification being that a sanitary inspector must be able to move freely among all classes of the population. To attract men of the right stamp it will be necessary to offer good pay. A scale of salaries rising from Rs. 50 to Rs. 150 will probably prove suitable in most provinces.

Advantages of Certainty of Tenure.

11. There remains the important question whether the medical officers of health and sanitary inspectors should be formed into a regular provincial sanitary service, or whether each local authority should be allowed to recruit its own staff independently. The objections urged against the latter course are: (1) that a career which is limited to employment by local authorities on uncertain terms and without prospect of pension will not attract candidates of the right stamp if, indeed, it attracts candidates at all; and (2) that the insecurity of tenure of appointments under local authorities will tend to deter young men from qualifying themselves for such appointments. The duties of a sanitary officer will of necessity often bring him into conflict with members of the local authority or their relatives, and if he is merely the servant of the board or council he will either neglect his duty in such cases or perform it at the risk of losing his post. On the other hand, it is argued that the creation of a provincial service of sanitary officers will conflict with one of the main principles of local self-government and it is urged that in no branch of local administration is local control so necessary as in matters connected with sanitation. The Government of India could not agree to any proposal which did not leave to the local authority the control of its executive officers, whether of the sanitary or any other establishment. On the other hand, they are convinced that in the case of the sanitary officers certainty of tenure during good conduct must be assured. How this can best be secured is a question upon which the Governor-General in Council would like to have the opinions of local governments. It is not necessary to insist upon uniformity of treatment and arrangements which are expedient in one province may not be so suitable in another. The creation of a provincial service offers one solution, and for the purpose of attracting candidates this is probably the best solution. When a member of such a service held a post under a local authority he would be in a position corresponding to that of a member of the subordinate medical service in the employ of the municipal or district board. An alternative to the creation of a provincial service is for the Government to prescribe: (1) the minimum number of sanitary appointments for each local authority; (2) the minimum salary to be given to the incumbent of such appointments; and (3) the professional qualifications to be required of incumbents. This would possibly afford a prospect of employment sufficiently good to induce candidates to undergo the qualifying course of instruction. To secure fixity of tenure it would be necessary to provide that no medical officer of health or sanitary inspector should be removeable from office without the sanction of the local Government in the case of the former or of the Sanitary Commissioner or perhaps the Sanitary Board in the case of the latter. Regulations somewhat similar to these exist in England and Scotland and are necessary to secure the employment of properly qualified men and to guarantee protection against arbitrary treatment in retaliation for the fearless and efficient performance of duty.

12. The Government of India do not propose to discuss at present the thorny question of sanitation in rural areas. Assistant health officers are probably necessary in some districts and trained inspectors would often, no doubt, be useful to local boards to undertake special inspections or to provide sanitary measures on special occasions, such as fairs

scattering of the drop of moisture which, I understand, the closing of the lid brings on to the eye. For the figures themselves, most of which are wholly new to me, I can offer no more explanation than for those which come in dreams.

Having lost one sense and suffered diminution of others a man may feel some misgivings as to intellectual power and consequently I consulted an expert who is among my bedside visitors on this matter. To him I recited Prop. 5 of the First Book of Euclid, the wooden horse episode from Virgil commencing "Timeo Danaos," and also excerpts from poets, politicians bygone and present, and also answered his questions. In the end he seemed to consider that the mind was quite clear and the memory unusually so.

Both the doctors attending me agree that the spinal cord is affected and that this is due to over-exertion. Both of them have large experiences and practices, and have further told me that the reason of my lasting out so well is largely due to the cheerful view I have taken of what is considered a singularly distressing situation. This testimony as to the value of cheerfulness makes me desirous to use the gift, if possible, in aid of fellow-sufferers and to suggest that the patient, no matter how great the pain he suffers, has a duty to the medical man and to the nurse who may be attending him. Both of these have their own share of human ills to suffer and it does not require great intelligence to understand that a harassed and often overworked medical man finds it a great effort to conjure up the pleasant and hopeful smile with which he usually meets his patients. The sight of a man or woman making a good effort to be patient under extreme pain and to show some slight consideration for those around them has a beneficial effect on all who witness it and was the last lesson taught from Calvary. Perplexed and grievously assailed by misgivings as a man must be who struggles for a living in the dark, the writer has never doubted the advice given him by one who has been honourably mentioned in THE LANCET—to try to get some good out of the malady for himself and others. Neither has he doubted that the Hand which struck the blow gave also the ability to take it cheerfully.

As a press reporter and in another capacity I have frequently heard the medical opinion that a strong faith, however rugged, in the unfailing goodness of the Creator greatly helps the sick to bear pain patiently and even to meet death smilingly. Such a belief, then, must necessarily greatly help the medical man in his beneficent work and for this reason alone, if for no other, is worth fostering. It is a belief coming through home and school education, both of which institutions are necessary to the proper teaching of religion. From a forecast of the Education Bill shortly to be introduced it is clear that if it becomes law most of our children will stand a great risk of being deprived of this curative and comforting belief. It seems fit, therefore, that one who greatly honours the medical profession and has so often witnessed the good done by its members should entertain a strong hope that they will find the time to object to any attempt being made to make the bed of the sick and dying less comfortable.

MEDICINE AND THE LAW.

Voice-Production.

AFTER a prolonged hearing an action has been concluded in which a plaintiff named Horspool sued Dr. W. H. Cummings, president of the Incorporated Society of Musicians and principal of the Guildhall School of Music, for slander. Mr. Horspool claims, or claimed, to have devised a system of voice-production for singers and is the managing director with a salary of £1000 a year of a company (joined with him as plaintiffs in the action) formed for the carrying out of his system, the advertisements of which company had formed the subject of forcible observations by Dr. Cummings at a meeting of the Incorporated Society of Musicians at Buxton in January, 1907. The gist of Dr. Cummings's observations may be gathered from that portion of the plaintiff's statement of claim, which said that the words spoken meant "that Mr. Horspool was an impudent quack and that he had duped and imposed upon the public and that he carried on a fraudulent and dishonest business." The defence resolved itself into the question whether the words used were "fair comment upon a matter of public importance." The judge ruled that the matter was one of public importance and the jury, satisfied that the comment was fair, found a verdict for the defendant who is to be congratulated upon the result thus achieved. The methods adopted by the plaintiff with a view to produce perfection in the singing voices of those desirous of attaining such perfection need not be recapitulated, but it is interesting to note the use made by him of the fact that he had submitted 20 of his pupils to examination by Mr. Milsom Rees before and after they had been under his tuition. He claimed that Mr. Rees had been struck with astonishment at his discovery, saying, "It is wonderful. What you have shown me would surprise a layman, but it is even more extraordinary to a doctor." In spite of this alleged admiration on the part of a medical witness whose evidence, if favourable, would have been of considerable value to him, the plaintiff did not call Mr. Rees as a witness, but the defendant's legal advisers, with what Mr. Justice Darling described as "an amount of courage which some advocates would consider recklessness," had served him with a subpœna, and calling him into the witness-box proceeded to examine him without having any "proof" of what answers he would give to their questions. The bold course thus taken was justified, for in the circumstances the plaintiff and his counsel could not do otherwise than absolve the witness from any obligation of professional reticence without laying themselves open to inferences which would have been almost as damaging as the evidence actually given. Mr. Rees had no recollection of having ever expressed wonder or admiration, and his evidence must have contributed not inconsiderably to the defendant's ultimate success. As a matter of fact, the result of his second examination had been to show that in three cases out of the 20 there had been rupture of the ligaments of the vocal cords due apparently to excessive tension produced by the plaintiff's methods, and he was able to point out various absurdities in the measures alleged to have been adopted for cultivating the voice, some of them based upon ideas as to the anatomy of the organs involved which he characterised tersely as bosh. Expert evidence was also given on behalf of the defendant by Mr. H. H. Hulbert, lecturer on voice-production to the London County Council and at the University of London. His testimony, and also that of Mr. Rees so far as it consisted of expert evidence, was directed towards pointing out the absurdity of the plaintiff's promise to produce results in themselves impossible and to explaining that it was equally impossible that the treatment which he professed to apply should have any effect approximating to that which he claimed for it. A feature in the case frequently to be observed in trials of a similar character consisted in the calling of witnesses who, no doubt in good faith, testified to benefits which, they alleged, had been derived by them from the treatment advertised. It is, however, natural that those who fancy that they have been benefited should proffer their evidence rather than that those who believe themselves to have been deceived by false hopes should come forward and admit their aspirations and their disappointment.

ASYLUM REPORTS.

Roxburgh, Berwick, and Selkirk District Asylum (Annual Report from May, 1906, to May, 1907).—On May 15th, 1906, there were on the register of this asylum 331 patients (149 males and 182 females), including both private and parish cases. During the year 74 patients (47 males and 27 females) were admitted, and of these 11 were private patients. Dr. J. Carlyle Johnstone, the medical superintendent, reports that on the completion of the extensions and alterations which are at present being carried out in the asylum there will be ample accommodation for all cases of insanity occurring in the district for the care and treatment of which a reasonable sum can be paid and for a considerable number of persons of moderate means from other counties. £40 a year is the rate charged for private patients from the district and £45 for cases from other parts of the country; but patients in straitened circumstances who are settled in the district are received at lower rates when satisfactory proof is furnished that the full rate cannot be paid. Hereditary predisposition to mental disorder was found to exist in 43 of the cases admitted. The physical condition of the patients was good or average in 11 per cent., bad in 82 per cent., and very bad in 7 per cent., more than

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from these diseases in the other towns ranged upwards, however, to 2·9 in Oldham, 3·1 in Hanley, 3·3 in Sunderland, and 4·7 in Merthyr Tydfil. The fatal cases of whooping-cough in the 76 towns, which had been 190 and 192 in the two preceding weeks, declined last week to 154; they caused annual death-rates, however, equal to 1·8 in Oldham, 1·9 in Aston Manor, 2·1 in Ipswich, 2·5 in Rotherham, and 3·0 in Sunderland. The 78 deaths from measles exceeded the number in the previous week by seven; the highest rates from this disease were 1·1 in Salford and in Swansea, 1·5 in Hanley, and 2·7 in Merthyr Tydfil. Of the 47 fatal cases of diphtheria, showing a considerable decrease from the numbers in recent weeks, 18 occurred in London and its suburban districts, five in Manchester and Salford, and three in Cardiff. The 40 deaths from scarlet fever included 16 in London, two in West Ham, three in Liverpool, and four in Manchester and Salford. The 26 deaths referred to "fever" showed a slight increase; the four fatal cases in Norwich were equal to an annual rate of 1·7 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the ten preceding weeks from 5581 to 3867, had further fallen to 3806 on Feb. 15th; during the week ending on that day 473 new cases were, however, admitted to these hospitals, against 380, 405, and 433 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined in the four preceding weeks from 499 to 395, rose again to 451 in the week under notice, and exceeded by 79 the corrected average number in the corresponding week of the five years 1903-07. The causes of 59, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Manchester, Salford, and in 44 other smaller towns. Ten uncertified causes of death were, however, registered in Birmingham and in Liverpool, and three each in Sheffield, Gateshead, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 22·3 and 23·5 per 1000 in the two preceding weeks, declined to 21·4 in the week ending Feb. 15th, but exceeded by 2·8 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 14·3 and 17·4 in Aberdeen and Greenock, to 22·9 in Glasgow and 29·6 in Perth. The 755 deaths in these eight towns showed a decline of 72 from the high number returned in the previous week, and included 114 which were referred to the principal epidemic diseases, against 142, 123, and 132 in the three preceding weeks; of these, 55 resulted from measles, 18 from whooping-cough, 18 from diarrhœa, eight from "fever," eight from diphtheria, seven from scarlet fever, but not one from small-pox. These 114 deaths were equal to an annual rate of 3·2 per 1000, which exceeded by no less than 2·0 the mean rate last week from the same diseases in the 76 English towns. The 55 fatal cases of measles showed a decline of nine from the number returned in each of the two previous weeks, and included 47 in Glasgow and three in Edinburgh and in Aberdeen. Of the 18 deaths from whooping-cough, fewer by 14 than those in the previous week, 11 were returned Glasgow and two both in Edinburgh and in Leith. The 18 deaths attributed to diarrhœa exceeded the numbers in recent weeks; 11 occurred in Glasgow, two in Dundee, and two in Leith. Of the eight deaths referred to "fever," seven were certified as cerebro-spinal meningitis and one as enteric fever; these eight deaths included five in Glasgow, two in Paisley, and one in Edinburgh. Five of the eight fatal cases of diphtheria were returned in Glasgow; and the seven deaths from scarlet fever included three in Glasgow and two in Paisley. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 179 and 171 in the two preceding weeks, rose again to 176 in the week under notice, and exceeded by seven the number from the same diseases in the corresponding week of last year. The causes of 28, or 3·7 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had declined in the four preceding weeks from 31·2 to 22·3 per 1000, rose again to 24·7 in the week ending Feb. 15th. During the first seven weeks of the current quarter the death-rate in the city averaged 26·4 per 1000, whereas the mean rate during the same period did not exceed 18·1 in London and 19·7 in Edinburgh. The 187 deaths of Dublin residents registered last week showed an increase of 18 upon the number in the previous week, and included three which were referred to the principal epidemic diseases, against nine, six, and four in the three preceding weeks; these three deaths included one each from measles, diphtheria, and whooping-cough, no death being registered either from scarlet fever, "fever," diarrhœa, or small-pox. These three deaths from epidemic diseases were equal to an annual death-rate of but 0·4 per 1000, the death-rate from the same diseases last week being 1·1 in London and 1·3 in Edinburgh. The 187 deaths from all causes in the city last week included 30 of infants under one year of age and 60 of persons aged upwards of 60 years; the deaths of infants showed an increase, while those of elderly persons were fewer than in any recent week. Four inquest cases and four deaths from violence were registered during the week, and 76, or 40·6 per cent., of the deaths occurred in public institutions. The causes of six, or 3·2 per cent., of the deaths in the city last week were not certified; in London the causes of all but two of the 1752 deaths last week were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·6 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 8·4 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 13·6, 11·4, and 9·1 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, Chelsea, the City of Westminster, St. Marylebone, Hampstead, and the City of London; the highest rates were Hackney, Bethnal Green, Stepney, Poplar, Bermondsey, and Deptford. The prevalence of scarlet fever again showed a marked decline last month; among the various boroughs this disease was proportionally most prevalent in Hackney, Bethnal Green, Stepney, Poplar, Bermondsey, Camberwell, and Deptford. The Metropolitan Asylums hospitals contained 3866 scarlet fever patients at the end of last month, against 5395, 5600, and 4956 at the end of the three preceding months; the weekly admissions averaged 423, against 778, 621, and 458 in the three preceding months. The prevalence of diphtheria showed no variation from that recorded in the previous month; this disease was proportionally most prevalent in Stoke Newington, Hackney, Bethnal Green, Wandsworth, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients remaining under treatment in the Metropolitan Asylums hospitals at the end of last month was 1135, against 1252, 1277, and 1168 at the end of the three preceding months; the weekly admissions averaged 150, against 199, 179, and 155 in the three preceding months. Enteric fever was considerably less prevalent than it had been in any of the four preceding months; the greatest proportional prevalence of this disease was recorded in Hammersmith, Chelsea, Holborn, Bethnal Green, Poplar, and Bermondsey. There were 96 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 123, 128, and 119 at the end of the three preceding months; the weekly admissions averaged 12, against 18 in each of the two preceding months. Erysipelas was proportionally most prevalent in Fulham, Hackney, Bethnal Green, Stepney, Poplar, and Bermondsey. The 19 cases of puerperal fever notified during the month included two in Bethnal Green and three each in Shoreditch, Stepney, and Wandsworth. Ten cases of cerebro-spinal meningitis were notified, of which two belonged to Hackney, two to Lambeth, and one each to St. Marylebone, Islington, Stoke Newington, Finsbury, Poplar, and Southwark.

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1. Date of birth to be stated exactly, date of month and year.

2. "Other illnesses" should include any other serious disorder which must be taken into account as affecting, directly or indirectly, the health of the child in after-life, e.g., rheumatism, tuberculosis,

of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased had previously resided. During the five weeks ending Feb. 1st the deaths of 8030 persons belonging to London were registered, equal to an annual rate of 17·5 per 1000; in the three preceding months the rates were 13·5, 14·5, and 15·2 per 1000 respectively. The lowest death-rates last month were 11·1 in Hampstead, 13·9 in Lewisham, 14·1 in Woolwich, 14·2 in Fulham, 14·5 in Greenwich, and 14·7 in the City of Westminster; the highest rates were 20·8 in Poplar, 21·4 in Bethnal Green, 21·7 in the City of London, 21·9 in Bermondsey, 22·4 in Shoreditch, 24·1 in Holborn, and 24·3 in Finsbury. The 8030 deaths from all causes included 567 which were referred to the principal infectious diseases; of these, 129 resulted from measles, 83 from scarlet fever, 118 from diphtheria, 140 from whooping-cough, 16 from enteric fever, one from ill-defined pyrexia, and 80 from diarrhœa. The lowest death-rates last month from these diseases were recorded in Hammersmith, the City of Westminster, Hampstead, St. Marylebone, Stoke Newington, and Lambeth; and the highest rates in Hackney, Holborn, Finsbury, Bethnal Green, Stepney, Poplar, Bermondsey, and Lewisham. The 129 deaths from measles were 54 below the corrected average number in the corresponding periods of the five preceding years; this disease was proportionally most fatal last month in Paddington, Kensington, Fulham, St. Pancras, Stepney, and Poplar. The 83 fatal cases of scarlet fever were 34 in excess of the corrected average number; among the various boroughs this disease showed the greatest proportional mortality in Hackney, Shoreditch, Bethnal Green, Poplar, and Bermondsey. The 118 deaths from diphtheria were 41 above the corrected average number in the first five weeks of the years 1903-07; this disease was proportionally most fatal in Hackney, Holborn, Finsbury, the City of London, and Lewisham. The 140 fatal cases of whooping-cough were 65 fewer than the corrected average number; among the various boroughs the highest death-rates from this disease were recorded in Chelsea, St. Pancras, Holborn, Stepney, Poplar, Battersea, Wandsworth, Deptford, and Greenwich. The 17 deaths referred to "fever" were 13 below the corrected average number; of these 17 deaths two belonged to the City of Westminster, two to Islington, two to Finsbury, two to Stepney, and one to each of nine other boroughs. The 80 fatal cases of diarrhœa corresponded with the average number; this disease was proportionally most fatal in Finsbury, Shoreditch, Poplar, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was 9 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 115 per 1000. The lowest rates of infant mortality were recorded in St. Marylebone, Stoke Newington, Holborn, Lambeth, Wandsworth, Camberwell, Lewisham, and Woolwich; and the highest rates in Kensington, Hammersmith, Fulham, St. Pancras, Poplar, and Bermondsey.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Surgeon Francis Edwin McCune has been placed on the retired list (dated Jan. 23rd, 1908).

The following appointments are notified:—Fleet Surgeon F. J. A. Dalton, to the *President*, additional, for R.F.A. *Maine*; Staff Surgeon E. S. Reid, to the *President*, additional, for R.F.A. *Maine*; Surgeon C. T. Baxter, to the *President*, additional, for R.F.A. *Maine*.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel Fitzroy B. Maclean, from the Royal Army Medical Corps, to be Colonel, vice J. F. Williamson, C.B., C.M.G., retired (dated Feb. 6th, 1908).

ROYAL ARMY MEDICAL CORPS.

Major F. M. Maugin has been posted to the Connaught Hospital, North Camp, Aldershot for duty. Captain W. L. Baker has joined at Aldershot and been posted to the Connaught Hospital for duty. Lieutenant M. J. Cromie has been transferred from Mhow to Jubbulpore for permanent duty.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Arthur H. Vernon to be Surgeon-Major (dated Feb. 1st, 1908).

IMPERIAL YEOMANRY.

Lancashire Hussars: Surgeon-Lieutenant J. T. Nisbe to be Surgeon-Captain (dated Jan. 24th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Berwickshire: Irvine Kempt Hermon to be Surgeon-Lieutenant (dated Jan. 17th, 1908). 1st Durham; William George Thompson to be Surgeon-Lieutenant (dated Jan. 1st, 1908). Frank Wilfred Burn to be Surgeon-Lieutenant (dated Jan. 3rd, 1908).

Rifle: 2nd Volunteer Battalion, The Prince Albert's (Somersetshire Light Infantry): Arthur Norman Haig to be Surgeon-Lieutenant (dated Jan. 14th, 1908). 2nd Volunteer Battalion, The Welsh Regiment: Surgeon-Major J. A. Jones to be Surgeon-Lieutenant-Colonel (dated Jan. 29th, 1908). 13th Middlesex (Queen's Westminster) Volunteer Rifle Corps: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel P. P. Whitcombe to be Surgeon-Lieutenant-Colonel (dated August 7th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Western Command: Manchester Companies: Thomas Carnwath to be Lieutenant (dated Jan. 28th, 1908).

TUBERCULOSIS IN THE ARMY.

In the House of Commons on Feb. 18th, in reply to a question by Mr. Summerbell regarding the action which the Secretary of State for War proposed to take with reference to soldiers suffering from tuberculosis, in view of the findings of the Select Committee appointed to go into the matter, Mr. Haldane said that the recommendations of the Select Committee had been recently considered by the Government. The decision was that, however desirable the special provision recommended by the Committee in the case of soldiers discharged from the army because of tuberculosis, it was impossible to justify the assumption of this new kind of obligation by the State unless it is extended to other services as well as the army, and possibly more widely still.

Correspondence.

"Audi alteram partem."

THE LONDON COUNTY COUNCIL AND THE TREATMENT OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—You are doubtless aware that the London County Council has caused its Education Committee to appoint a special subcommittee consisting of members of the Council and representatives of outside institutions to inquire into the whole question of the medical treatment of children attending public elementary schools. This subcommittee has been formed and it may be stated at once that the London hospitals, including the Hospitals for Sick Children, are wholly inadequately represented upon it. Under the Education (Administrative Provisions) Act, 1907, the Council has powers to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of these children. The Education Committee of the Council has issued to the London hospitals a series of questions which indicate the extensive nature of its investigation, the diseases including those of the eye, ear, skin, teeth, malnutrition, &c. There is considerable danger that these questions may be answered without due appreciation of the far-reaching effects of any scheme which may be instituted. It need only be mentioned that school clinics cannot be established without enormous expense and without injury to the hospital clinics; or, if the additional work is thrown upon the hospitals, they will have to bear the increased expense. In the former case, and in the latter also, if the hospitals are subsidised (of which there is no suggestion) the ratepayers will have to practically the same. As regards the third, (c). "refusing to recognise several old-established training schools," the Board has, of course, to exercise its discrimination in this matter, and to refuse to recognise institutions which are in its opinion unsuited for this purpose. But, as there appears to be much misunderstanding on this question, it would point out that recognising an institution is not the only way in which an institution can be utilised for training midwives. The practice of the Board has been to approve an institution as a recognised school of training only when its status is such that it may be taken for granted that none but competent officers of all kinds would be appointed to it.

In the case of an institution, such as one of the great lying-in hospitals, for instance, the Board has taken it for granted that it would be properly officered and its officials are recognised *as such* for the purpose of signing Forms III. and IV. Thus, although officials change, the officials for the time being are recognised; when their connexion with the institution ceases their recognition lapses. On the other hand, in the case of an institution less fully equipped the Board has frequently refused to accept it as a "recognised institution," but has approved its medical officer and midwife for the purposes of training midwives and signing Forms III. and IV. Such an institution, though it lacks the prestige of a "recognised institution," has exactly the same opportunities of training midwives as if its request had been granted. In this case the approval of the medical practitioner and midwife are personal. The Board *has not* received any explanation of the statement that its policy as regards (*a*), (*b*), and (c) "has resulted in an increase in the training fees, and a consequential difficulty *in obtaining suitable candidates*." It *is far from* its wish to produce any such result, but it feels that the standard on which it has so far insisted cannot be lowered with safety to the community.

It must be remembered that nothing but the three months' course of training, with the attendance on 20 labours and puerperia, stands between what may be absolute ignorance and responsibility of the very gravest and most vital character. Only those who have had, on the one hand, to deal with the raw material, and on the other hand with the same material after training and in face of one of the grave complications of childbirth can fully appreciate the extreme importance of making such training, though strictly limited in scope, as thorough and practical as it can possibly be made. To place upon the roll women whose training had in any way been scamped would be to produce a state of things far worse than that which the Act was framed to abolish; for, whereas before the passing of the Act, the name of midwife carried no official weight, since the passing of the Act the name "certified midwife" carries with it the authority of Parliament and implies that its holder has either been adequately trained, or (in the case of a *bonâ-fide midwife*) *has at least avoided conviction for malpraxis* and removal from the roll. The Board therefore feels that its present requirements cannot be safely reduced.

The question of subsidising midwives *is one of extreme difficulty*. It is certain that in some districts midwives are a necessity, yet it is in these very localities that it is difficult for them to earn a living. It is obviously a matter of great delicacy to subsidise a class of persons who are alleged to be in competition with medical practitioners. The Board considers that it must necessarily take some time before an antagonistic attitude can be expected to disappear. In the meanwhile it is of the utmost importance that amicable relations should be encouraged by every possible means, and the Board thinks that this difficulty would be greatly reduced by a scheme by which medical practitioners summoned on the advice of midwives, according to the rules of the Board, could be adequately remunerated. The relations of medical practitioners to midwives vary in different districts; in some they are frankly hostile, the medical practitioners stating that they intend to make it impossible for midwives to practise in their neighbourhood. The Board is not aware of any district in which medical practitioners and midwives coöperate amicably; such districts may, however, exist. It must be remembered that the Board does not receive reports officially on these subjects, and is not in a position to speak with authority. It is possible that a conference could be held with advantage on the subject; if such a conference were held, it would be necessary that it should be thoroughly representative of all interests and that the medical (and especially the rural medical) practitioners should be represented by persons having full authority to speak in their name. The hope of a better understanding must necessarily be preceded by a conviction that "midwives are a necessity" (Report of Select Committee of House of Commons, 1893), and also that midwives, under proper regulation, would act as coöperators and not as opponents. No good would result from such a conference if such delegates were only authorised to demand the abolition of midwives—which might quite possibly be the case.

I am, Sir, your obedient Servant,
G. W. DUNCAN, Secretary.
To the Clerk of the Council, Privy Council Office,
Whitehall, S.W.

A letter from Miss B. M. Worrall, honorary secretary of the Midwives Defence Association, as to the action of the local supervising authority for the County of London in regard to Rule E 26, was further considered. This rule is as follows:—

> The proper designation of a certified midwife is "certified midwife," thus, e.g., Mary Smith, certified midwife. No abbreviation in the form of initial letters is permitted, nor any other description of the qualification.

Memorials on the subject from the Midwives Institute, and from the committee of the British Lying-in Hospital, the City of London Lying-in Hospital, the General Lying-in Hospital, and Queen Charlotte's Lying-in Hospital were considered at the same time, as well as a letter from Dr. H. Scurfield. The Board decided that the Privy Council should be asked to approve the addition of the following words to Rule E 26:—

> *Provided* that a midwife whose name has been admitted to the roll in virtue of having passed the examination of the Central Midwives Board, or in virtue of a qualification under Section 2 of the Midwives Act, 1902, acquired by passing an examination in midwifery, may add the words "by examination" after the words "certified midwife."

Letters were considered from the Master and the honorary secretary of the Coombe Hospital, Dublin, submitting for the observations of the Board certain rules and regulations adopted by the board of the hospital with respect to the training of pupil midwives. The Board decided that the board of the Coombe Hospital should be referred to the public press for the results of the Board's examinations and that subject to the foregoing the Board expresses general approval of the rules.

IMPRESSIONS OF THE FINAL STAGE OF CHRONIC GLAUCOMA.

BY ONE WHO HAS SUFFERED IT.

SOME six years ago[1] I was privileged to give a patient's account in these columns of the exceedingly difficult eye disease known as chronic glaucoma, or grey atrophy, so far as a two years' endurance of it would allow. Having now reached what the doctors consider, and what I also believe, its final stages I venture to give such fuller impressions as my nearly completed experience permits.

At the period in which the article referred to was written it became necessary to make a special maintenance effort, and I accordingly devised a scheme in which two attainments successfully employed in earlier days were included together with my business as a journalist and advertising expert. As a result an engagement was given me by two or three food manufacturing firms, during which I walked some 1200 miles, visiting the principal towns in Lancashire and Cheshire, delivering in places of entertainment, colleges, and schools lectures on the advantages of blindness and of the foods alluded to. The walk was accomplished in July, August, and September, *my 12-years-old son acting as guide*. On most days the evening lecture obliged me to walk in evening dress and a high hat, as there was seldom much time after the day's journey to get ready for the platform. On the whole, the long outdoor exercise seemed to benefit my general health, but it was certainly a considerable strain to grope through unknown buildings and up strange stairways to finally attempt the still more difficult task of interesting an unseen audience, and, if possible, make them laugh. At the conclusion of the expedition there was, in addition to a slight financial gain, an apparent increase in bodily strength, while the gout and nerve pains long suffered appeared to have been got rid of entirely.

A year afterwards, however, the atrophy began to extend over the body, and in January of last year while in the streets I found myself at a full stop owing to a contraction of the leg muscles and had to be carried home to the bed from which I now write. Dr. E. Annacker of Manchester and Dr. J. G. Christie of Longsight attended me and watched the progress of the malady with the skilled practitioner's, and also perhaps the student's, eye. The loss of vitality is apparent in all parts of the body and the nerve pains have returned. Dr. Christie has probed the legs, arms, chest, &c., with a lancet to what he knows would be pain-point in a person of ordinary sensitiveness and has pinched the neck muscles with full force without causing the slightest feeling of pain. Somewhat restless sleep and an appetite apparently ravenous but quickly satisfied, inability to use the legs, and a curious sinking of the nerves as if one of the spasms of a shivering fit had been abnormally prolonged, are the chief peculiarities of my present condition.

Concerning the eyes, there is an increasing in frequency of the phantasmagoria apparent from the first stage of the disease. When the eyes are closed and bandaged and the room is dark a red patch or stage sometimes slightly bordered with a dark blue appears before me. On this surface appear, always coming from the right side, figures, human as well as fanciful, which engage in a kind of kinematograph action. These figures are now invariably speckled with snowflakes, which also cover part of the stage. It requires a strong will and a change of the position of the body to drive away the illusion, if such it be. In thinking the matter carefully out I account for the red stage by the red lining of the eyelid, for the blue fringe by the fact that this is the colour of the eyes, and for the flakes by the jury to retire and consider the verdict. I have stated my case as simply as I could and am content to let it stand as it is—unamended and unqualified.

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[1] THE LANCET, April 5th, 1902, p. 934.

I am, Sir, yours faithfully,
Wimpole-street, Feb. 16th, 1908. HARRY CAMPBELL.

To the Editor of THE LANCET.

SIR,—I have carefully read and re-read the correspondence between Sir James Barr and Dr. Harry Campbell, and the conclusion I have come to is that it has been greatly confused through a lack of knowledge and precision on the part of the former in discussing the physical problems involved, and on the part of the latter through the use of unnecessarily complicated phraseology.

The employment of the terms "tautness" and "traction" by Dr. Campbell is peculiarly unfortunate, as they, at least it appears so to me, could both have been so much more easily expressed by the word "tension." Tension is a state of strain, or the act of straining, and is a term perfectly well understood. Pulmonary tautness is a pulmonary state of strain, or tension. Pulmonary traction is a pulmonary act of straining, or tension. The word "tension" implies both the condition and the act. The tension of a wire means that it is tight and that it pulls; and it would be absurd to worry over its tautness and traction, as both are stated or implied when one speaks of its tension.

Dr. Campbell says I "*fail to make the necessary distinction* between tautness and elasticity." I purposely avoided discussing the subject, but the distinction is obvious. There can be tension or tautness in a wire far beyond what its elasticity can produce or resist, or there may be tension or tautness less than what its elasticity can produce or resist, in which case the force of elastic recoil or tautness are equal. There can be tension or tautness in a fibroid lung as well as in an elastic one. I am quite at one with Dr. Campbell in distinguishing between tautness (or tension) and elasticity: where I differ is when he says that the negative intrapleural pressure when the thorax and respiratory muscles are at rest "is due to the tautness of the pulmonary tissue pure and simple, and that the factor of elasticity, or elastic recoil, has nothing to do with it." Dr. Campbell, like so many people who discover a truth, fails to see its limitations.

Suppose there be a large pneumothorax; the lung recedes far from the body wall and rests contracted. Gradually, by vital processes, the air is absorbed, and as the chest walls cannot fall in so readily as the lungs can stretch, the latter expand and presently again fill the thorax. What stretched the lungs? Dr. Campbell says "the stretched condition of the pulmonary tissue is effected by the inspiratory muscles." I maintain that the cell action, or other vital processes which actively absorbed the air from the pleural sac, lowered the pressure in it and cleared the space for the lung to expand into, primarily caused its expansion, by decreasing the opposition to the action of the intrapulmonary air pressure. *Likewise though* at birth the lung is stretched by the thoracic expansion, the lung at, say, ten years of age is another lung, and I can conceive of *no other way* in which the new elastic tissue has kept on the stretch than by supposing it has been laid down on the stretch, or has contracted afterwards. In this way the elastic tension producing the intrapleural negative pressure, when the thorax and respiratory muscles are at rest, is *generated within the* lung, and in time would pull the visceral and parietal pleuræ apart if their lining cells would allow air or liquid to accumulate there *and permit their separation*. When the inspiratory muscles expand the thorax beyond the position of rest then it is that they obviously operate *in lowering* the intrapleural pressure.

In addition to his employment of the words "tautness" and "traction" *Dr. Campbell also seems* to me unfortunate in his use of the word "suction." He does not use it as indicating a force decreasing the resistance *to another* force, as Sir James Barr rightly contends he should, but as though it were the force directly producing the effects observed. These are minor *matters; the great* principle for which Dr. Campbell has so earnestly contended—viz., the much overlooked importance of the action of the inspiratory movements in their effects within the chest, and the nature of these effects—he has done much to elucidate and *establish*, and I personally feel much indebted to him for what I have learned at his hands.

In regard to *Sir James Barr's criticisms*, it seems to me, after his letter of Jan. 25th, there is little to be gained by discussing physics with him. He there gives from the "Century Dictionary" a definition of "elastic" in which it is stated, "A body is perfectly elastic when it has the property of resisting a given deformation equally ......," and he remarks: "The Campbell physicist says it is a mere property of a certain form of matter, by which it has the power of recovering its original *form after being* stretched, but I prefer the other authority who says that it also signifies a *resistance to stretching or other deformation*." Now the other authority which Sir James Barr quotes and prefers *does not say* it "signifies a resistance to stretching or other deformation." The words are, "it has the *property* of resisting," and it is this idea of a property which Dr. Campbell and I want Sir James Barr to admit. Surely it would be better if Sir James would "*prefer*" *the definition of elasticity given by the* authority from which he quotes, the "Century Dictionary," rather than his own misquotation from that authority.

Sir James Barr shortly after proceeds in his letter to what he calls "prick the bubble" blown by Dr. Campbell, and he compares the uses of a "non-elastic chain" and what he terms "a hawser made of highly elastic hemp." He says: "The elastic rope offers resistance to being *stretched and* when the tug of *the ship ceases the elasticity gradually pulls* the vessel back to its former position." *Sir James Barr* should know that a hawser is made on *the twist*, and it stretches, not because hemp is what he styles "highly elastic," but because the component fibres and twists *straighten out under tension*, taking a *direction more* along the length of the rope than before and less across it, while at the same time mutually compressing one another. If Sir James twists a piece of *string* he will see that it shortens and will then lengthen when pulled upon more than before. The recoil in the hawser is due to the *recovery of the* parts from mutual compression and has nothing at all to do with elasticity in hemp. Moreover, if Sir James considers hemp *highly elastic, why does he immediately speak* of "non-elastic fibroid lungs"? By what mental process does he make hemp highly elastic and fibroid lungs non-elastic?

Later in his letter Sir James tells how he was selected by the Home Office to "devise a method of estimating the *elasticity of any rope*," and *he modestly says*, "I did not retire to my study and work out the *coefficient* of elasticity, and what should, but probably would not, happen. I determined the *vis viva* or energy which I considered necessary, and then under a strain of a given number of foot pounds I *determined* the stretch, and I had no difficulty in devising a method of measuring the length of unstretched rope which would allow of a *given* energy." Fancy speaking *of* the length of unstretched rope which would allow of a given energy! Energy is the "capacity for doing work," and is measured by *the* amount of *work* a *body* having energy can be made to do. What capacity for doing work is inherent in a piece of unstretched rope. Would it allow *of boiling* a kettle or climbing a hill? It would have been far better if Sir James Barr had retired to his disparaged study and learned the elements of *physics as* taught before hastily experimenting. He might then have started with ideas of energy, elasticity, &c., which were physically precise.

Sir James Barr's criticism in your last issue of my letter of Jan. 25th calls for little comment. He seems to hold me responsible *for* the *consequences* of the physical definition of elasticity. He says: "Let us see how his definition works out." It is nothing to me how my *definition* works out and what confusion or sadness it produces in the mind of Sir James. If he discusses physics as a physicist he *must* take the *consequences, however* they work out; if as the "man in the street" he may call hemp highly elastic, rubber more elastic, and gas most elastic, but he must pose in future as the "man in the street" and not as a physicist. I will leave my last letter and Sir James Barr's criticism of it to the *impartial judgment of* your readers as this communication is already too long, but I hope more particularly that Dr. Campbell's suggestive views *may* have the attention which I think they deserve.

I am, Sir, yours faithfully,
D. W. SAMWAYS.
Mentone, Feb. 17th, 1908.

*** The various parties to this correspondence have had ample space in which to expound their views, and *none of* them can complain of the undue vigour of their *opponents'* language, for none of them has failed to reply with equal vigour. As they cannot all have the last word we supply *it*. This interesting discussion *must* now cease.—ED. L.

half the cases suffering from some form of physical disease for which medical treatment was required. 25 of the cases admitted were over 60 years of age. One of the patients admitted was a woman who had pleaded guilty at her trial for the wilful murder of her two infant children and was sent to the asylum under Section 15 of the Act 25 & 26 Vict., cap. 61. The medical superintendent, in reference to this case, writes as follows: "No opinion is expressed here as to the regularity of the legal procedure followed in this case, but a protest must be raised against what appears to be a growing tendency to make use of asylums as convenient houses of detention for dangerous criminals. The modern asylum is essentially a hospital; its arrangements are not designed to meet the requirements of a gaol, and, in so far as its conditions are made to resemble those of a prison, its efficiency as a hospital must suffer. It is most unfair that respectable members of a community sent to the institution for medical treatment should be forced into association with malefactors and murderers and the presence of such persons in the wards is keenly resented by the patients." 38 patients were discharged during the year, 26 (11 males and 15 females) as "recovered," 11 (six males and five females,) as "relieved," and one woman as "not improved." The recoveries as compared with the admissions give a proportion of 35·1 per cent. (23·4 males and 65·6 females). In 80·7 per cent. of the recoveries the mental disorder was of less than three months' duration on the patient's admission into the asylum. The number of deaths (38) is the highest recorded since the opening of the institution. The rate of mortality calculated on the average number on the register was 11·5 (10·2 males and 12·7 females), but Dr. Johnstone states that examination shows that there is nothing alarming in the high figures, which must be regarded as purely accidental. Pulmonary tuberculosis was present in active form in 28·9 per cent. of the deaths. The medical superintendent draws attention once more to the fact that the legislature has not yet made any provision for the granting of retiring allowances to the staffs of the Scottish district and parochial asylums. Statutory power has been given to grant more or less adequate pensions to the officials of the English county and borough asylums, the Irish district asylums, and the Scottish Royal asylums. Scottish asylum workers have exactly the same kind of duties to perform and they run the same risks as the employees in other asylums. They receive no compensation for the lack of pensions in the shape of higher wages and salaries or otherwise, their remuneration being such as to render it impossible for them to make adequate provision for old age or infirmity; and it is well known that of all public employments asylum service is the most anxious and responsible and the most dangerous to the health of body and mind. The new female wing of the asylum was opened on Nov. 26th, 1906, and the Commissioner in Lunacy, Dr. J. Fraser, states in his report that it is of a highly satisfactory character and suitably and comfortably furnished. He further draws attention in his report to the excellence of the two hospital sections for sick and infirm patients, and to the great advantage that the asylum derives from having four certificated hospital nurses, the matron, the deputy matron, the assistant matron on duty in the male sick ward, and the assistant matron who acts as night superintendent. The present rate of board for pauper patients is £29 per annum. The garden account shows a favourable balance of £189

Leicester Borough Asylum (*Annual Report, 1906–07*).—On Jan. 1st, 1906, there were 815 patients (350 males and 465 females) on the registers of this asylum. The admissions during the year were 221 (85 males and 136 females). Dr. J. E. M. Finch, the medical superintendent, reports that the number of admissions from Leicester itself of both sexes, but especially of males, has been higher during 1906 than in any former year, the admission rate for the previous four years having been stationary. He further adds that should this increase continue more accommodation on the male side will be necessary, though there will be ample room on the female side for several years. Amongst those admitted, insane inheritance was found to be present in 50 instances, intemperance in 21, domestic trouble in 18, congenital defects in nine, and senile decay in 13. During the year 122 patients (57 males and 65 females) were discharged and of these 82 (32 males and 50 females) were considered "recovered," 21 (nine males and 12 females) "relieved," and 19 (16 males and three females) "not improved." In the discharges the percentage of the recoveries on the admissions, excluding those cases transferred from other asylums, is found to be 28·1 in the males and 47·6 in the females. The deaths during the same period were 74 (38 males and 26 females), which gives a rate of mortality estimated on the average number of patients resident in the asylum of 10·9 in the males and 7·3 in the females. The chief causes of death were general paralysis in 13 cases, other cerebral lesions in 12, cancer in three, pulmonary tuberculosis in five, heart disease in 16, and senile decay in eight. Of the 840 patients remaining in the asylum at the end of the year 1906 29 (12 males and 17 females) were deemed to be curable. The total number of epileptic patients under treatment was 128. There were several changes during the year in the staff of the asylum. Amongst the medical officers, the second assistant medical officer unfortunately met with a fatal accident while cycling, and Mr. C. H. Gibson Lyall has been appointed to take his place. Dr. Finch reports many changes among the members of the nursing staff, and the Commissioners note in their report that the duration of service, although as good as in many asylums, cannot be considered satisfactory in view of the fact that 27 per cent. have served less than one year. During the winter the usual lectures on ambulance and nursing have been given, 14 attendants and 19 nurses obtaining the certificate and two attendants and nine nurses the medallion.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 20th, 1830.

M. CHABERT.[1]

THE following note was received by the EDITOR on Monday last; can any of our Correspondents suggest an appropriate reply? If M. Chabert has no antidote for prussic acid, it is quite evident that he has impudence enough for anything.

"M. Chabert requests Mr. Wakley will give him that satisfaction which is due to a gentleman, for the recent unprovoked, malicious, and unjust attacks against his character."

Saturday noon, Thomas Street,
Waterloo Road, Lambeth.
T. Wakley, Esq., Bedford Square.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8648 births and 5798 deaths were registered during the week ending Feb. 15th. The mean annual rate of mortality in these towns, which had been equal to 18·2 and 18·3 per 1000 in the two preceding weeks, showed a further slight increase to 18·6 in the week under notice. During the first seven weeks of the current quarter the annual death-rate in these towns averaged 18·5 per 1000; the rate in London during the same period did not exceed 18·1. The lowest annual death-rates in the 76 towns last week were 6·0 in King's Norton, 6·9 in Hastings, 7·9 in Hornsey, and 10·2 in Grimsby; the rates in the other towns ranged upwards to 25·5 in Stockton, 25·8 in Rochdale, 26·3 in Merthyr Tydfil, and 31·4 in Yarmouth. The rate in London last week did not exceed 19·0. The 5798 deaths registered in the 76 towns during the week under notice showed an increase of 106 upon the number in the previous week, and included 388 which were referred to the principal epidemic diseases, against 441 and 447 in the two previous weeks; of these, 154 resulted from whooping-cough, 78 from measles, 47 from diphtheria, 43 from diarrhœa, 40 from scarlet fever, and 26 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·2 per 1000, the rate from the same diseases in London being 1·1. No death from any of these epidemic diseases was registered last week in Tottenham, St. Helens, Wigan, King's Norton, or in eight other smaller towns; the annual death-rates will meet with the endorsement of every one who has been a general practitioner and has kept himself abreast of the times and is striving to rise, and with his rise improve the status and prospects of the profession. The first and true definition of a specialist applies to the risen general practitioner, the latter definition applies to the "hospital-appointment-made-specialist" who yet has his knowledge to gain, who has no skill, *yet who professes to sell that which he does* not possess. From the above you can see that the prospects for those who have worked hard as general practitioners is certainly "not much." Your late most honourable campaign in the Law Courts in defence of the rights of the public and of those of us who have to work hard for our daily bread was partly due to the condition of affairs dealt with by both "Virtutem Sequor" and "Half-and-Half."

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[1] Vide "Looking Back" in THE LANCET of Jan. 18th, p. 172, Feb. 1st, p. 333, and Feb. 8th, 1908, p. 425.

Did general practitioners keep themselves abreast of the times, and were "specialists" (?) more really "specialists" and less "exclusivists" (learning their "one horse-shay racket"), there would be no lay advertisers of this and that "specific" for one disease and another. Is not "specialism" as now practised a species of quackery? A good "general practitioner" is a true "specialist in many departments," a modern "specialist" is a one-string fiddler in an orchestra who does not know his notes. Let me ask "Virtutem Sequor" one question. Is it worse to advertise rather than starve and become a financial defaulter following an unwritten law which no one really cares a straw about, or is it worse to be ethical (with your mouth only), the while doing all you can to hinder and ruin the prospects of your fellow man and brother (?) as is practised in London at hospital elections? Which of the two pictures will show painted the blacker sheep? The frank, open advertiser, according the same to his fellow man, or the hypocrite who does all he can to damn the career of a general practitioner and pitchforks a young "specialist" (?) into a post to keep out the other fellow? All those things of which "Half-and-Half" ably writes have I done, and more. I will therefore finish what he has left unsaid. He says, "It is, I think, forgotten by many that each patient sent by them to a "specialist" means the loss to them, only too frequently, not only of that patient but of all that patient's friends who have, or think they have, any disease affecting that particular region of the body." Let us now continue (in my own words), "and of those who have not, but have ailments of other parts, will that 'specialist' send on direct to his brother 'specialists' in accordance with their custom of mutual 'back-scratching,' and so on, till soon there is no practice left for the general practitioner who sent the first case." If it is borne in mind that these so-called "specialists" are daily engaged in cutting the throats of the lesser general practitioners in the out-patient departments of hospitals, besides distributing their richer patients amongst themselves, we must repeat "*Not much.*" In a recent issue you printed an article showing the existence of a decided schism in the Liverpool district between general practitioners and hospital practitioners who are advertised by their (?) hospital and I make bold to say that the London general practitioner is a greater fool than I take him for if the same does not occur soon in London.

Strangely enough, a letter by "F.R.C.S." entitled "The Responsibility for the Anæsthetic" shows up another phase of the "prospects of the profession." Why does the general practitioner asked to be allowed to give the anæsthetic? As one who has been a general practitioner let me answer. To be able to retain a hold on his patient, as a patient, and not to be entirely cut out of that which his honesty has put into the hands of "F.R.C.S." A general practitioner nowadays is a tout (at his own expense), paying his rent, rates, taxes, and keeping up a position, purely in order to find cases with fat fees for the "specialist." The "specialist" comes in, whisks the patient off to a nursing home, and out goes the poor wretch of the general practitioner to his debts; those that he owes and those that are owed to him. In nine cases out of ten, the general practitioner has money owing to him by the patient for present and past illnesses, the "specialist" comes in, and the patient begs, borrows, or steals the wherewithal to pay the fee demanded. Off goes the specialist with the "ready" and the general practitioner has only debts owing to him, and a useless patient for some time to come, till the money borrowed to pay the "specialist" is repaid. "I have had some" and got heartily sick of it. The more fair and equitable rule is the one which I now follow, and perhaps "F.R.C.S." will please note and practise it. When the case needs operation my practice is as follows: refuse the request except the general practitioner be a skilled anæsthetist, but ask the general practitioner to assist at the operation and undertake the major part of the after attendance, and for his services give him "down on the nail" one-third of the fee agreed upon for the operation, for he has earned it. So that "F.R.C.S." can still have his skilled anæsthetist and at the same time feel that the general practitioner gets something for his wife and children and is not left, as he often is, a "skinned eel" with an "invitation to dinner." More often than not that third part of the operation fee will be the only money the general practitioner will ever see out of the case. Let this plan be adopted universally and there will then, at any rate, be some prospects for both general practitioner and specialist. Mutual help and support should be the watchword, not selfish hindrance and throat-cutting, grasping greed.

I am, Sir, yours faithfully,
F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

Harley-street, Feb. 16th, 1906.

To the Editor of THE LANCET.

SIR,—So far as the general public is concerned "Virtutem Sequor" raises a very important issue in his remarks *re* consultants. What constitutes a consultant, and to what fees is he entitled? A friend of mine afflicted with failing eyesight had occasion to go to an optician who advised him to go to a certain oculist. This latter gentleman examined the eyes, prescribed glasses, and charged £2 2*s.* On subsequently referring to the Medical Directory it was found that the doctor consulted had merely ordinary qualifications and was not, nor ever had been, attached to any ophthalmic hospital.

Now, Sir, as a mere layman, what I want to know is, how can the public be protected from this kind of thing? The general impression amongst us is that a consultant is a gentleman of the highest qualifications (e.g., F.R.C.S.) and who has a hospital appointment. I appeal to you, Sir, for an *ex cathedrâ* pronouncement on the matter.

I am, Sir, yours faithfully,
Feb. 14th, 1906. WALTER CARTER.

THE INACCURATE DOSAGE OF MEDICINES.

To the Editor of THE LANCET.

SIR,—Your remarks in an annotation in your issue of Feb. 15th, p. 512, on "The Inaccurate Dosage of Medicines," due to the different sizes of bottles supposed to be two, four, six, and eight ounces, are most appropriate, but there is also, I think, a still greater reform required, that all tinctures should be so prepared that the same quantity of each should represent an adult dose, say one drachm. Infusions might be one ounce, wines one drachm, and so on, with spirits, pills, powders, &c. Surely wholesale druggists could arrange this, and so reduce the dangers and difficulties in dispensing medicines. There is often some uncertainty in remembering the correct doses of drugs other than those habitually used, and a desirable preparation may be omitted from the prescription through this cause.

I am, Sir, yours faithfully,
Dorney, Windsor, Feb. 16th, 1906. J. H. WATERS.

RECEPTION HOUSE FOR RECENT CASES OF INSANITY.

To the Editor of THE LANCET.

SIR,—Through the medium of your valuable columns and the columns of your less specialised contemporary the *Sunday Chronicle*, I have recently learnt that some striking "advances" have been made in the treatment of mental diseases in Scotland—namely, (1) through the medium of a structure of corrugated iron and "compo" boarding, &c., and (2) some open air.

I regret that (owing possibly to a defect within myself), having carefully read all the details mentioned in Dr. H. C. Marr's paper in your issue of Feb. 8th, I entirely fail to see, on analysis, any difference in the practice adopted at Woodilee to that in use here (in the southern portion of England) for many years, or in probably 90 per cent. of other asylums in England, with the exception that: 1. Only few asylums have female nurses in the male wards, and this may, or may not, be an important factor, though I personally have yet to feel that yearning desire to add one to the female staff. 2. That

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1908.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,795,757	1	2309	916	—	118	1	19	473	10	3846	8·4	—	129	83	118	140	—	16	1	80	567	1·2	8030	17·5	115
West Districts.																										
Paddington	150,923	—	37	15	—	4	—	—	7	—	63	4·4	—	12	2		1	—	—	—	1	20	1·4	251	17·3	128
Kensington	182,763	—	21	43	—	3	—	—	18	—	85	4·9	—	10	—	5	—	—	—	—	1	16	0·9	313	17·9	140
Hammersmith	124,012	—	51	16	—	11	—	1	8	—	87	7·3	—	2	2	—	—	—	—	—	2	6	0·5	227	19·1	130
Fulham	171,562	—	98	41	—	1	—	—	20	—	160	9·7	—	8	4	2	3	—	1	—	3	21	1·3	235	14·2	131
Chelsea	75,049	—	11	11	—	3	—	—	5	—	30	4·2	—	1	2	—	4	—	—	—	2	9	1·3	133	18·6	120
City of Westminster	170,545	—	48	19	—	2	—	—	10	—	79	4·8	—	2	—	2	1	—	2	—	3	10	0·6	241	14·7	123
North Districts.																										
St. Marylebone	126,807	—	17	13	—		—	—	14	1	48	3·9	—	—	—	3	5	—	—	—	1	9	0·7	226	18·6	63
Hampstead	92,654	—	33	7	—	—	—	—	2	—	42	4·7	—	1	—	1	—	—	—	—	—	2	0·2	99	11·1	121
St. Pancras	237,076	1	97	41	—	2	—	1	13	—	155	6·8	—	14	1	3	10	—	1	—	1	30	1·3	439	19·3	134
Islington	349,091	—	120	68	—	6	—	1	33	1	229	6·8	—	8	4	11	2	—	2	—	5	32	1·0	550	16·4	116
Stoke Newington	54,015	—	12	13	—		—	1	4	1	32	6·2	—	2	—	—	2	—	—	—	—	4	0·8	83	16·0	63
Hackney	235,253	—	166	59	—	6	—	—	33	2	266	11·8	—	8	9	12	5	—	—	—	6	40	1·8	405	18·0	120
Central Districts.																										
Holborn	54,460	—	17	6	—	3	—	—	3	—	29	5·6	—	2	—	4	3	—	1	—	—	10	1·9	126	24·1	67
Finsbury	96,007	—	46	14	—	2	—	—	11	1	74	8·0	—	2	1	4	3	—	2	—	3	15	1·6	224	24·3	122
City of London	19,252	—	4	3	—	—	—	—	1	—	8	4·3	—	1	—	1	—	—	—	—	—	2	1·1	40	21·7	100
East Districts.																										
Shoreditch	116,227	—	52	17	—	2	—	3	6	—	80	7·2	—	3	5	1	1	—	—	—	4	14	1·3	248	22·4	120
Bethnal Green	131,066	—	75	38	—	12	—	2	37	—	164	13·0	—	7	6	4	2	—	1	—	1	21	1·7	269	21·4	128
Stepney	310,706	—	221	70	—	9	1	3	47	—	351	11·8	—	15	7	7	22	—	1	1	4	57	1·9	571	19·2	112
Poplar	171,516	—	163	32	—	7	—	1	27	1	231	14·0	—	8	5	3	10	—	1	—	8	35	2·1	342	20·8	133
South Districts.																										
Southwark	210,442	—	76	27	—	6	—	—	20	1	130	6·4	—	2	2	7	7	—	—	—	9	27	1·3	391	19·4	108
Bermondsey	127,910	—	93	24	—	6	—	—	21	—	144	11·7	—	2	5	3	5	—	1	—	4	20	1·6	269	21·9	160
Lambeth	321,344	—	191	37	—	3	—	1	25	2	259	8·4	—	2	8	3	2	—	—	—	6	21	0·7	500	16·2	99
Battersea	183,873	—	82	42	—	2	—	—	20	—	146	8·3	—	8	4	3	9	—	—	—	3	27	1·5	291	16·5	126
Wandsworth	289,506	—	173	75	—	10	—	3	24	—	285	10·3	—	1	4	8	12	—	1	—	6	32	1·2	420	15·1	95
Camberwell	280,022	—	163	43	—	4	—	1	16	—	227	8·5	—	1	7	7	7	—	1	—	1	24	0·9	399	14·9	99
Deptford	117,639	—	92	20	—	3	—	—	16	—	131	11·6	—	—	—	1	6	—	—	—	3	10	0·9	199	17·7	128
Greenwich	109,110	—	37	31	—	1	—	—	12	—	81	7·7	—	—	2	2	8	—	—	—	2	14	1·3	152	14·6	114
Lewisham	156,627	—	61	50	—	5	—	—	9	—	125	8·3	—	5	2	12	6	—	—	—	1	26	1·7	209	13·9	89
Woolwich	131,346	—	52	41	—	1	—	1	9	—	104	8·3	—	2	1	5	4	—	1	—	—	13	1·0	178	14·1	91
Port of London	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE report of the Principal to the governors of the University, which was presented at the annual meeting on Feb. 20th, shows a large increase in numbers in the Faculties of Arts and Science, and as satisfactory a condition as could be expected in the other faculties. Medicine and commerce remain comparatively stationary, and the numbers in the Medical Faculty are not likely to increase till the rush into engineering declines and the public recognise that, for the money and time spent, the medical profession offers as good a return as, if not a better average return both as regards money and position than, any other profession. In medicine as in other professions it is true that there is always plenty of room at the top, but it is more true of medicine than perhaps of any other profession that the licentiate or graduate from the moment of obtaining his qualification or degree can make a respectable living. This simple fact is not generally understood and until it filters into the minds of parents and guardians the number of entries in the Medical Faculty is not likely to increase largely. As regards the University as a whole the Principal's report shows that its work is proceeding satisfactorily and advances are being made, but further extension and development are hampered by want of funds. This is a condition which afflicts most of the universities of England but it is particularly felt in Birmingham where the advances have been so rapid and great in a comparatively short time. Money is urgently needed and it is to be hoped that before long it will be obtained, so that the excellent work going on may proceed steadily and without hindrance.

Mr. J. Hall-Edwards.

Every member of the medical profession, as well as his own immediate friends, will sympathise with Mr. J. Hall-Edwards, whose left hand was amputated at the beginning of the week. Mr. Hall-Edwards was an enthusiastic pioneer of x ray work and his hand is a sacrifice to the advance of medical science, for, prosecuting research in the new avenue of work before the dangers were understood, he exposed himself fearlessly to the rays and, unfortunately, his hands were attacked with x ray dermatitis. Treatment failed in the case of the left hand and as the condition was proceeding from bad to worse it became necessary to amputate, but it is hoped that the right hand will respond to treatment and that no further operation will be necessary.

The University Company of the 1st V.B. Royal Warwickshire Regiment.

The annual dinner and prize distribution in connexion with the above company, which took place on Feb. 14th, was, in a certain sense, not devoid of gloom, for there was a fear which expressed itself, even through words of hope to the contrary, that the members might be taking their last annual dinner together as a university company. What is to happen to university companies under the new scheme of re-organisation is not yet known, for, as Mr. Neville Chamberlain said, the wheels of the Government move slowly in this matter, but it is clear that unless some special provision is made the days of university companies are numbered. They cannot form part of a local battalion because the terms of enlistment, &c., are not compatible with university duties. It is possible that they may be affiliated with a local battalion and therein lies the hope of many, but it is feared that they may be disbanded, in which case much valuable material will be lost.

Medical Inspection of Schools in West Bromwich.

The report of the West Bromwich elementary education committee on the medical inspection of school children is interesting both as regards the estimate of the work to be done and the price it is proposed to pay for it. The committee estimates that there will be 1500 children admitted since January 1st who will have reached the age of five years. These will have to undergo a thorough and searching examination, and there is to be a second examination of 1500 children who will be leaving during the year. When the scheme is in full working order there will be in addition two intermediate examinations. The committee's report states that the medical officer estimates that 800 hours per year will be required for the examinations. Apparently, therefore, when the scheme is in full working order, 6000 children will be examined each year in 48,000 minutes, and it is clear that there will be no excess of time for thorough examination. The cost is estimated at £350 for the first year and it is suggested that a medical inspector should be appointed at a salary of £250, the remuneration to cover expenses and any extra personal assistance.

The Notification of Births Act.

The Birmingham city council has adopted the Notification of Births Act (1907) and it is to come into force on March 1st next. In view of this fact the medical officer of health has sent a letter to all practitioners in the city area drawing their attention to the fact that on and after the date mentioned, in the case of all children born after the twenty-eighth week of pregnancy the birth must be notified either by the father or by the person in attendance upon the mother. The medical officer points out that all births must be notified irrespectively of class, but it is, of course, understood that the health visitors will only be sent to those cases where it appears that their services may be useful. Forms of notice have been printed and a supply of them can be obtained on application to the health department; they are, however, not essential, and a post-card or letter will serve the purpose equally well.

The Health of the City.

Coincidently with the period of sudden changes of temperature which came upon us last week the death-rate of the city has jumped up from 18·6 to 21·7. The increase is almost entirely attributable to pulmonary affections which are so liable to become serious under the conditions mentioned. We are also suffering from an influenza epidemic, but though it is widespread it is, on the whole, a mild attack and so far has proved fatal only in a comparatively few cases. It is, however, proving a serious trouble to many large business establishments whose staffs it has decimated severely.

Health of Sutton Coldfield.

Sutton Coldfield may almost be looked upon as a residential part of Birmingham, for so many of those who spend their days in the city live during the remaining parts of their lives in this very healthy borough. In his annual report on the sanitary condition of the borough, Dr. A. Bostock Hill estimates that the population has increased by 1054 during the year and that it now totals 20,000. The birth-rate for the past year was only 19·71, the lowest recorded since 1898, and the death-rate was 8·97, which is the lowest for the last ten years. Being so easily reached and so healthy it cannot be a matter of surprise that so many people who make their livings in Birmingham choose to reside in Sutton Coldfield.

Feb. 18th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Meat-Traders' Conference.

AN important gathering of delegates from all parts of the country met in Manchester last week to attend the annual meeting of the National Federation of Meat Traders' Associations. In his presidential address the chairman mentioned that the members of the trade were handicapped by laws and enactments administered by men "who had plenty of theory but no practical knowledge." He spoke also of the confusion and want of uniformity with regard to the inspection of meat, scarcely two places being alike in this respect, so that meat may be passed as fit for consumption in one place while at another 30 miles away the same meat would be condemned. No doubt uniformity is desirable and inspection should not be needlessly vexatious, but it is necessary for the protection of the public that it should be thorough. On one matter meat-traders have always shown great sensitiveness and wrathful indignation—namely, on what the President called "the exaggerated statements about private slaughter-houses." He reproved the *Manchester Guardian* for calling them "vile places, insanitary places, dirty places, and they were given a very bad character." On the other hand, he said the "owners of private slaughter-houses are animated by a love of cleanliness and sanitation, and are not afraid of the inspector's visits, because they take a pride in their buildings and their trade." This is no doubt true of large numbers of meat-slaughterers, let us hope of the majority, but the residuum has to be looked to, and that there is such a residuum the annals of bear the burden. Judging by the examination of school children for diseases of the eye, which is already in force, no attempt will be made to ascertain whether the parents are in a position to pay, however inadequately, for advice. If the scheme is extended to include diseases of the skin, general debility, &c., general medical practitioners must inevitably suffer severely.

I have been led to trouble you with this letter more particularly on account of the false analogy which is likely to be made between special diseases, such as diseases of the eye and other complaints. It has already been pointed out in your columns that the work now done by the County Council oculists might equally well be done by teachers after a short course of instruction, and you have advocated that the oculists should correct the refractions which at present they are occupied in discovering. I am in complete agreement with this policy which would relieve hospital clinics of uninteresting drudgery and would entail no hardship upon general practitioners. It is a very different matter, however, to hand over to the County Council the treatment of other minor complaints and more serious diseases affecting school children, for this would be in the highest degree detrimental to hospital clinics and general practitioners, as well as entailing enormous expense.

More than ever at the present time questions continually arise which demand coördinated action on the part of the medical staffs of the London hospitals. Lack of coördination in matters such as that under consideration is likely to lead to schemes which fall short of the best which can be devised. In this manner the praiseworthy aims of the County Council and of the hospitals, which are alike working for the alleviation of suffering, are liable to be frustrated. The lay control of the London hospitals is in some considerable degree coördinated by the Council of King Edward's Hospital Fund. I would suggest that a standing committee composed of representatives of the medical staffs of the London hospitals be formed to which matters of mutual interest might be referred with a view to coördinated action. The Central Hospital Council does not exactly meet the requirements of the case.

I am, Sir, yours faithfully,

Wimpole-street, W., Feb. 15th, 1908. J. HERBERT PARSONS.

DEVELOPMENT OF NODULES IN SUTURE SCARS AFTER OPERATIONS FOR THE REMOVAL OF CANCER.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 1st Mr. C. W. Mansell Moullin, in a paper on the above subject, draws attention to cancer nodules occurring in the cicatrices caused by the sutures used in closing the abdomen in a case of cancer of the pylorus which had been under his care. In referring to a publication of mine in THE LANCET of Nov. 9th, 1907, in which somewhat similar cases were reported, he considers that the appearance of nodules in his case suggests that the mode of conveying cancer infection to the suture tracks is not so simple as is generally believed. My paper referred to the danger of cancer infection and its importance in relation to the question of "recurrence." I tried to demonstrate that the cancer cell is infective, and therefore if it be set free at the time of operation it is liable to be implanted by the surgeon or else implant itself in some part of the wound and thus give rise to a fresh cancerous outbreak. The cases of suture scar nodules quoted were given as illustrations of how readily cancer cell implantation may occur and also as some of the possible ways in which implantation may be brought about.

In the course of my experience I have come across a great many varieties of infection of the suture tracks: in some the infection was limited to the superficial and in others to the deeper layers of the skin; and, again, it manifested itself as a nodule deeply in the tissues directly in the course of the sutures; and I have also seen it occurring as infection of the entire track of the suture; nevertheless, it is far from belief that these cancer "recurrences" were all due to infection having been carried there on the needle or sutures. In Mr. Mansell Moullin's case two sets of sutures were used in closing the wound, one of stout catgut, interrupted, passing through all the layers of the abdominal wall except the skin; the other of finer catgut, continuous, through the skin only. Practically all the suture points of the former series were infected; none of the latter. His explanation as to how the latter condition occurred appears to me to be a perfectly rational one, and I may add that a similar condition has come under my own observation. The fact that no nodules appeared in the scars of the superficial stitches leads one to infer that there were no free cancer cells at the time of operation and that the infection in the tracks of the deeper sutures came from the abdomen. Cancer cells escaped where the sutures pierced the peritoneum, and finding their way along the tracks there they became lodged, and probably the tissues damaged by the suture proved themselves a ready site for implantation. Where the abdomen is closed by a single row of "through and through" sutures the infection will sometimes spread along the whole suture track, and, in fact, in cases of tubercular disease of the peritoneum, tubercular infection spreads in a similar way along the suture. Doubtless Mr. Mansell Moullin's suggestion explains the occurrence of these phenomena. On the other hand, his explanation of the occurrence of cancer nodules in suture scars, after operations for mammary cancer, is a totally different one. He suggests that cancer cells may be present in the tissues, and that the irritation of the sutures may cause these cells to take on greater activity at the points of irritation, hence the subsequent development of suture scar nodules. Though I recognise the possibility of this, yet I very much doubt that it is a frequent occurrence.

It is a recognised fact that the peripheral spread of mammary cancer is almost entirely by the lymphatics. Therefore, if cancer cells are present in the tissues of the flaps it almost necessarily follows that infected lymphatics must have been divided at the time of operation, thus allowing the escape of cancer cells. From my experience these latter would very readily manifest themselves by setting up cancerous infection along the line of incision, if they did not even cause widespread infection of the whole wound. It is not so much that cancer cells are already present and that they take on activity owing to diminished resistance of the tissues as the result of irritation of the sutures, which is mainly the cause of suture scar "recurrence." Our own faulty technique is more frequently responsible. It permits the escape of free cancer cells, which readily implant themselves in whatever part of the wound they may come to rest, or to whatever part of it they are carried by the surgeon, whether by suture or otherwise. This explains many of the cases of suture scar infection, but there are others, and Mr. Mansell Moullin's interesting case is one of these, where the suture does not actually carry infection; but, on the other hand, it encourages or permits of ready implantation.

I am, Sir, yours faithfully,

Harley-street, W., Feb. 11th, 1908. CHARLES RYALL.

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—In my letter in THE LANCET of to-day, *p.* 521, *col.* 1, second line, "not elastic" should be "non-elastic"; p. 522, col. 2, twentieth line, "abstract quantity" should be "abstract quality." I would not have troubled about these trivial mistakes only I am dealing with two *soi-disant* philosophers and I don't wish even a printer's error to creep into my letter.

I am, Sir, yours faithfully,

Liverpool, Feb. 15th, 1908. JAMES BARR.

To the Editor of THE LANCET.

SIR,—You have been so generous with your space that I forbear to reply categorically to Sir James Barr's last letter, the more so that a detailed reply would involve much repetition and probably weary your readers. That Sir James and I differ profoundly on the subject of pulmonary physics is becoming more and more obvious. Sir James now asserts that the tautness of the lungs does not exert traction, that the pulmonary tissue is *not* relaxed at the end of a full respiration, that the fibroid apices of the lungs in fibroid phthisis do not drag in the chest walls, and that, no matter how many of the pulmonary vessels are destroyed in this disease, if "*taut lungs constantly maintained a negative intrathoracic pressure there could be no obstruction to the systemic venous circulation.*" (Not even if all the pulmonary capillaries were reduced to a single one!) In my opinion all these contentions are wrong.

It seems to me, Sir, that the time has now come for the

Aberdeen Royal Infirmary along with the accounts, &c., for the year ending Dec. 31st, 1907, has just been issued. The average number of beds in daily occupation was 226; average number of days in hospital of each patient, 26; operations performed, 1689; and death-rate, 6·9 per cent. in cases treated. The number of in-patients treated (3119) shows an increase of 281 over that of 1906. 15,792 out-patients (including 1606 treated in the electrical department) received advice and treatment. The average cost per occupied bed is £53 9*s*. 2*d*. and of each in-patient £3 17*s*. 6*d*., as compared with £50 3*s*. 7*d*. and £3 19*s*. 7*d*. respectively for the year 1906. A gift which afforded much gratification was the cheque for £10,000 received from the Right Hon. Lord Mount-Stephen towards the endowment fund. A further addition to this fund was received in the form of a donation of £300 made by the trustees of the late Miss Helen Walker from the residue of her estate. The nursing staff consists of nine sisters and 60 nurses. The candidates for admission numbered 378. Under an arrangement with the governors of the Aberdeen Educational Trust the nurses have had the advantage of a course of instruction in invalid cookery. The days for the admission of patients' friends have been arranged as follows: (*a*) For residents in Aberdeen, Wednesdays and Saturdays from 3 to 4 P.M., and Sundays from 4 to 5 P.M.; and (*b*) for country visitors, every weekday from 3 to 4 P.M., and Sundays from 4 to 5 P.M. At the convalescent hospital 206 cases were treated during the year, the average period of residence being 33 days. The income amounted to £445 and the expenditure to £612. Reference is made in the report to the death of Mr. William Carnie who for the long period of 37 years—from 1861 to 1898—occupied the office of clerk and treasurer to the Royal Infirmary and the Royal Asylum.

Feb. 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculous Disease in Ireland.

AS returned in the last quarterly return of the marriages, births, and deaths in Ireland the total number of deaths from all forms of tuberculous disease registered during the quarter was 2418, representing an annual rate of 2·21 per 1000 of the population of Ireland, estimated to the middle of the year. The rates for each of the three preceding quarterly periods for deaths from all forms of tuberculous disease were 2·76, 2·97, and 2·24 per 1000. The above total—2418—constitutes 13·4 per cent. of all deaths registered during the quarter.

The Health of Belfast.

For the week ended Feb. 8th the death-rate from all causes was the terribly high one of 27·8 per 1000, and from the principal zymotic diseases 3·7. During the week there were notified two cases of typhus fever, four of typhoid fever, 11 of scarlet fever, seven of diphtheria, and eight of cerebro-spinal meningitis. There were (on Feb. 19th) in Purdysburn fever hospital 76 patients. Of these, 21 were suffering from cerebro-spinal meningitis, which the city corporation has decided shall be a notifiable disease for one more year dating from Jan. 1st, 1908.—A deputation of ladies representing the executive of the Belfast branch of the Women's National Health Association of Ireland appeared before the public health committee of Belfast in reference to the aid which they might give in the infantile mortality question. The health committee promised to supply report cards similar to those in use in the health department.

Feb. 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Comparative Influence of Intestinal Juice upon Pepsin and Pancreatin.

M. Loeper and M. Esmonet made a communication to the Society of Biology, at a meeting held on Feb. 1st, on the above subject. They had found by experiment that the activity of pepsin diminished by three-quarters under the influence of duodenal juice, by one-half under that of the juices of the ileum, and by a quarter under the influence of the juices of the colon. On the other hand, the activity of the secretion of the pancreas *increases* as regards the power of the trypsin, the steapsin, and the amylopsin in the same proportion for the various regions of the intestine.

The Meal (Farine) of Netté.

Various explorers have noted that the "*farine de Netté*" produced from the fruit of *Parkia biglobosa* is a form of nourishment much appreciated by the natives of tropical Africa; despite its name it is not a meal, for it contains no starch. It is, however, very rich in fat, in phosphates, and in sugar. At a meeting of the Academy of Sciences held on Jan. 27th M. Goris and M. Crété communicated a paper in which they gave the results of some researches which they had made into the alimentary value of this foodstuff. Analysis showed that it was the richest in saccharose of any food which they had come across. Beetroot pulp, for instance, contains from 18 to 20 per cent. of saccharose, and sugar-cane an almost similar proportion, but the substance under investigation contains as much as 25 per cent.

The Hygiene of Dwellings.

Some years ago M. Juillerat, the chief of the Bureau of Hygiene of the Prefecture of the Seine, took up the question of the sanitary arrangement of all the houses in Paris. A new campaign has just been entered upon by the "Ligue Sociale des Acheteurs." This society, which formerly dealt with insanitary houses and the lodges of *concierges*, is now directing its attention to the conditions under which servants are housed. Its members bind themselves only to become tenants of those flats where the rooms allotted to the servants are provided with windows affording proper ventilation and light and where there is a proper apparatus for warming. A list of houses fulfilling these conditions will be drawn up and it will be open to public inspection.

The Treatment of Disease of the Hip-joint by Intra-articular Injections.

At a meeting of the Academy of Medicine held on Feb. 4th M. Calot discussed Hip Disease and held a brief for the great superiority of the method of treatment by injection over any cutting operation or simple immobilisation. He claims that it shortens the length of time necessary for treatment by two-thirds and brings about a cure without lameness or even shortening the limb. The treatment is practically identical with that of a cold abscess. If there is no effusion iodoform injections may be used, or still better a solution of naphthol-camphor in glycerine. M. Calot has been using this method of treatment since 1893.

The Thyroid Treatment of Chronic Rheumatism.

At the same meeting of the Academy M. Léopold de Lévi and M. Henri de Rothschild communicated a paper dealing with 39 cases of chronic rheumatism in patients of both sexes, aged from 12 to 15 years. 10 of these cases were of generalised chronic rheumatism, while 9 showed the nodular form with ankylosis and persistent pain. Out of these 19 patients 14 improved greatly, while 2 could be considered as cured. Of the 20 remaining cases who showed the disease in a milder form, 18 improved or were cured. The treatment consisted in the administration of 10 centigrammes of extract of sheep's thyroid from one to three times a day. The effects of the treatment must be carefully watched.

The Poison of Koch's Bacillus Tuberculosis.

At a meeting of the Academy of Sciences held on Feb. 10th Professor Armand Gautier brought forward some researches undertaken by Dr. Auclero and Dr. Paris on Koch's bacillus tuberculosis. These observers found three distinct poisons in the bacillus—namely, a tuberculin, lecithin, and a special protoplasm poison. This last can be separated chemically and a quarter of a milligramme of it will slowly kill an average-sized guinea-pig by bringing about the same conditions in the lungs as does the bacillus itself.

Arsenic in the Treatment of Syphilis.

At a meeting of the Therapeutical Society held on Jan. 18th M. Bardet put in a strong plea for the use of arsenic in cases of syphilis where mercury is ill borne. He was anxious that the treatment should be tried in hospital, and as he considers that in some cases of syphilis arsenic has a specific action he said that it ought to be tried by itself and not in combination with mercury or the iodides. In the town he thought it would be better given by injection, but in the country, where there might be a difficulty in the

TOMB OF AN ANCIENT EGYPTIAN PHYSICIAN.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 11th in your annotation on "The Burial Customs of Ancient Egypt" by Professor John Garstang you mention the following in connexion with the deceased physician's tomb—viz., that "various and many as were the objects deposited beside his body only two of these can in any way be considered as connected with his vocation—namely, a set of writing implements, consisting of a writing tablet and a pen-box"; also that "unfortunately no written notes survive upon the palette." The significance of the pen box and tablet in or upon the tomb seems to be misunderstood. They are not scarce in any of the bigger towns of India and Arabia. Those who have visited the well-known tombs of the Moghul Emperors, Akbar and Shah-Jehan, and their wives, must have noticed the carved pen box and the adjacent tablet, these being purely symbolic, the pen for the man—the active agent and doer of things; the unwritten slate representing the woman—i.e., the passive agent, the slave and complement of the man.

I am, Sir, yours faithfully,
L. JONES, M.R.C.S. Eng., L.R.C.P. Lond.

Sialkote, India.

THE SITUATION AT THE HAMPSTEAD GENERAL HOSPITAL.

To the Editor of THE LANCET.

SIR,—I think the time has come when an attempt should be made to remove the impression that this hospital has been guilty of some crime against society in general or the medical profession of Hampstead in particular, and in order to do this I beg the hospitality of your columns, although in telling the story I am largely repeating what has already appeared editorially in your columns.

The Hampstead Hospital was started in 1882 with a few beds for patients able to contribute a little towards their support, and was most successfully officered by certain general practitioners in its neighbourhood. It is misleading, however, to describe it as a "cottage hospital." The free beds, which have existed since 1894, have always been in charge of the regular medical staff; only the "contributory beds" have been available to other practitioners. In the new hospital there is no intention of taking away this privilege from the local members of the profession.

As a result of increased demands the first portion of the new hospital was erected two years ago with 64 beds, and in these excellent quarters the hospital has continued to receive the willing and able services of the same staff of general practitioners. At the opening ceremony it was announced that a sum of £10,000 was required to free the hospital from debt and that a further sum of £15,000 would complete the scheme to provide a total of 110 beds. An immediate response was received, Sir Henry Harben announcing that he was authorised by an anonymous donor to say that £20,000 would be forthcoming if the remaining £5000 required were obtained. To avoid diverting support from the general funds of the hospital by an appeal for this sum the council laid the conditions of this special offer before King Edward's Hospital Fund and received a promise from them to provide the sum of £5000. At the same time the King's Fund suggested that the growing importance of the hospital made it desirable for it to adopt a similar constitution for its medical staff to that of all other general hospitals in London.

At a later date the King's Fund having had its attention drawn to the condition of the North-West London Hospital, the buildings of which were considered unfit for continued treatment of in-patients, and the committee of that institution being unable to see its way to obtain an adequate sum for rebuilding, suggested that an amalgamation of that hospital with the Hampstead General Hospital might be arrived at, an out-patient department being maintained solely in Kentish Town and all in-patients being received at the Hampstead Hospital. The King's Fund decided that as it was proposed that the Hampstead General Hospital should henceforth be reckoned, as was the North-West London Hospital, amongst the Metropolitan hospitals, it should be a condition of the amalgamation that the Hampstead General Hospital should be officered by physicians and surgeons of recognised consulting rank. In a canvass on this proposal, by means of a series of questions issued to the members of the local profession, the opinions expressed for and against the change were almost equal, but the result was distinctly unfavourable to the scheme of a mixed staff of general practitioners and physicians and surgeons in consulting practice. It was eventually resolved by the council of the hospital to make the change to a staff consisting of physicians and surgeons in consulting practice, with definite provision for a term of continued service in the case of members of the existing staff of general practitioners. *These terms were accepted as satisfactory by the members of the existing staff*, except as regards the decision, arrived at later under the amalgamation scheme, that the two junior members in charge of out-patients (being in general practice), who were entitled to further service of 13 years each, should not be eligible for promotion to in-patient posts.

As regards the amalgamation proposals, I may say that on April 10th, 1907, a committee of the local medical profession and the medical staffs of the Hampstead and North-West London Hospitals reported to a meeting of the British Medical Association (Hampstead division) that the proposed amalgamation with the North-West London Hospital was desirable from the public point of view (on certain conditions). On the amalgamation being decided upon, the medical staff placed themselves in line with the local practitioners who were opposed to the changes. Since then, as your readers are aware, a canvass of local practitioners has been made by the Hampstead division of the British Medical Association, resulting in a vote which in their view justified their sending a "warning notice" to the *British Medical Journal* which was accepted.

I may say that the council of the hospital appreciate most highly the valuable services of the present acting medical staff and also their generosity in consenting to act until successors could be appointed; but the council nevertheless much regret that when arrangements had been made for the retention of these gentlemen on the staff, on a plan but slightly modified from that which had been approved by them, they should suddenly have changed their mind and *joined with others in a scheme for preventing their place being filled by such persons as the King's Fund suggested*, and financial reasons had compelled the council to accept. The hospital cannot get the promise of the necessary financial support in Hampstead—it will need three times as large an income as that which it has been able to count on—and it has no alternative but to accept the substantial and welcome help offered by the King's Fund, and at the same to submit to its conditions which, after all, in a place like London, are not unreasonable.

In conclusion, I would say that the council of the hospital have no quarrel with the medical profession in Hampstead, nor, on the other hand, have they any fear, doubt, or hesitation in adopting the course which the successful evolution of the hospital has thrust upon them.

I am, Sir, yours faithfully,
ERNEST COLLINS,
Chairman of the Council, Hampstead General Hospital.

Hampstead, Feb. 19th, 1908.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—Continuing on the ethical lines which we as a profession have been following the answer to the heading of this correspondence would be, "Not much." The letter of "Virtutem Sequor" contains much which can be agreed with, particularly that part in which he deals with so-called "specialists." Some while ago you headed a correspondence, "What is a specialist?" To this question you had replies but no definition. I will, with your kind permission, essay that needed definition. "A specialist in a department of the healing art is one who, knowing thoroughly the entire human body and its ailments, is able to devote his attention to that department for which his skill and dexterity are most suited." Instead of the above, "specialism," as now practised, should be defined as follows: "A 'specialist' is a person whose knowledge needs increasing and skill perfecting in that department in which he exclusively practises, presuming upon a superficial knowledge of the human body and its ailments generally." The contrast is as striking as true. The letter of "Half-and-Half" centres the "bull's-eye" and methods of acute observation and exact diagnosis. In his work on the infectious diseases of childhood and in his investigations on the treatment of rickets his knowledge of the complicated conditions of the growing organism is clearly illustrated. Professor Frühwald was director of the children's department of the Policlinic since 1891 and his lectures were attended by numbers of medical men from all countries, whilst his consulting-room was the meeting place of parents belonging to all classes of society. His health had been giving cause for anxiety since last summer. He had an attack of uræmia six months ago, and kidney trouble led on to cerebral hæmorrhage which finally proved fatal.

Cholelithiasis in Children.

At a recent meeting of the Medical Society Dr. Friedländer showed a boy, six years of age, who had from his second year suffered every few weeks from colic lasting for one or two days. When he passed solid motions these attacks ceased. Later a tumour was made out in the right hypochondrium and as vomiting occurred cholelithiasis was suspected and an operation was performed. The gall-bladder was enormously distended but no reason for the distension was discovered. A year later laparotomy had to be performed again. This time a large calculus was found in the cystic duct. The gall-bladder was removed and the patient was now doing well (ten months after the operation). As regards the earliest age at which cholelithiasis has been known to occur, Dr. Friedjung said that he has seen a biliary calculus in an infant four weeks old, but the condition must be very rare in children, because a case is hardly ever seen in the post-mortem rooms. Professor Naunyn believed that biliary calculi were not uncommon at the age of six years.

A Safe Method of Opening the Abdomen.

At a meeting of the Gesellschaft der Aerzte Professor Lihotzky explained a method of opening the abdomen which was new here although much in vogue in Germany and for which it was claimed that it gave an excellent functional result with a minimum of local disfigurement. It was called the suprasymphysic transverse section of the fasciæ. The incision was from three to four inches long, slightly curved, and extending transversely over the pubes, dividing the skin, subcutaneous tissue, and fasciæ. The latter were then detached from their base upwards and downwards so that the recti and pyramidales muscles were free. The recti muscles were then divided in a longitudinal direction so that they were held only by a thin layer of connective tissue and the transverse fascia and the peritoneum were subsequently incised. This method gave a very ample access to the abdominal and pelvic organs. Tumours reaching up to the umbilicus could be easily removed through the opening. All operations on the uterine adnexa as well as the total extirpation by Wertheim's method and the operative treatment of extra-uterine pregnancy could be easily performed. The closure of the wound was effected in the following manner. The peritoneum and the recti muscles were sutured in the longitudinal direction and the fasciæ and skin in the transverse direction. The sutured wound was covered with gauze, held down by two strips of adhesive plaster. After eight days the sutures in the skin were removed, after which the patient might be out of bed without any abdominal belt. The cosmetic defect of the scar was soon concealed by the hair growing over it, especially if the incision was not very large, whilst the transverse scar was not liable to become stretched with formation of ventral hernia. This functional superiority of the horizontal incision over the vertical one has been proved by many hundreds of cases in Germany and also in Austria. The method was also available for a bilateral Bassini operation if the angle of the incision was drawn well to the side by means of a blunt hook.

Excision of a Pad of Fat from the Abdominal Wall.

Professor Eiselsberg had recently under his care a man, 25 years of age, a waiter, who was not able to sit down on account of the fat on his abdominal wall. The patient's general conformation presented a juvenile type. All the epiphyses were in loose connexion with the diaphyses, the genital organs were infantile, and there was extensive lipomatosis. As the accumulation of fat was a hindrance to the patient in his occupation he was operated upon with a view of removing as much as possible of the superfluous tissue. Within 15 minutes six kilogrammes (13 pounds) of fat were removed and the patient had an uninterrupted recovery. This was the largest amount of fat intentionally excised of which there was a record where general lipomatosis was the indication, but in operations for hernia even larger quantities have been removed.

Feb. 17th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Industrial Accidents in 1907.

SINCE the coming in force of the Workmen's Compensation Act the necessity of exhaustive accident statistics is felt more and more. Francis Kossuth, Minister of Commercial Affairs, has endeavoured to fill this gap by publishing a detailed list of the industrial accidents in 1907. According to this list there were 18,962 accident cases notified in Hungary during that year, showing an excess of 407 in comparison with the previous year. Out of all accidents only 1170 befell women owing to the comparatively small number of working women in Hungary and to the fact that those occupied with work are mostly employed at home. While out of 1000 male workers 39 suffered from accidents, out of 1000 female workers only 17 were in the like case. More than four-fifths of the injuries caused incapacity to work, lasting less than four weeks. Persistent partial incapacity was caused by 257 accidents. Persistent entire incapacity occurred in 19 cases. Fatal accidents were 225 in number. In more than four-fifths of the accident cases the limbs were injured. In factory work there were ten times as many accidents as in small industries. The working days lost by the accidents amounted to something over 300,000.

A School for Mothers.

To teach mothers how to preserve their children from infective diseases and how to nurse them when healthy or ill a school was opened in Budapest last year and has had an immense success. Every lecture (delivered by voluntary lecturers) was attended by audiences consisting of from 1200 to 1300 mothers. The first lecture was delivered this year in the town-hall by Dr. F. Torday, chief physician of the State Foundling Home. The title of his lecture was: "The Preservation of the Health of the Future Generation; the Prevention of Tuberculosis and Scrofulosis." The entrance to these lectures is free and men are not admitted. The order of the lectures is as follows: Dr. Presich lectures on Rickets; Dr. Wein on the Bodily Education of Children at Home; Dr. Deloe on the Essentials of the Infective Diseases and their Prophylaxis; Dr. Berend on the Nutrition of Infants; and Dr. Schaffer on the Mental Training of Children. The good effect of this school is shown by the following declaration of the wife of a State official. "The frequenting of the lectures of the 'School for Mothers' is exceedingly useful for us. We learn there different things, amongst them one thing particularly—in case of emergency not to cry and rub our hands but to send for the doctor immediately, and then such disaster as I was unfortunate enough to survive will be avoided. About two years ago my baby (aged one year) was attacked by cramps. His face became bluish and the eyes turned upwards. The instruction of the grandmother was of no use; the child did not regain consciousness. The blue tint of the face changed to mortal paleness; the baby's glassy eyes showed that he was dead. We began to cry bitterly; baby was really dead. Later I learned that a medical man might have saved him by applying artificial respiration. Such a mishap will never occur in a family where the mother has gained such useful information as we gathered in the School for Mothers."

Medical Men's Hours of Consultation.

Dr. Lenard advises his *confrères* in the *Orvosok Lapja* to quit the old custom of remaining at home to receive patients in the afternoon. This, he says, has many disadvantages for medical men. First and foremost the practitioner is occupied thus during the whole day. He sees his patients at that time (forenoon) when patients generally are at their easiest. The temperature is highest in the afternoon and lowest in the morning hours. By keeping office hours between 8 and 10 A.M. he can execute all the calls which arrive during this time. Then making the out-door visits till 2 P.M. (remembering that the severer cases should be left till after 12 noon) he sees his patients at the time when their temperature is rising. After 2 P.M. he is free and can no day nurse has keys, &c. If this be so important and so satisfactory a factor, why should it be limited to the day-time? But doubtless this point must be considered with the recovery-rate, which, be it noted, is at Woodilee, according to published statistics, about the lowest in Great Britain.

I trust this is due to the large number of cases of dementia admitted, which should also explain the absence of keys, &c.; surely it cannot be due to the elaborate intermingling of corrugated iron, "compo" boarding, open air, and female nurses. I do not throw doubt for a moment upon Dr. Marr's great ability, nor the entirely excellent organisation and administration of the asylum over which he so zealously presides; this, however, has nothing to do with the subject at issue. I am, Sir, yours faithfully,

MEDICAL SUPERINTENDENT,
County Asylum (England).

Feb. 6th, 1908.

ANÆSTHESIA AND ITS MORTALITY.

To the Editor of THE LANCET.

SIR,—A discussion on "deaths under chloroform" at the Medico-Legal Society is reported in the lay press. Dr. F. W. Hewitt is there stated to have recommended a higher system of tuition as to the administration of anæsthetics. It would be interesting further to strengthen such a recommendation, by an inquiry as to why, at provincial, Scotch, and Irish hospitals, the percentage of deaths connected with the administration of anæsthetics is so small as compared with the London statistics. I am told that at Edinburgh the specially instructed students often administer the anæsthetic, and, in chloroform anæsthesia, only use a towel. So I am told. Is the special instruction there more thorough than here? Dr. Hewitt generally has good reason for his opinions. I am, Sir, yours faithfully,

Feb. 12th, 1908. G. H. R. D.

THE SITE OF A SANATORIUM.

To the Editor of THE LANCET.

SIR,—As I am interested in the efforts of the medical profession to minimise the ravages of consumption, perhaps you will give me a few particulars as to the nature of the soil on which a sanatorium should be built. The Cork Conjoint Hospital Board has been offered, as a free gift, land on which to erect a public sanatorium. The proposed site has been described as a bog over which snipe have been shot; bulrushes grow on it; the surface-earth to the depth of 6 or 12 inches is peat mould, under which is a deep stratum of yellow clay; there are several small ponds or holes, from 8 to 12 feet in diameter, containing stagnant water; and in other places surface water lies on the ground. Would this be a suitable or unsuitable site? Would it be a good or particularly good site, a bad or particularly bad site? As I know your journal focusses medical opinion on such subjects perhaps you will excuse me for venturing to address you.

I am, Sir, yours faithfully,

Feb. 13th, 1908. VALETUDINARIAN.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—A great many opinions are finding expression as to how the work of medical inspection of school children shall be carried out, and it seems doubtful whether the uncertainty at this moment exhibited can be in any degree edifying to the powers that be, or to the public who are acting the part of lookers-on.

The last memorandum of the Board of Education issued upon the subject states that the difficulties to be encountered are chiefly administrative. Precisely so, but the Board of Education do not do much to diminish these difficulties. The few suggestions which they have made in this behalf are sufficiently confusing. That they are desirous of linking up this public health work with the other public health work is evident and that the medical officer of health, who is the chief public health officer, must take a prominent part in the business is equally manifest, but having given a hint of their desire in this direction, they have left it to the local education committees to make all appointments, and these committees are to do the work as well as they can, or as badly as they will. The Board of Education have said in their memorandum that the sanitary authorities should instruct their medical officers of health to go in and advise the education committees. This is rather cool of the Board of Education, who have nothing to do with the sanitary authorities or their medical officers of health. And here lies difficulty No. 1—that is, the complication of having the public health work of the country managed by two different sets of committees, the public health committees proper and the education committees. Unless a free hand be allowed the superintending officer to conduct the work without interference from the education committee, whose members are likely to think themselves quite capable of "directing" the work of medical inspection, the result must be confusion worse confounded. There is no direction in the memorandum of the Board of Education as to how these committees are to treat and pay their medical officers, but we know that these officers will be expected to subscribe to the farce that it is the committee and not the officer that does the work and is the responsible party. And what is the Local Government Board doing that they allow officers that erstwhile were under their own sovereign control to become the fags of a peregrine department?

As to difficulty No 2, the Board of Education's memorandum alludes to the medical officer of health as if the office of that person were perfectly satisfactorily established and as if the public health department of every town of 20,000 inhabitants, and of every county in the land, were efficient, whereas we know it to be far otherwise. We know that three parts of the public health service that is being called upon to undertake this tremendous accession of work is hopelessly inefficient and incapable of its performance. And yet this work cannot be divorced from the public health office; it is public health work. The medical examination of the children, which must be itself deputed to the general practitioner, must nevertheless be directed and supervised from the public health department, and this general direction is only a part of the work that will fall to the public health officer, for much more will ensue *as the result of* the examinations and in connexion with them. Yet with the public health service in the condition it is, what a putting of the cart before the horse is this business. Would it not be better for Parliament in the present session to pass a repealing Act, or the Board of Education to send round a notice postponing all action until we have the needed reform in the public health service?

The various and bewildered propositions as to the way the medical inspection of school children shall be carried out which are emanating from the education committees *as the* result of deliberations guided by competent or incompetent medical officers of health, or unguided altogether by any medical officer, only further serve to exemplify the ridiculous condition of our public health administration, and of the absurdity of supposing that a work of such special character and national effect as that in question can be accomplished nationally by the independent ungoverned action of hundreds of different committees, or, for that matter, by as many medical officers of health acting without any general governance, constraint, or co-relation.

I am, Sir, yours faithfully,

Feb. 17th, 1908. M.D., D.P.H., M.O.H.

THE UNIVERSITY OF LONDON AND PROVINCIAL STUDENTS.

To the Editor of THE LANCET.

SIR,—May I, in the name of the numerous external students of the University of London, protest against the absurd length of time they are made to stay in town when *sitting for the final M.B.* examination? If a candidate takes all the subjects at one time he is kept up for three weeks. He has a good deal of his time wasted and in many instances his concluding tests are given to him *after* students residing in London have received theirs. In the case of a candidate only taking half the examination at a time the evil is much worse, for there is then an interval of eight or nine days of idleness provided for him. He has either to remain in London at considerable expense, or make two or more journeys to the provinces, which may be equally expensive. I consider that the authorities can, if they choose, remedy this state of affairs. I am, Sir, yours faithfully,

Feb. 18th, 1908. PROVINCIAL.

Obituary.

SIR JOHN DENIS MACDONALD, K.C.B., M.D. ST. AND., M.R.C.S. ENG., F.R.S.,

INSPECTOR-GENERAL R.N. (RETIRED).

ON Feb. 7th there passed away at Southsea, full of years and honour, one of that distinguished band of men of science who notably advanced the study of biology during the middle of the last century by its eager pursuit in deep waters. Sir John Denis Macdonald's services to science gained him the Fellowship of the Royal Society and his services to the navy won him a Knight Commandership of the Bath of the military division. He was born in 1826 and was the son of Mr. James Macdonald, an artist of Cork, a parentage which in some measure shaped his own subsequent tastes. He was educated privately and subsequently entered the Cork School of Medicine; his medical career, however, owed something to all three divisions of the British Isles, for he studied at King's College, London, and derived his M.D. in 1867 from St. Andrews. He qualified M.R.C.S. Eng. 18 years earlier and in the same year (1849) entered the Royal Navy as an assistant surgeon. His scientific tastes and faculty for classification at once gained him the post of curator to the Plymouth Hospital Museum and his bent also lay to the personal cultivation of the fine arts, a combination of tastes in a man of science as welcome as it is rare. Three years later H.M.S. *Herald* was commissioned for exploring and surveying work in the South Pacific, and Macdonald was gazetted to assist in the second of the great British marine explorations of the last century, 20 years later than Darwin had made his historical voyage in the *Beagle* and 20 years before Wyville Thomson won another laurel for British science in the *Challenger*. It may fairly be said that Macdonald's work ranks with that of those men and he pursued it unremittingly for seven years, bringing within the focus of his microscope many thousands of forms of marine life which had been netted and dredged. The value of his work was recognised in England and when he returned in 1859, at the early age of 33, he was made a Fellow of the Royal Society. In 1862 the sister society of Edinburgh awarded him the Macdougall-Brisbane medal, and gaining steady promotion in his service he was elected professor of naval hygiene at the Netley School in 1866, a post which he held for nine years. In 1871 he obtained further distinction in the shape of the Sir Gilbert Blane medal. His next promotion was in 1875, when he became a deputy inspector-general of hospitals and fleets, and in 1883 inspector-general to the Royal Naval Hospital at Stonehouse. He only held this post for three years, as he retired from the service in 1886. His knighthood was conferred upon him in 1902, and he has since lived in retirement.

Macdonald's contributions to literature included "An Analogy of Sound and Colour," published in 1869; "Outlines of Naval Hygiene" in 1881; "A Guide to the Microscopical Examination of Drinking Water" in 1883; the article on Yellow Fever in the first volume of Reynolds's System of Medicine in 1866; and various papers on biological matters in the Transactions of the Royal Societies of London and Edinburgh and of the Linnæan Society. He maintained his interest in microscopy, music, and painting until the last. He was a man of distinguished appearance and fine culture and his death has removed another of the few remaining leaders of science of the nineteenth century.

Sir John Macdonald was twice married, first in 1863 to Sarah Phœbe, daughter of Mr. Ely Walker, of Stanary House, Stainland, Yorks; this lady died in 1885; and secondly to Erina, daughter of the Rev. William Archer, who also predeceased him. He leaves two sons and two daughters and had resided with one of the latter, who is married to Mr. W. R. Meyer of Hurstpierpoint in Sussex, for the last ten years.

JOHN HENRY GALTON, M.D. LOND., M.R.C.S. ENG., L.S.A.

WE regret to announce the death of Dr. John Henry Galton, which took place at his residence, Chunam, Upper Norwood, on Feb. 7th. He was well known to several branches of the profession as a man who had always laboured to support its best interests; indeed, his fatal illness was directly due to his unwisely attending a meeting of the Council of the British Medical Association some ten days before he died, which was the occasion of his taking a chill resulting in a fatal bronchitis. For the last two years his heart and kidneys had shown signs of failing and last summer, after a visit to Aix-les-Bains, he broke down badly, but with rest and careful treatment he was able to be about again, though not enough to satisfy a man of his active disposition. Dr. Galton was the son of Dr. Edmund John Galton of Brixton Rise and was born in 1840; he was educated at Chatham House School, Ramsgate, and entered Guy's Hospital before he was 16 years old. He had a successful career as a student and in 1861 he obtained the qualifications of L.S.A. and M.R.C.S. Eng., and in the same year the degree of M.B. at the University of London, with the gold medal in midwifery, his M.D. following a year later. He served as house surgeon at his own hospital and then became resident medical officer at the Carey-street Dispensary. After these close years of London life he was attracted by the prospect of travel and obtained the surgeoncy of the Hudson Bay Company's vessel the *Prince Arthur*. He only made one voyage in her, however, and then turned his steps to the East, settling down in China, at Foochow, where he obtained the official medical appointments to H.B.M. Consulate, the gaol, and H.I.M. Customs. These posts gave him an opportunity of acquiring a wide practical knowledge especially of surgery, to which he had been early attracted. He operated freely on cases of elephantiasis. He was not to spend his days in a foreign land, for in five years he decided to return to England, and shortly after he had done so he married and settled down at Anerley in partnership with Mr. J. Sidney Turner, a partnership which was only terminated at the end of last year. He became one of the leaders of the medical profession in his district and in 1882 was largely interested in helping to found the Norwood Cottage Hospital, of which he was one of the original honorary surgeons, and to which he was appointed consulting surgeon on his retirement when his health first began to give way. He was also surgeon to the Anerley Dispensary and Lying-in Charity and his interest in gynæcology is evidenced by several contributions which he made to our columns between 1884 and 1887 dealing with cases of Cæsarean section and ovariotomy. It has been mentioned that he was at the time of his death a member of the council of the British Medical Association, of which he was a prominent supporter, having held the post of President of its South-Eastern Branch. He was the originator of the movement in favour of admitting medical women to the Association, and the successful issue of that movement was largely due to his powerful advocacy. Another valuable medical institution to which he gave his whole-hearted labour and support was Epsom College, with which his official connexion began in 1885, when he was elected a member of the council, and his interest in its affairs has been actively maintained. Until within the past few months, when continued ill-health prevented him from attending at the office in Soho-square, he rarely failed to be present at council and committee meetings and he was specially devoted to the benevolent side of the institution. Many a widow and orphan will miss his kindly interest in their cases, for he took a genuine interest in assisting by his votes those candidates whom he knew personally to be deserving of support, especially when, as sometimes was the case, they were the relatives of an old professional friend. In 1902 he was elected a vice-president of the institution in recognition of his having collected a sum of over £1000 in aid of the foundation attached to the college, and subsequently he was elected chairman of the finance and works committee, which offices he had to resign within two years in consequence of persistent ill-health. Whilst chairman of the works committee he took a leading part in the work of bringing the drainage system and the sanitary arrangements at the college to their present excellent condition at a total cost of £8000 and he paid frequent visits to the college as long as he was able to travel about. He originated the idea of providing the boys with the "Holman" art and reading room, which was erected out of contributions collected entirely by himself, to commemorate the services rendered to the college by his old friend Sir Constantine Holman, M.D., who then held the office of treasurer. These two were also closely associated in the work of the Surrey Medical Benevolent Society for very many years, Sir Constantine Holman holding the office of president and Dr. Galton the office of treasurer. His death cannot but be felt keenly by all who are the "slink butchers" show. Even Sir James Crichton-Browne comes under animadversion as exaggerating the defects of *private slaughter-houses, and the President boldly challenged* a comparison between them and the public slaughter-houses. Another argument was that if these private slaughter-houses were abolished "it would be one of the greatest blows agriculture had ever received," and very few would say in these days that our agriculture required any more blows. There was a strong feeling that as to the sale of meat which was diseased the butchers had just cause of complaint. For years the Federation had been fighting for compensation where tuberculous meat had been surrendered to the authorities for the public good. At present they are liable to penalties, and the relief they want is a warranty between the seller of the livestock and the meat-trader, "a full warranty throughout the United Kingdom." There will occasionally, no doubt, be cases of hardship where beasts sold to the butcher as healthy are found on his stall diseased; but as a rule he is acute enough to distinguish a diseased or doubtful beast. The system of inspection is *objected to*, as the butcher is not allowed to have an "independent expert" on his side. All these things and a few others no doubt take some of the glamour from the trade of butchering, but the health of the people is the paramount consideration.

Annual Meeting of the Trustees of the Royal Infirmary.

At the annual meeting of the trustees of the Royal Infirmary on Feb. 14th Mr. Cobbitt, the chairman, said that they had every reason to expect that the building would be completed by July 31st; and there was an urgent need for the subscriptions of the general public to be increased. He used an ingenious argument to show that the "district served by the infirmary could well afford to maintain it at the high level necessary, especially considering that following the trade boom of the past few years there should now be accumulated profits at the disposal of the community." Mr. Nevill Clegg, vice-chairman, followed up this appeal by saying that, apart from trade fluctuation, there was wealth enough in the district "to raise twice the sum of £7000 which was now contributed." No doubt this is so, and very little sacrifice on the part of "the general public" would be required to put the infirmary into a sound and satisfactory financial position. At present those who have worked for it so long and strenuously cannot but feel anxious for the future, faced as they are with the certainty of largely increased expenditure and, it is to be feared, a diminished feeling of duty or inclination to give to old-established medical charities.

Early Notification of Births.

The Medical Guild has expressed its strong objection to the Early Notification of Births Act in a letter from Dr. J. H. Taylor (the honorary secretary) to the Manchester papers. One objection is the disregard shown to what the medical profession holds as one of its most sacred duties—namely, "that it shall not divulge any facts learned in a professional capacity." Also that "it so utterly scorns the rights of medical practitioners that they have been completely alienated." Dr. Taylor says it becomes more and more evident that the Act has little chance of proving a success in its present form, and that "it is to the credit of the Manchester council that it has recognised this fact." At the annual meeting of the Guild the following motion was carried:—

> That the Medical Guild notes with great pleasure the refusal of the Manchester city council to adopt the Early Notification of Births Act, but, recognising the advantage to be gained in many cases by early assistance being given to nursing mothers by the health authorities, would urge its members and the medical profession generally to facilitate matters to the best of their ability by advising their patients in suitable cases to give early notification of births and to make application for any required assistance to the health department.

Mrs. Ryland's Will.

The provisions of Mrs. Ryland's will have been so widely quoted in the lay press that detailed mention of them here is unnecessary. The bequests to medical charity are substantial, and although the exclusion of the Royal Infirmary from benefit cannot fail to provoke comment the generosity displayed towards the Manchester Eye Hospital, the Dental Hospital, and the Hospital for Incurables is great. Medical men in Manchester also feel that they will have an intimate share in the good that will follow upon the bequest of £50,000 to the University. The largest legacy in the will, £200,000, was left for the up-keep of the John Ryland's Library, Mrs. Ryland's splendid gift to the city.

Feb. 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Local Government Board in Scotland.

THE Commission recently appointed by the Local Government Board for Scotland to inquire into complaints made concerning the fever hospitals at Falkirk and Ruchill has led to comment that may be useful upon this important Government department. The *Glasgow Herald*, in commenting on the relation of the Local Government Board to the various hospitals for infectious diseases throughout the country, points out, what must be manifest to medical men, that while it is the duty of the Board to inspect hospitals *for infectious* diseases and to compel local authorities to remove any existing defects the Board does not possess a staff adequate in numbers to undertake such work. The Local Government Board in England has one medical officer who is head of the medical department, one assistant medical *officer*, and 14 *medical inspectors* proper, besides two medical inspectors for Poor-law purposes. Ireland has one medical member on the Board and seven medical inspectors. The Local Government Board for Scotland, like the Irish Board, has one medical member but only one medical inspector and one part-time medical officer. Leaving England *out of the question*, it would appear that although Ireland and Scotland have roughly the same population the former has seven medical inspectors to the latter's one. It has been urged that there should be a regular inspection of infectious hospitals but one medical inspector is quite unfit to undertake a continuous round of such *systematic duties* as he ought to be engaged in. In Scotland, also, there are 69 poorhouses which must contain in the aggregate a very large number of sick people but the inspection of these is entirely left in lay hands. There is surely some room for improvement here.

Turner Memorial Hospital, Keith.

The annual meeting of the directors of the above hospital was held in the institution in the end of January. A report was read showing that after careful consideration the committee had come to the conclusion that the best use to which the improved finances of the hospital could be put was to make provision for the relief of patients suffering from consumption. A scheme was then approved for the erection of a sleeping shelter in the hospital grounds for the accommodation of two patients, the estimated cost for construction being about £60. In the course of the year 67 patients have been treated in the hospital and of these 43 have recovered, seven improved, eight have died, and nine remained in hospital on *Dec.* 31st last. The financial report for the year was satisfactory.

The Queen and Glasgow Maternity Hospital.

The Secretary for Scotland has intimated that Her Majesty the Queen has been graciously pleased to accept the office of President of Glasgow Maternity Hospital. It is expected that the new hospital will be opened in April.

St. Mungo's College, Glasgow.

The Lord Provost of Glasgow, Sir William Bilsland, who also occupies the position of chairman of the managers of the Royal Infirmary, visited Liverpool last week in connexion with the question which has arisen as to the future of St. Mungo's College and its relation to the Royal Infirmary. In Liverpool similar difficulties arose regarding medical teaching and were amicably arranged, and it is hoped that the Lord Provost, after consultation with the Lord Mayor of Liverpool, who is a prominent medical man, may be able to suggest a scheme that will prove satisfactory to all parties.

Cancer Research Appointment.

Dr. Archibald Leitch, of the Cancer Research Laboratories, the Middlesex Hospital, London, has been appointed investigator at the Caird Cancer Pavilion of the Dundee Royal Infirmary. Dr. Leitch is a graduate of the University of Glasgow and during the last five years has been engaged in cancer investigation at the Cancer Hospital, London, and later at the Middlesex Hospital Cancer Research Laboratory. He is the author of several papers on the subject, and recently was sent to Paris to inquire into and report on particular methods of treatment there. The new appointment is made under a grant of £1000 a year for five years by Mr. J. K. Caird, Dundee, for cancer research.

Aberdeen Royal Infirmary: Annual Report.

The twenty-first annual report by the directors of the

Medicine for Women; Cecil George Richardson, King's College and Westminster Hospital; Edward Hesketh Roberts, University College; Arthur Denys Rope, Middlesex Hospital; David Scurlock, St. Mary's Hospital; Edward Albert Seymour, St. Thomas's Hospital; Robert Stout and ‡Graham Yaldon Thomson, Guy's Hospital; Marjorie Edith Wagstaff, London (Royal Free Hospital) School of Medicine for Women; Ernest White, St. Bartholomew's Hospital; ‡William Stanley Wildman, London Hospital; and Charles Witts, Guy's Hospital.

The following candidate having qualified in organic chemistry has now completed the Intermediate Examination in Medicine:—

Phirozshaw Cooverji Bharucha, University College.

* Distinguished in Anatomy. † Distinguished in Physiology.
‡ Distinguished in Pharmacology.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

UNIVERSITY OF OXFORD.—The following have been re-elected members of the Board of the Faculty of Medicine: J. R. Magrath, D.D., Provost of Queen's College; F. A. Dixey, D.M., Fellow of Wadham College; A. L. Ormerod, D.M., New College; W. Bruce Clarke, B.M., Pembroke College; and A. P. Parker, B.M., Magdalen College.

THE TREATMENT OF STAMMERING AT ELEMENTARY SCHOOLS.—In our issues of Oct. 19th and Nov. 16th, 1907, we commented on the success which had been obtained in the treatment of stammering in children attending elementary schools, the instructors being Mr. W. A. Yearsley in Darwen and Miss Mona Clay and Professor Berquand in Manchester. Mr. Yearsley employs what he calls the "auto-phonic" system; it commences with "breathing exercises," after which come vocal gymnastics, and then a combination of vocal, breathing, and physical exercises, together with dumb-bell practice. The course of instruction lasts for about six weeks. The system has received the approval of the education authority in Radcliffe, Lancashire, where a class was formed of 23 boys and nine girls, all of whom suffered from stammering, stuttering, or defective articulation. Dr. D. P. M. Farquharson, the medical officer of health of Radcliffe, in a report presented to the education authority, gave a very favourable account of the results, and eight weeks after the termination of the instruction the education committee on putting the children to practical tests found that the improvement was well maintained.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN SUSSEX.—The West Sussex county council had before it at its meeting on Feb. 7th the application of the West Sussex education committee for the appointment of a county medical officer for the purpose of working and supervising and, as far as possible, performing the duties required by the Act. The finance committee of the county council recommended that the education committee should be empowered to proceed with its proposals upon the estimate submitted—viz., £675 per annum. Considerable objection was raised, it being considered inexpedient for the education committee to appoint a medical officer, as it was considered that those duties could, and should, be carried out in intimate conjunction with the public health authorities under the direct supervision of their own medical officers of health. Another objection was that there were enough inspectors going about already and that if the education committee appointed a man he would be a specialist, "and specialists are always men of narrow minds," to use the councillor's own words. But beyond being emphasised the various objections were not put to the vote, and in the result the committee's recommendation was carried. At a subsequent meeting of the education committee, however, it was announced that Mr. E. I. Bostock of Horsham, who has recently retired from practice, had offered to carry out, without remuneration, the duties until the committee had made further arrangements. This offer was accepted as an experiment, the chairman remarking that, of course, the committee would give Mr. Bostock an honorarium.—Acting upon the advice of Dr. A. Newsholme, the late medical officer of health of the borough, the Brighton town council on Feb. 6th decided to appoint a whole-time medical officer to carry out the medical inspection of schools under Section 13 of the Education (Administrative Provisions) Act, 1907. There are 18,000 children in the elementary schools of the town, and the council, reckoning that of this number 6000 will require to be inspected medically annually, decided that the salary should be at the rate of one shilling per head per inspection, or £300 per annum. At the same meeting it was decided to appoint an additional school nurse at a salary of £90 or £100 per annum.

CHELSEA CLINICAL SOCIETY.—The annual dinner of this society will take place at the New Gaiety Restaurant, Strand, on Thursday, Feb. 27th, at 7.45 P.M. All information concerning dinner tickets and tickets for guests can be obtained from Dr. K. R. Collis Hallowes, 104, Buckingham Palace-road, London, S.W.

CLIFTON DISPENSARY.—The annual meeting of the subscribers to this institution was held on Feb. 4th. The medical report stated that during 1907 there were 3149 patients treated (including 67 cases of midwifery), as compared with 3612 in the previous year. The financial statement showed a small unfavourable balance.

BRISTOL EYE HOSPITAL.—The annual meeting of the subscribers to this hospital was held on Feb. 5th under the presidency of the Lord Mayor. The annual report stated that during 1907 the in-patients numbered 513, being 59 in excess of the previous year; and that 7397 out-patients had been treated as compared with 6805 in 1906. The financial statement showed an unfavourable balance of £537.

METROPOLITAN ASYLUMS BOARD.—This Board at a recent meeting decided to increase the remuneration of medical superintendents in the hospitals as follows: Salary (1) commencing at £500 per annum and rising by four annual increments of £25 to £600 per annum, and thence by two further annual increments of £50 to £700 per annum; and (2) after the expiration of ten completed years of service as a medical superintendent to rise from £700 per annum by £50 annually to a maximum of £800 per annum. The emoluments consist of unfurnished house (or furnished apartments) and washing. The salary hitherto assigned to a medical superintendent commenced at £400 and rose annually by £25 to a maximum of £700 per annum with emoluments of unfurnished house (or furnished apartments), washing, fire, and lighting.

UNIVERSITY OF SHEFFIELD.—The Council of the University has appointed Mr. John L. Annan, M.B., Ch.B. Edin., to the post of Demonstrator in Anatomy. Dr. Annan is at present Demonstrator of Anatomy in the University of Edinburgh and house physician in the skin wards of the Edinburgh Royal Infirmary. The Council has also appointed the following gentlemen to the newly instituted clinical tutorships: Mr. Miles H. Phillips, M.B., B.S. Lond., F.R.C.S. Eng., in Obstetrics and Gynæcology; Mr. Graham S. Simpson, F.R.C.S. Eng., in Surgery; and Mr. A. E. Barnes, M.B. Lond., M.R.C.P. Lond., in Medicine. Dr. Phillips is the assistant medical officer at the Jessop Hospital for Women and Mr. Simpson is the assistant surgeon at the Sheffield Royal Hospital. Dr. Barnes holds a British Medical Association Research Scholarship and is at present engaged in research in the Pathological Laboratory of the University.

THE ANNIVERSARY DINNER OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The twenty-sixth anniversary dinner of this society was held under the chairmanship of Mr. Richard Lake, the President, on Feb. 13th at the Wharncliffe Rooms, Hotel Great Central, Marylebone, London, and the occasion proved a great success, for which due praise was accorded to Dr. F. G. Crookshank, the senior secretary, and his colleague, Mr. A. Baldwin. "The Imperial Forces" was proposed by Mr. Herbert W. Chambers and was responded to by Colonel A. T. Sloggett, R.A.M.C. The chairman submitted the toast of the evening, "The West London Medico-Chirurgical Society." He was able to report that the finances were in a healthy condition and that the ordinary meetings of the society, of which nine were held during the session, had been well attended, the average number present at each meeting being 41. He was happy to state that there was an increase in the total membership, the number of members nearly reaching the total of 700. More books were being added to the library and there was a satisfactory arrangement for supplying members with an opportunity of seeing newly-published works. He concluded his speech with a graceful reference to the founder of the society, Mr. C. R. B. Keetley. Dr. A. J. R. Oxley proposed the toast of "The Kindred Societies and Guests," in the course of which he referred to the services rendered to the profession by Sir William S. Church, President of the Royal Society of Medicine. Sir patient going to the medical man or *vice versâ*, it could be given by the mouth in the ordinary manner.

Obituary.

Dr. Peyron, formerly Director of the Assistance Publique and also of the department which dealt with deaf mutes, died last week. He was Director of the Assistance for 14 years, but latterly had retired to Marines in the department of Seine-et-Oise.

Feb. 18th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

The Bacteriological Examination of Sputum and Urine.

ALL pathologists know how difficult it often is to find tubercle bacilli in specimens where only a few are present, and those perhaps not uniformly distributed throughout the substance under examination. Researches made by Dr. Ellermann and Dr. Erlandsen and communicated by them to the last meeting of the Copenhagen Medical Society have led to the adoption of a new method which increases the relative number of the bacilli from 10 to 20 times. Sputum is treated as follows: (1) 20 cubic centimetres of sputum are carefully mixed with 10 cubic centimetres of a 0·6 per cent. solution of carbonate of sodium and placed in the thermostat (37° C.) for 24 hours; (2) the sputum is centrifugalised; (3) four parts of a 0·25 per cent. solution of caustic soda are added to the deposit, mixed carefully, and boiled for half a minute; and (4) it is again centrifugalised. Urine is treated somewhat differently to begin with. First, the clear urine is poured off the sediment, which is subsequently centrifugalised. To the resulting sediment four parts of a 0·25 per cent. solution of carbonate of sodium are added with from 25 to 50 centigrammes of pancreatin; it is placed in the thermostat (37°) for 24 hours, and subsequently treated as sputum in directions (3) and (4) above.

A Boycott of the Copenhagen Hospitals.

Danish medical circles have been much interested in the struggle that has arisen between the municipality of Copenhagen and the Association of Junior Medical Men. In order to explain to an English public the object of the conflict and its importance I must in a few words deal with the way in which hospitals are managed in Denmark, as on this point a great difference obtains from what is customary in England. In the first place, hospitals supported by private subscriptions are here practically unknown save some few minor institutions maintained by Roman Catholic religious orders. The Crown supports one (University) hospital with 300 beds, which takes in such patients from the whole country as are considered suitable for the instruction of the medical students. All other hospitals are managed by the different municipalities themselves, the expenses being chiefly defrayed out of the rates. Only a comparatively small amount is paid by the patients or by the sick clubs of which they are members. For a town like Copenhagen this expense forms, of course, rather a heavy item. The municipality of Copenhagen has 430,000 inhabitants and supports ten hospitals with a total of 2900 beds, besides a lunatic asylum of 1400 beds. The total yearly outlay on the hospitals alone (the lunatic asylum not included) is somewhat below £200,000. Of this sum £150,000 a year are paid directly from the rates, the rest being paid by the patients, the clubs, the Crown, and so forth. The other point in which our hospital management differs from English ways is this, that our hospital staffs are not composed of honorary medical officers. Not only are the resident medical officers paid but so also are all the medical men who visit the hospitals. Of course, the salary is highly inadequate, and the Association of Junior Medical Men, which numbers amongst its members all Danish medical men not yet in actual practice as well as all junior medical officers of the hospital staffs, has therefore considered it highly important to try to obtain an improvement in the salaries. A year ago one party of the town council of Copenhagen had at last granted the very modest wishes of the association, but at the final discussion in the council one of the members—I am sorry to say it was a colleague of ours—saw fit to oppose the proposal, which was therefore only passed a few days ago and in a badly modified form. The Association of Junior Medical Men at once resolved to act on the offensive and with the support of the Danish General Medical Association, which latter numbers amongst its members practically all medical men in practice, it has now invited all medical men in Denmark to abstain from applying for appointments in the Copenhagen municipal hospitals. As the profession in Denmark forms one compact body, outsiders being very scarce, and as a great number of appointments in the said hospitals will shortly become vacant, the pressure brought to act on the town council is very strong. In order to insure the proper care of the sick during the struggle the association is offering the municipality to procure any requisite number of locum-tenents, but of course their salary would be the ordinary rather high one paid by the medical men themselves. This boycott certainly smacks of trade unionism, but the time has finally come for the profession to see clearly that this is the only way in which it can maintain its position. It is confidently expected that this struggle will end in a victory for the profession. The outcome of the struggle is all the more important in that very soon the whole medical system of Denmark is to be discussed and altered by a Royal Commission. Other important questions are also pending—e.g., that of the salary of sick club medical officers. If the profession wins in the present struggle the result cannot fail to influence the solution of the other questions in a way favourable to ourselves.

An Interesting Method of Raising Funds for Benevolent Institutions.

Signs are not wanting to show that the Danish National League for Combating Tuberculosis is now nearing it sgoal as far as the establishment of a sufficient number of sanatoriums for the poorer classes of the population is concerned. But while this has been brought about by the work and contributions of a comparatively restricted number of persons throughout the country, the promoters of a scheme for a special children's sanatorium have succeeded in interesting all classes of the community, rich and poor alike, in their object and that in a practical manner. This has been attained by the issue of a special Christmas stamp which for the four last years has been sold at all post-offices (price one farthing) from a little before Christmas until New Year's Eve. Any letter posted in Denmark during that space of time carries besides the ordinary postage one or more of the Christmas stamps. The whole output of the sale of Christmas stamps goes towards the children's sanatorium; it has during the four years reached a total of £20,000, certainly a very good result considering the fact that Denmark only has 2,500,000 inhabitants. This plan might perhaps be adopted by other and greater countries for raising funds for benevolent institutions. The Crown suffers no loss from the scheme as the usual postage has to be paid in ordinary stamps.

Feb. 17th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Special Charges for Dispensing Medicines at Night.

BY an understanding arrived at recently between all the corporations concerned the Society of Apothecaries has given public notice that in future for all prescriptions, with one exception, an extra charge of about 6*d*. will be made if they are dispensed at night time—i.e., after 9 P.M. and before 7 A.M. This extra 6*d*. will be handed over to the fund for the old-age pensions of the apothecaries' assistants. If, however, the medical man adds the letters "E. N." (*expeditio nocturna*) to the prescription it will be free from the extra charge and this is expected in all urgent night cases. As a good many prescriptions and pharmaceutical preparations have been obtained by the public after the usual business hours, and as only the regularly constituted apothecaries are, in this country, allowed to make up prescriptions the abuse has grown very much during the last few years. The raising of the charges for dispensing is not without interest for the medical profession because those village practitioners who have dispensaries of their own attached to their consulting-rooms will also be obliged to charge the increased sum for dispensing at night.

Death of Professor Frühwald.

Professor Frühwald, one of the best known Vienna specialists for children's diseases, died recently. He was a pupil of Professor Widerhofer, from whom he learned the

16. In the case of "other tobacco" mere possession does not constitute the proposed offence. It must be destined for the use of the juvenile delinquent. Exemption to young persons employed in the tobacco trade is given, in so far that they may continue their employment, but they are prohibited from smoking in the same way as if they were not employed in the business. A clause of the Bill deals with automatic machines for the sale of tobacco or cigarettes. It is proposed to endow courts of summary jurisdiction with powers to order the person on whose premises such a machine is kept to prevent it being extensively used by children and young persons for obtaining tobacco. Non-compliance with this order renders the person against whom it is made liable to a fine, which may be increased daily so long as his offence continues. However, he may either himself or by his agents make seizures of the cigarettes and tobacco obtained from the machine by young persons apparently under the age of 16.

The Children's Bill has been received with much satisfaction in all quarters of the House of Commons. Many of its provisions are generally conceded to be long overdue. In a measure of such length, however, there are almost bound to be clauses which in their drafting are unacceptable to some members. Mr. SAMUEL, who has been taking charge of the Bill, has approached the House in such a conciliatory spirit as to give the impression that the Government will exert itself to remove difficulties of this kind from the progress of the measure.

Infant Life Protection Committee.

The promised select committee of the House of Commons has been constituted to inquire into the advisability of extending the Infant Life Protection Act, 1897. The committee, which is a small one, has already set to work. Mr. JOHN ELLIS has been chosen as chairman. Steps have been taken to secure the attendance of witnesses competent to speak on the subject. The committee will meet again this week and it is understood that it will use the utmost despatch in completing the inquiry.

Poisons and Pharmacy Bill.

The Earl of CREWE has introduced into the House of Lords a Bill "to regulate the sale of certain poisonous substances, and to amend the Pharmacy Acts." The Bill was read a first time.

Nurses (Registration) Bill.

Mr. CLAUDE HAY has introduced into the House of Commons a Bill "to regulate the qualifications and registration of trained nurses." Sir ARTHUR BIGNOLD is associated with Mr. HAY in bringing in this Bill, which was read a first time.

Medical Practice by Companies.

Sir JOHN BATTY TUKE on Wednesday introduced into the House of Commons a Bill to prohibit joint-stock companies from acting as physicians, surgeons, or medical practitioners. The Bill as a matter of form was read a first time. Legislation dealing with this subject passed through the House of Lords last year, but owing to the congestion of business it failed to be considered by the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 12TH.

Deaths from Starvation in London.

Mr. SUMMERBELL asked the President of the Local Government Board what were the number of deaths in 1907 in London upon which a coroner's jury returned a verdict of death from starvation or death accelerated by privation; how many of these took place in Whitechapel; if he had not yet received the Home Office returns as to these deaths, whether he would without delay obtain from the Whitechapel guardians or from the Poor-law inspector of the district the number of such deaths from starvation in Whitechapel in 1907; and whether he had conferred, or would confer, with the guardians of Whitechapel as to steps to prevent or diminish the number of such deaths.—Mr. BURNS replied in a written answer: I am not able to give the numbers for the year 1907, as the necessary particulars have not yet been obtained by the Home Office from the coroners. I have communicated with the clerk to the Whitechapel guardians as to the occurrence in that union in 1907 of cases of the kind referred to, and I am informed that the medical superintendent of the infirmary has caused a search to be made and can find only one such case—namely, that of George Wright who died on July 25th last and in respect of whom the verdict of the coroner's jury was that he died from pneumonia accelerated by neglect and want of food. I will inquire as to the circumstances of this case, but I am not at present aware of any need for action of the kind suggested in the concluding part of the question. In connexion with this matter the character of the district and the large number of persons of migratory habits attracted thereto by free shelters and common lodging-houses must be borne in mind.

Overcrowding in Scotland.

Mr. DUNDAS WHITE asked the President of the Board of Trade whether his attention had been called to the fact that in the recent report on the cost of living of the working classes in the principal industrial towns of the United Kingdom, the percentages of the total populations occupying overcrowded tenements—i.e., more than two persons per room—were given for the specified towns of England, Ireland, and Wales, but not for the specified towns of Scotland, it being stated that the figures for the Scottish towns were not available; whether he could state what were the corresponding figures for those Scottish towns; and whether he would consider the advisability of framing the forms for the next Census so as to obtain that information.—Mr. SINCLAIR, the Secretary for Scotland, sent the following written reply:—My attention was directed some time ago to the fact that the figures referred to are not given in the Scottish Census Report, and under my instructions a return has been prepared for presentation to the House which will give full information on the subject for the whole of Scotland. The figures for the specified Scotch towns are as follows:—

Town.	Percentage of population living more than two in a room.
Aberdeen	38·1
Dundee	49·44
Edinburgh	32·94
Glasgow	54·7
Greenock	54·17
Kilmarnock	55·94
Leith	43·8
Paisley	58·76
Perth	28·26

My honourable friend will remember that the Board of Trade report draws attention to the fact that the tenement system of blocks of small flats is in Scotland the normal type of working-class dwelling, and that the rooms are generally much larger than those of an English cottage. The question of including these figures in the next Census Report will receive consideration.

THURSDAY, FEB. 13TH.

The Sale of Tuberculous Cattle in Scotland.

Mr. CATHCART WASON asked the Secretary for Scotland whether he was aware that in Scotland cattle in the last stages of tuberculosis were occasionally exposed for sale and food in the open market, with consequent risk of spread of the disease and danger to human life; and whether he proposed to take any steps by legislation or otherwise in order that persons submitting dying diseased cattle for sale might be prosecuted.—Mr. SINCLAIR replied: Section 43, 1 *a* of the Public Health (Scotland) Act, 1897, enables the officials of the local authority to seize animals that are intended for the food of man and are exposed for sale if they are diseased or unsound or unfit for the food of man, and the person to whom the animal belongs is liable to prosecution. The officials of the local authorities make use of this power and there does not seem need for fresh legislation in the direction suggested.

St. Andrew's Ambulance Classes.

Major ANSTRUTHER-GRAY asked the President of the Board of Trade whether instructions had been given to oblige Scotch candidates for master and mates first-aid certificates to qualify through St. Andrew's Ambulance instead of St. John's; whether he was aware that the yearly St. Andrew's course consisted of 144 lectures, while that of St. John's was only 52, and that the St. Andrew's Ambulance course was therefore more expensive in time and money than that of St. John's; whether the St. John's Ambulance classes, hitherto conducted on the East Coast of Scotland, had proved satisfactory; and, if so, why a system involving more time, trouble, and expense was enforced in Scotland and an easier system deemed sufficient for English candidates.—Mr. KEARLEY (Parliamentary Secretary to the Board of Trade) replied: Before granting a certificate for master or mate we require a man to have a knowledge of first-aid to the injured. This he can acquire through attending a course under either of the societies mentioned in the question. We have been in communication with the two societies, and as the St. John Ambulance Association informs us that it has centres at one or two Scottish ports only we have arranged with the St. Andrew's Society that courses should be available at all the chief ports in Scotland. If the suggestion in the question is that the Board imposes attendance at one society's course rather than the other the honourable and gallant Member is under a misapprehension.

Medical Inspection of School Children in Ireland.

Mr. JEREMIAH MACVEAGH asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the resolution of the Irish Committee of the British Medical Association, urging the necessity of the medical inspection of school children in Ireland on the lines already adopted by legislation with regard to England; and whether, having regard to the fact that every argument for such inspection in England applied with even greater force to Ireland, he would consider whether steps could be taken to give effect to this recommendation.—Mr. BIRRELL answered: I have received a communication from the Irish Committee of the British Medical Association to the effect stated in the question. I have been in communication with the Commissioners of National Education upon the subject generally and the matter is to be further considered by the Commissioners at their meeting next week. I would therefore ask the honourable Member to defer the question for the present.

FRIDAY, FEB. 14TH.

Diphtheria in Wood-Pigeons.

In answer to Major ANSTRUTHER-GRAY,

Sir EDWARD STRACHEY (representing the Board of Agriculture) stated that the Board was aware of the prevalence of the disease called diphtheria in wood-pigeons in several counties in England. That department understood that scientific investigations were being made, the results of which would be carefully watched. They did not think that the matter could with advantage be made the subject of inquiry by a commission. As to whether the disease was of a nature to be dangerous to man, he would bring the subject before the Local Government Board, by which questions concerning the public health fell to be considered.

MONDAY, FEB. 17TH.

Malta Fever.

Mr. MALLET asked the Secretary of State for War whether he was aware of the public service rendered by a commission of the Royal Society, at the request of the War Office and the Admiralty, in discovering the cause of Malta fever, from which many hundreds annually of our soldiers and sailors on that island till recently suffered; and whether, in view of the importance of this discovery in the annals of preventive medicine, inasmuch as at the present moment the disease had been entirely stamped out, he would consider the desirability of giving the thanks of the Government to the Royal Society for this instance of the successful application of British scientific research.—

enjoy the rest of the day. This fact, particularly in summer time, is very valuable considering the possibility of making excursions and attending outdoor amusements.

The Taxation of Secret Medicines and Cosmetics.

Vilmos Szigethy, a financial expert, has submitted a proposition to the Minister of Financial Affairs wherein he advises the taxation of all cosmetic and hygienic specialities. He shows that most of these substances are articles of luxury on which the manufacturers make immense profits, considering the fact that their production often costs less than the bottles and boxes wherein they are packed. The statistical returns of the last five years' imports of these articles prove that during this time £500,000 worth of perfumery and cosmetics and £200,000 worth of ready-made pharmaceutical preparations were imported into Hungary. The import increases from year to year. The demand is very large considering the fact that in Hungary itself cosmetics to the value of about £1,000,000 are manufactured. Szigethy quotes sad instances showing how detrimental these conditions are to the respectable druggists. He proposes to impose a tax on all cosmetics and secret medicines amounting to 25 per cent. of the sale price of the same. The proposal will be brought before the Legislature.

Calomel in the Treatment of Tuberculosis.

In a lecture delivered before a provincial medical society Dr. Bucsányi said that calomel has an almost specific action on phlyctenular conjunctivitis and on lupus tubercles. As it has such a particularly good effect on local tuberculous affections he has used it also for pulmonary tuberculosis in the form of inhalations. The method of administration is as follows: above a spirit lamp he puts a sheet of tin, and strews over it from 1 to 2 grammes of calomel (*via humida paratum*). In a few minutes the calomel is converted into a white, odourless vapour which is inhaled by the patient. These inhalations may be carried on for several weeks without the least harm to the patient. Dr. Bucsányi did not observe diarrhœa, salivation, or loss of appetite. He has applied this treatment in seven cases already and is satisfied with the results.

Feb. 13th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

United States and Canadian Methods of Health Inspection of Immigrants Compared.

IN a report recently issued by Dr. P. H. Bryce, of the Department of the Interior in the Canadian Government, this officer, who has had charge of the inspection of immigrants, states that the Canadian Act provides conditionally that otherwise desirable immigrants suffering from some curable disease may be detained for treatment, while the Act of the United States not only excludes persons suffering from loathsome and contagious diseases of a chronic type but further levies a fine upon the vessel carrying them if there is reasonable ground to suppose that the disease could have been detected before embarkation. In the case of Canada no immigrant shall be permitted to land in this country who is feeble-minded, an idiot or epileptic, or who is insane or has had an attack of insanity within four years. In this respect the United States Act is precisely the same. The chief difference in the laws of the two countries regarding the exclusion of undesirables is that the United States prohibits polygamists and anarchists from entering the country, while the immigration laws of Canada do not discriminate against these classes. The laws of Canada exclude the deaf, dumb, and blind, unless the immigrant so affected belongs to a family which will give security for his permanent support. From the United States are debarred persons who are undergoing a sentence for correction in their own country for crimes other than political, or whose sentence has been remitted conditional on their emigration. Canada is lax in this respect. The percentages of deportations in the two countries for the past nine years to the total immigrations show a higher ratio in the United States than in Canada. Of the British immigrants only 1 in 1003 is deported, while amongst those from the continent 1 in every 237 is deported from Canada. Of the latter the highest deportations are amongst Italians.

Annual Report of the Royal Victoria Hospital, Montreal.

There were admitted to the wards of the Royal Victoria Hospital during the year 1907 3398 patients, a decrease of 46 from the previous year. Of these 1994 were Protestants, 1071 were Roman Catholics, 290 were Hebrews, and 43 were of other faiths. The free patients numbered 1656 and the public ward patients 1280, and there were 462 private patients. Of the total number 2473 were residents of Montreal. The total days of hospital treatment aggregated 81,902, as against 73,993 for the previous year. The average number of days' stay in hospital per patient was 24·10, as against 22·04 for the previous year. On Jan. 1st, 1907, there were 224 patients in the hospital remaining from 1906, and during the year 3404 were discharged, of whom 1897 were well, 1002 were improved, and 165 were not improved, while 123 were not treated and 217 died. There remained in the hospital on Dec. 31st, 1907, 218. Of the 217 deaths 71 took place within 48 hours of admission. The death-rate for the year has been 6·81 per cent., or, if those dying within 48 hours of their admission be deducted the rate would be 4·58 per cent. In the 14 years during which the hospital has been in existence it has treated 36 524 patients. In the out-patient departments during 1907 there were treated 4156 patients, the number of visits of these aggregating 27,399 consultations. The income for the year amounted to $168,381, while the ordinary expenditure amounted to $146,610. The total cost per day per patient has been $1.79.

Retirement of the Dean of the Laval Medical Faculty.

Dr. Jean Philippe Rottot, for many years dean of the medical faculty of Laval University, Montreal, has retired from this honourable post. Dr. Rottot was born in 1825 and graduated from the old Victoria College, Montreal, and was admitted to the practice of medicine in 1847. In 1850 he was given the chair of botany at Victoria College, which he left in 1878 to enter Laval University. Two years after he succeeded Dr. Pierre Beaubien in the chair of pathology, and when the Notre Dame Hospital was founded he was made head of the clinical department. In 1891 Dr. Rottot was given the deanship of the medical faculty of Laval University, which he has retained until the present time. His departure from the University is deeply regretted by both professors and students.

British Association for the Advancement of Science in Winnipeg in 1909.

Considerable progress has been already made with the arrangements for the meeting of the British Association for the Advancement of Science in Winnipeg in 1909. This will be the fourth time in 70 years that the Association has met outside the British Isles. The first occasion was in 1884 when the meeting took place in Montreal; the second in Toronto in 1897; and the third in South Africa in 1905. The Dominion Government has promised a grant of $25,000 towards the expenses of the meeting and the local executive will collect $50,000 for the entertainment of the visitors. The meeting will probably be held on August 25th and following days. Professor M. A. Parker, University of Manitoba, Winnipeg, Manitoba, is the honorary local secretary.

Violent and Sudden Deaths in Montreal in 1907.

According to the official report of Coroner MacMahon of Montreal there were 785 deaths in that city due to violence in 1907. Altogether 83 persons were killed by railways, of which deaths 60 were due to steam railways and 23 to street cars. Fire was responsible for the deaths of 44 persons, including 17 children and one teacher in a school fire. There were 12 homicides, 27 suicides, and 53 drowning accidents. The sudden deaths were 217. An automobile was responsible for one death.

Feb. 6th.

ROYAL SOCIETY OF MEDICINE: THERAPEUTICAL AND PHARMACOLOGICAL SECTION.—A conversazione of this section to which ladies are invited, will be held in the Apothecaries' Hall, Blackfriars, E.C., on Tuesday, Feb. 25th, at 4.30 P.M. An address will be given by Dr. Harry Campbell on the Therapeutics of Diet; there will also be demonstrations of electrical apparatus, colour photography, and an exhibition of instruments, drugs, and foods. Admission will be by signature or card of a Fellow of the society or a member of the section.

Chemistry in the University of Copenhagen. Translated from the Danish by Katharine A. Burke, B Sc. Lond., Assistant in the Department of Chemistry, University College, London. Price 9*s.*

MITTLER, ERNST SIEGFRIED UND SOHN, Kochstrasse, 68–71, Berlin.

Medizinal-Berichte über die Deutschen Schutzgebiete-Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen, Marshall-Inseln und Samoa, für das Jahr 1905–06. Herausgegeben vom Reichskolonialamt. Price M.7.50.

ORANGE JUDD COMPANY, New York. (KEGAN PAUL, TRENCH, TRÜBNER AND CO., LIMITED, London.)

Practical Dairy Bacteriology. By H. W. Conn, Ph.D., Professor of Biology of Wesleyan University and Bacteriologist of the State Board of Health of Connecticut. *Price 6s. 6d.*

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, Sixty-sixth-street and Avenue A, New York, U.S.A.

Studies from the Rockefeller Institute for Medical Research. Reprints. Vol. VII., 1907. Price not stated.

ROUSSET, JULES, 1, Rue Casimir-Delavigne, et 12, Rue Monsieur-le-Prince, Paris.

Formulaire Synthétique de Médecine. Par le Dr. L. Pron. Price not stated.

ROUTLEDGE, GEORGE, AND SONS, LIMITED, London. (DUTTON, E. P., AND CO., New York.)

The Case for the Goat. With the Practical Experience of Twenty-four Experts. By "Home Counties." *Price 3s. 6d.*

RUDEVAL, F. R. DE, 4, Rue Antoine-Dubois, Paris.

Les Crises Vasculaires. Par le Professeur Pal, Médecin des Hôpitaux de Vienne. Traduit de l'Allemand par le Docteur G. Dablon, Médecin Major de 2e Classe. Price not stated.

W. B. SAUNDERS COMPANY, Philadelphia and London.

Hospital Training-School Methods and the Head Nurse. By Charlotte A. Aikens, late Director of Sibley Memorial Hospital, Washington, D.C., late Superintendent of Iowa Methodist Hospital, Des Moines, and of Columbia Hospital, Pittsburg; Associate Editor of the National Hospital Record. Price 6s. 6d. net.

A Reference Handbook of Obstetric Nursing. By W. Reynolds Wilson, M.D., Visiting Physician to the Philadelphia Lying-in Charity; Member of the American Pediatric Society. Price 6s. net.

A Text-book of Diseases of the Nose and Throat. By D. Braden Kyle, A.M., M.D., Professor of Laryngology and Rhinology, Jefferson Medical College; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital; Fellow of the American Laryngological Association, etc. Fourth edition, thoroughly revised and enlarged. Price, cloth, 18s. net.

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Professor of Dermatology in the Jefferson Medical College, Philadelphia. Fifth edition, thoroughly revised. Price 25s. net.

A Text-book of the Practice of Medicine. By James M. Anders, M.D., Ph.D., LL D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital, Philadelphia. Eighth edition, thoroughly revised. *Price 24s.* net.

Diseases of Children. For Nurses. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia; Assistant Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Price 10s. net.

Principles and Practice of Modern Otology. By John F. Barnhill, M.D., Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine; Otologist and Laryngologist to Deaconess and State College Hospitals, etc., and Ernest de Wolfe Wales, B.S., M.D., Associate Professor of Otology, Laryngology, and Rhinology, Indiana University School of Medicine. Price 24s. net.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin.

Atlas der Aetiologischen und Experimentellen Syphilisforschung. Mit Unterstützung der Deutschen Dermatologischen Gesellschaft. Herausgegeben von Erich Hoffmann. *Price M.48.*

STEINHEIL, G., 2, Rue Casimir-Delavigne, Paris.

Traité Pratique de Thérapeutique Infantile Médico-Chirurgicale. Par les Docteurs Paul Le Gendre, Médecin de l'Hôpital Lariboisière et Aug. Broca, Professeur Agrégé à la Faculté Chirurgien de l'Hôpital des Enfants-Malades. Deuxième édition, complètement refondue. Price Fr.15.

SWAN SONNENSCHEIN AND CO., LIMITED, London. (THE MACMILLAN CO., New York.)

Attention. By W. B. Pillsbury, Junior Professor of Philosophy, Director of the Psychological Laboratory, University of Michigan. Price 10s. 6d. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDREW, WILLIAM, M B., C.M. Edin., has been re-appointed Medical Officer for the No. 2 District by the Launceston (Cornwall) Board of Guardians.

ANNAN, JOHN L., M.B., Ch.B. Edin., has been appointed Demonstrator in Anatomy at the University of Sheffield.

BARNES, A. E., M.B. Lond., M.R.C.P., has been appointed Clinical Tutor in Medicine at the University of Sheffield.

CARTER, W. H. ST. LEGER, L.R.C.P. & S. Edin., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

CURTIS, HENRY, B S., M.D. Lond., F.R C.S. Eng., has been appointed Assistant Surgeon at the Branch Seamen's Hospital, Royal Albert Dock, E.

CURTIS, W., L R C.P. & S. Edin., L.F.P.S. Glasg., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

HAMMOND, W., M.R.C.S., L.R.C.P. Edin., L.S.A., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

HINE, ARTHUR ERNEST BARRATT, L.R.C.P., M.R.C.S., D.P.H. Lond., has been appointed District Medical Officer by the Devonport Board of Guardians.

HINGSTON, R., L.R.C.P., M.R.C.S., L.S.A., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

JOHNSON, ALFRED E., M.B., Ch.B. Vict., F.R.C.S. Eng., has been elected Resident Medical Officer at the Middlesex Hospital.

LEITCH, ARCHIBALD, M.B., Ch B. Glasg., has been appointed Investigator into Cancer in connexion with the Dundee Royal Infirmary.

NETTLE, W., M.R.C.S., L S.A., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

PEARSE, E. M., L.R.C.P., M.R.C.S., has been appointed to the Honorary Medical Staff of the Liskeard Hospital, Cornwall.

PHILLIPS, M. H., M.B. Lond., F.R.C.S., has been appointed Clinical Tutor in Obstetrics and Gynæcology at the University of Sheffield.

SHAW, JOHN EDWARD, M B., C.M. Edin., has been appointed Honorary Consulting Physician to the Bristol Royal Infirmary.

SIMPSON, GRAHAM, F.R C.S. Eng., has been appointed Clinical Tutor in Surgery at the University of Sheffield.

SMITH, E. ARCHIBALD, M.B., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Western General Dispensary, Marylebone-road, London, N.W.

STEWART, T. GRAINGER, M.B. Edin., M.R.C.P. Lond., has been appointed Assistant Physician to the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury.

TURTLE, GODFREY DE BEC, M.D., B.S. Durh., M.R.C.P. Lond., has been appointed Physician to the Public Dispensary, Drury-lane, W.C.

WETHERALL, PRITZLER SIM BATTEN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Weymouth Workhouse.

WHITE, CLIFFORD, M.D., B S., M.R.C.P. Lond., has been appointed Surgical Registrar to the Samaritan Hospital for Women.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, increasing to £100, with board, washing, and lodging.

BEDFORDSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £250 per annum, rising to £300, with expenses.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—House Surgeon. Salary £75 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Senior and Junior House Surgeons. Salary for Senior £130 and for Junior £100 per annum, with apartments, board, and attendance.

BRADFORD EDUCATION COMMITTEE.—Two Assistants (one male, one female) to the Medical Superintendent. Salary £350 per annum each.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, residence, and laundry.

BRITISH LYING-IN HOSPITAL.—Physician to Out-patients.

CARDIFF COUNTY BOROUGH ASYLUM.—Senior Assistant Medical Officer, unmarried. Salary, &c., £200, increasing to £250, with quarters and all found. Also Junior Assistant Medical Officer. Salary, &c., £150, increasing to £180, with quarters and all found.

CARDIFF EDUCATION COMMITTEE.—Two Assistant Medical Officers. Salaries in each case £220 per annum, rising by £10 yearly to £250 per annum.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Physician for six months. Salary £30, with board, residence, and laundry.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Surgeon for six months. Salary £25, with board, residence, laundry, &c. Also Medical Officer to the Casualty Department for six months, renewable. Salary at rate of £100 per annum, with luncheon and tea.

EASTERN DISPENSARY, Leman-street, Whitechapel, E.—Resident Medical Officer. Salary £120 per annum, with residence, coals, and attendance. Also Physician Accoucheur.

ENFIELD EDUCATION COMMITTEE.—School Medical Officer (female). Salary £300 per annum.

HAMPSTEAD GENERAL HOSPITAL, WITH WHICH IS AMALGAMATED THE NORTH-WEST LONDON HOSPITAL.—Two Physicians and one Surgeon.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

interested in the welfare of Epsom College, which he did so much to promote.

Dr. Galton leaves a widow and five daughters. The funeral took place at Shirley cemetery on Feb. 11th. The ceremony was largely attended by old friends and patients and many medical men from London and his neighbourhood, amongst those present being Mr. Edmund Owen, Mr. Frederic Durham, Dr. Henry Hetley, Mr. J. B. Lamb (secretary of Epsom College), Mr. G. C. Parnell, Mr. J. Sidney Turner, and Mr. E. Reynolds Ray.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: —Dr. Martin Bloch, formerly assistant to the late Professor E. Mendel of Berlin, aged 41 years.—Dr. Ferdinand Albert Thierfelder, professor of general pathology and pathological anatomy in Rostock, aged 65 years.—Dr. Karl von Voit, professor of physiology in the University of Munich, at the age of 67 years.—Dr. A. Polotebnoff, formerly professor of dermatology in the St. Petersburg Military Medical Academy.—Dr. Adrian T. Woodward, formerly professor of gynæcology in the University of Vermont.—Dr. Sirus-Pirondi, formerly professor in the Marseilles Medical School.—Dr. Robert W. Taylor, formerly professor of the diseases of the urogenital organs in the New Yokr College of Physicians and Surgeons.—Dr. Hermann Matersdorf of Dresden, who is said to have been the senior member of the profession in Germany, at the age of 98 years.—Dr. Michael van Puteren, formerly *privat-docent* of children's diseases in the St. Petersburg Military Medical Academy.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—The Comitia of the Royal College of Physicians on Jan. 30th conferred Licences to practise upon the following gentlemen who had completed the Final Examination of the Examining Board in England in Medicine, Surgery, and Midwifery, and the Council of the Royal College of Surgeons conferred the Diploma of Member upon the same gentlemen on Feb. 13th:—

Alexander Charles Anderson, Cambridge University and St. Thomas's Hospital; Charles Ernest Anderson, King's College Hospital; Arthur George Atkinson, B.A. Cantab., Cambridge University and St. George's Hospital; Tobias Rustat Hemsted Blake, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Harry Blakeway, B Sc. Lond., St. Bartholomew's Hospital; Stanley Leemore Brimblecombe, St. Mary's Hospital; John Philip Buckley, B.A. Cantab., Cambridge and Manchester Universities; William Alexander Burr, M.D. Toronto, Toronto University and London Hospital; Howard James Barrell Cane, B.A. Cantab., Cambridge University and Guy's Hospital; Ernest Patrick Carmody, St. Bartholomew's Hospital; Arthur John Wellington Cunningham, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Sidney Trevor Davies, St. Bartholomew's Hospital; Bernard Day, B.A. Cantab., Cambridge University and St. George's Hospital; Arthur Ffolliott William Denning, Guy's Hospital; Alban Dixon, St. Mary's Hospital; John McDougall Eckstein, St. Bartholomew's Hospital; John Everidge, Durham University and King's College Hospital; Arthur Leslie Foster, Guy's Hospital; Herbert Gall, St. Bartholomew's Hospital; Eric Worsley Gandy, B.A. Cantab., Cambridge University and Westminster Hospital; Eric Gerald Gauntlett, King's College Hospital; William Gilliatt, Middlesex Hospital; Harold Delf Gillies, Cambridge University and St. Bartholomew's Hospital; Gathorne Robert Girdlestone, B.A. Oxon., Oxford University and St. Thomas's Hospital; Alexander Edward Gow, St. Bartholomew's Hospital; *John Lawrence Graham-Jones, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Archibald Hamilton, B.A. Cantab., Cambridge University and St. Mary's Hospital; Charles Thomas Hawkins, University College, Cardiff, and St. Mary's Hospital; Claud Anthony Holburn, Sheffield University; Nelson West Jenkin, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Gordon Ley, London Hospital; Edward Leslie Martyn Lobb, Guy's Hospital; Dermot Loughlin, London Hospital; Alexander Todd McCaw, New Zealand University and London Hospital; Donald Macrae, London Hospital; Claude Herbert Marshall, Guy's Hospital; John Birch Martin, Guy's Hospital; Thomas Mackinlay Miller, St. Bartholomew's Hospital; Roderick Joseph Graham Parnell, University College, Bristol, and King's College Hospital; Eustace Macartney Parsons-Smith, St. Thomas's Hospital; Hubert Pinto-Leite, B.A. Cantab., Cambridge University and St. George's Hospital; Horace John D'Arcy Gerard Price, Birmingham University; Robert Bernard Price, St. Bartholomew's Hospital; Joseph Francis Engledue Prideaux, University College Hospital; Edward John Joseph Quirk, Charing Cross Hospital; Percy Charles Raiment, London Hospital; Roland Waters Rix, St. Thomas's Hospital; Harold Trenchard Rossiter, St. Thomas's Hospital; Mulk Raj Sawhney, St. Bartholomew's Hospital; Francis Charles Searle, St. Bartholomew's Hospital; Leonard Whittaker Sharp, B.A. Cantab., Cambridge University and London Hospital; *Charles Harold Smith, M.B. Liverp., Liverpool University; Frank Harold Stephens, St. Mary's Hospital; Hugh Stott, Guy's Hospital; Gilbert Francis Syms, Guy's Hospital; Wilfrid Reginald Taylor, St. Mary's Hospital; Ernest William Toulmin, St. Mary's Hospital; Nusserwanji Hormasji Vakeel, Bombay University and St. Bartholomew's Hospital; Cuthbert Ferguson Walker, B.A., Royal University of Ireland, Galway, Belfast, and St. Mary's Hospital; Alan Geoffrey Wells, St. Mary's Hospital; Ernest Godfrey Wheat, Cambridge University and King's College Hospital; James Norman Wheeler, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Edward Barton Cartwright White, London Hospital; William Cecil Wigan, Oxford University and St. Bartholomew's Hospital; Cyril Oswald Oxford Williams, St. Bartholomew's Hospital; Rajaiya Robert Williams, L.R.C.P. & S. Edin., Edinburgh, Madras, and University College Hospital; John Samuel Williamson, St. Bartholomew's Hospital; and William Louis René Wood, L.S.A. Leeds University.

* Diplomas of M.R.C.S. were conferred upon these gentlemen on Jan. 16th.

Diplomas in Public Health have been granted to the following gentlemen:—

Robert Cecil Turle Evans, L.S.A., University College Hospital; Ernest Edward Scott Joseph Galbraith, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Queen's College, Cork, and London Hospital; William Henry Hillyer, M.D. Durh., L.R.C.P., M.R.C.S., Vienna and St. Thomas's Hospital; Wharram Henry Lamplough, M.D., B.S. Durh., L.R.C.P., M.R.C.S., Durham University and St. Bartholomew's Hospital; Arthur Rieussett Littlejohn, L.R.C.P., M.R.C.S., St. Mary's and University College Hospitals; James Mair, M.B., C.M. Glasg., Glasgow University and London Hospital; Fairlee Russell Ozzard, Major, I.M.S., L.R.C.P., M.R.C.S., London Hospital; George Elliott Frank Stammers, Captain, R.A.M.C., L.R.C.P., M.R.C.S., University College, Bristol, and Royal Army Medical College; James Batson Stephens, M.B., B.S. *Lond.*, L.R.C.P., M.R.C.S., St. Mary's and University College Hospitals; and John Tate, L.R.C.P., M.R.C.S., University College Hospital.

The Council of the Royal College of Surgeons of England also conferred the Licence in Dental Surgery upon Harold Walker, Guy's Hospital, who has passed the examinations and complied with the necessary by-laws.

UNIVERSITY OF CAMBRIDGE.—A change in the regulations for the M.B. degree has been made and it has been decided to hold three examinations for the first M.B., two as at present in June and December and a third early in the October term. By this change a student who is well prepared will be able to pass the first M.B. on coming up and to begin on the courses in anatomy and physiology at once. Also a student who just fails to pass the examination in June will have a chance of passing in the following October instead of waiting till December.—The following degrees were conferred on Feb. 13th:—

M.D.—G. G. Ellett, Catharine.
M.B., *B.C.*—L. J. Austin and D. W. Roy, Sidney Sussex.
M.B.—D. Holroyde, Trinity.

UNIVERSITY OF LONDON.—At the Intermediate Examination in Medicine held in January the following candidates were successful:—

John Wroth Adams, St. Bartholomew's Hospital; Francis Cooke Alton, St. Thomas's Hospital; Kathleen Jane Armstrong, London (Royal Free Hospital) School of Medicine for Women; Edwin Augustus Attenborough, London Hospital; †Cyril Banks, University of Sheffield; Maurice Beddow Bayly, Charing Cross Hospital; Claude Alexander Birts, University College; Kenneth C. Bomford, St. Bartholomew's Hospital; Kenneth James Charles Bradshaw, University of Liverpool; Frederick Leslie Brewer, University College; †Edward Spencer Calthrop, Charing Cross Hospital; Sydney James Clegg, Victoria University of Manchester; Guy Barton Cockrem, Guy's Hospital; Ardeshir Koyaji Contractor, University College; Grace Marion Cordingley, London (Royal Free Hospital) School of Medicine for Women; Goronwy Meredith Davies, St. Thomas's Hospital; Frederick Adolph Dick and John Adamson Edmond, Guy's Hospital; Reginald Robert Elworthy, Westminster Hospital; Thomas Charles Cann Evans, St. Mary's Hospital; Archibald Ferguson, St. Bartholomew's Hospital; Violet Evangeline Fox, London (Royal Free Hospital) School of Medicine for Women; Walter Egbert Fox, Guy's Hospital; Thomas Woodcock George and Charles Gibson, London Hospital; Katherine Anne Gill and Edith Croft Goodison, London (Royal Free Hospital) School of Medicine for Women; Charles D'Oyly Grange, University of Leeds; Hugh Arrowsmith Grierson, University of Liverpool; Henry Pollard Hacker, B.Sc., King's College; Arthur William Havard, London Hospital and University College, Cardiff; Reginald Melville Hiley, University College, Bristol; Henry Hingston, King's College; Harrie Marguerite Hood-Barrs, London (Royal Free Hospital) School of Medicine for Women; Edward Leslie Horsburgh, Victoria University of Manchester; Thomas Lewis Jones, Guy's Hospital; *†Norman Claudius Lake, Charing Cross Hospital; Frederick Norton H. Maidment, London Hospital; Kenneth D. Marriner, St. Thomas's Hospital; Guy Matthews, King's College; James Menzies, St. Mary's Hospital; Raymond Montgomery, University of Leeds; Adrian Leonard Moreton, St. Bartholomew's Hospital; George Edmund Eyre Nicholls, Victoria University of Manchester; Alexander Croydon Palmer, London Hospital; Helen Lawson Peacock and Cicely May Peake, London (Royal Free Hospital) School of Medicine for Women; Edward Austen Penny, Guy's Hospital; Morna Lloyd Rawlins, London (Royal Free Hospital) School of Medicine for Women; Arnold Renshaw, Victoria University of Manchester; Harold Ferdinand Renton, University of Leeds; Maude Margaret Richards, London (Royal Free Hospital) School of

William Church, in replying, praised the results achieved by societies like the West London Medico-Chirurgical Society and pointed out that it was no part of the scheme of the Royal Society of Medicine to absorb societies such as theirs. Mr. Arbuthnot Lane, who also replied to this toast, concluded his remarks by proposing the health of the chairman, and that gentleman, in the course of acknowledging the toast, thanked the officers of the society for the help which they had accorded to him in his duties as President.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL).—The annual general meeting of governors of this charity will be held on Tuesday, Feb. 25th, at 3 o'clock, at the Mansion House, by permission of the Lord Mayor, who has consented to preside. Lord Avebury, Sir Charles Wyndham, Dr. Hermann Adler, and Mr. H. Curtis Bennett have promised to speak in support of the hospital.

LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.—It will be remembered that this board was constituted in 1904 with the approval of the governing bodies of University College, King's College, and the East London College, for the purpose of holding a combined annual examination for entrance scholarships and exhibitions tenable at those Colleges, and that the examination may be made use of by other bodies for the award of scholarships and exhibitions, subject to arrangement with the board. We are asked to state that the board will hold a combined examination for 20 scholarships and exhibitions in classics, languages, literature, history, science, and mathematics, tenable at University College, King's College, and the East London College, on May 12th and following days. No candidates will be admitted to the examination unless they have passed the London University matriculation or an equivalent examination and are under the age of 19 years on Oct. 1st, 1908. The total value of the scholarships offered exceeds £1700. Most of them are open to students of both sexes. Full particulars and forms of entry may be obtained from the secretary of the board (Mr. Alfred E. G. Attoe), University College, Gower-street, London, W.C.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The following have been elected by the council to be presidents of sections at the meeting of the association to be held in Dublin in September next under the general presidency of Mr. Francis Darwin, F.R.S.:—Section A (mathematical and physical science), Dr. W. N. Shaw, F.R.S., director of the Meteorological Office; Section B (chemistry), Professor F. S. Kipping, F.R.S., professor of chemistry in University College, Nottingham; Section C (geology), Professor J. Joly, F.R.S., professor of geology and mineralogy in the University of Dublin; Section D (zoology), Dr. S. F. Harmer, superintendent of the University Museum of Zoology, Cambridge; Section E (geography), Major E. H. Hills, C.M.G.; Section F (economic science and statistics), Lord Brassey; Section G (engineering), Mr. Dugald Clerk, M.Inst. C.E.; Section H (anthropology), Professor W. Ridgeway, professor of archæology in the University of Cambridge; Section I (physiology), Dr. John Scott Haldane, F.R.S., University reader in Physiology at Oxford; Section K (botany), Dr. F. F. Blackman, F.R.S., professor of botany in the University of Leeds; and Section L (educational science), Professor L. C. Miall, formerly professor of biology in the University of Leeds. Invitations to deliver evening discourses during the meeting of the Association at Dublin have been accepted by Professor H. H. Turner, F.R.S., Savilian professor of astronomy at Oxford, who will take as his subject "Halley's Comet"; and Professor W. M. Davis, of Harvard University, whose lecture will be entitled "The Lessons of the Colorado Cañon."

LONDON FEVER HOSPITAL.—The annual general meeting of the governors of this hospital was held at the Hotel Victoria, Northumberland-avenue, on Feb. 14th the chair being taken by the Right Hon. Lord Balfour of Burleigh, K.T., the president, who said he thought that he could fairly ask the meeting to express their appreciation in this regard because they had had a satisfactory year, 781 patients having been admitted during the year, which with 71 brought forward made a total of 852 patients treated for all diseases, this number being 250 more than the average of the last 20 years. Notwithstanding the increase of numbers the average rate of mortality in scarlet fever had been down so low as 1·50 lower than the previous years. Although during the rebuilding of the hospital they had had to refuse 35 patients, they were now able fully to meet the demands made upon them. 216 patients had been treated free in virtue of the subscriptions of private governors and managers of business houses, 476 had paid the ordinary fee of 3 guineas, 51 had paid 3 guineas a week in private rooms, and 38 had had their like fees remitted owing to their having established their inability to meet the charge. 72 of those who were charged 3 guineas had supplemented their fee not only by expressions of gratitude for the kindly care and attention which they had received but had sent sums totalling £227 in amounts varying from 1 guinea to £25. He appealed to the public for a continuation of their support which had hitherto been so generously given. He was afraid the completion of the new wing for measles would have to wait until further funds were forthcoming. The adoption of the report (which had been previously read by Dr. Sidney P. Phillips, the senior physician, and moved by Sir Shirley F. Murphy, medical officer of the London County Council) was carried unanimously. On the motion of Mr. Edward Norman, Lord Balfour was re-elected as president for the ensuing year, the vice-presidents, treasurer, honorary secretary, and members of the committee being elected. A vote of thanks (proposed by Mr. Mead) to Lord Balfour for presiding concluded the proceedings.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Children's Bill.

MR. HERBERT SAMUEL, when he introduced the Children's Bill in the House of Commons, was prevented by the exigencies of time from explaining in detail many parts of this comprehensive measure. The text of the Bill is now available and it is possible to fill in with precision its various proposals. To recapitulate them would be a lengthy process, for the Bill contains 119 clauses, many of them of a complicated character. However, several points which were alluded to in this column last week may be further elaborated. For instance, it was mentioned that under the measure a penalty was proposed for exposing children to the risk of burning. The clause dealing with this matter lays down that if a person who has the custody or care of a child under the age of seven years, "allows that child to be in any room containing an open fire grate not sufficiently protected to guard against the risk of the child being burnt or scalded, and without taking reasonable precautions against that risk, and if by reason thereof the child is killed or suffers serious injury," he shall on summary conviction be liable to a fine not exceeding £10. This section does not extinguish the liability of such person to be proceeded against by indictment for any indictable offence. The penalty for causing the death of an infant under three years by overlying it is also a fine not exceeding £10. If the offender is proved to have been under the influence of drink the fine may amount to £25 and the court has the power to impose an alternative or an additional sentence of imprisonment for a term not exceeding three months if the offence is accompanied by aggravating circumstances.

Juvenile Smoking.

Six clauses in the Children's Bill deal with the Prohibition of Juvenile Smoking. An ascending scale of penalties for selling tobacco to children and young persons is set out. The first offence may be visited with a fine not exceeding £2 and the second with a fine not exceeding £5, but the third offence makes the offender liable to a penalty of £20. The words of the section have been carefully chosen and any person is liable to conviction if he "sells or gives to a person apparently under the age of 16 years any cigarette or cigarette papers, whether for his own use or not, or sells or gives to such a person any other tobacco which he knows or has reason to believe is for the use of that person." Constables, park-keepers, and persons authorised by special by-laws are to seize cigarettes and tobacco in the possession of "any person apparently under the age of sixteen" who is found smoking or about to smoke in any street or public place. A penalty is also proposed to be laid on the juvenile smoker himself. This clause, which deals directly with the evil, is of such importance that it may be quoted *in extenso*. It runs thus: "If a child or young person smokes in a street or public place, or purchases or has in his possession, whether for his own use or not, any cigarettes or cigarette papers, or purchases or has in his possession for his own use any other tobacco, he shall be liable on summary conviction in the case of a first offence to be reprimanded, and in the case of a second offence to a fine not exceeding 5s., and in the case of a third or subsequent offence to a fine not exceeding 10s." The phraseology of this section of the Bill is worthy of attention, as a distinction is drawn between the terms "cigarette" and "other tobacco." It seems to be the proposal of the Home Office that the actual possession of a cigarette, quite apart from the intention to smoke it, shall be an offence in a person under the age of

Communications, Letters, &c., have been received from—

A.—Mr. W. F. Allingham, Lond.; Ardath Tobacco Co., Lond.; Messrs. Armour and Co., Lond.; Argylls, Lond., Manager of; Aberdeen, Countess of, Dublin; Messrs. Allen and Hanburys, Lond.; Mr. S. Allingham, Bury St. Edmund's; Dr. William Ayres, Brierley Hill; *American Medicine*, New York, Manager of; Mr. A. E. G. Atloe, Lond.; Dr. H. J. Adamson, Lond.; Mr. H. W. Armit, Wembley.

B.—Mr. P. J. Baronoff, Lond.; Dr. Edward Balm, Aurangabad; Mr. W. Bevan-Lewis, Wakefield; Bedfordshire County Council, Bedford, Clerk to the; Messrs. J. B. Brooks and Co., Birmingham; Mr. E. Baker, Birmingham; Mr. H. J. Bryan, Chatham; Messrs. T. B. Browne, Lond.; Messrs. Bates, Hendy, and Co., Lond.; Mr. J. Bell, Hong-Kong; Messrs. Battle and Co., Paris; Bovril, Ltd., Lond.; Mr. C. J. Bax, Lond.; British International Association of Journalists, Lond., President of; Dr. T. M. Bride, Pendlebury; Mr. R. J. Bland.

C.—Dr. F. H. Champneys, Lond.; Calcutta, Health Officer of; Cornwall County Council Sanitary Committee, Truro, Chairman of; Dr. G. Carpenter, Lond.; Messrs. Cassell and Co., Lond.; Continental Tyre and Rubber Co., Lond.; C. F. F.; Dr. C. W. Canan, Orkney Springs, Virginia; Messrs. J. and A. Churchill, Lond.; City of London and East London Dispensary, Committee of; Central London Throat and Ear Hospital, Secretary of; Cardiff City Mental Hospital, Medical Superintendent of; The Child Study Society, Lond., Secretary of; Central Midwives Board, Lond., Secretary of; Messrs. E. Cook and Co., Lond.; Cardiff Infirmary, Secretary of; Coventry and Warwickshire Hospital, Secretary of; The Children's Sanatorium, Lond., Chairman of; Dr. F. Foord Caiger, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Dr. Alexander Duke, Lond.; Mr. Leonard S. Dudgeon, Lond.; Dr. Charles J. Drueck, Chicago; Dr. M. B. Dinkelspiel, Philadelphia; Paul E. Derrick Advertising Agency, Lond.

E.—Mr. J. J. Evans, Birmingham; Messrs. S. F. Edge, Lond.; Mr. Frederic R. Eaton, Norwich; Mr. H. Elliot-Blake, Bognor; Rev. Edwin Edwards, Llanbradach; Messrs. Eyre and Spottiswoode, Lond.

F.—Dr. Franz, Bad Nauheim; Messrs. Findlater, Mackie, Todd, and Co., Lond.; Lady Helen Munro Ferguson, Lond.

G.—Dr. J. H. Garrett, Cheltenham; Major G. F. Gratwicke, Exeter; Glasgow Royal Infirmary, Secretary of; General Medical Council, Registrar of; Mr. E. Gooch, Lond.; Mr. A. Spencer Gilbert, New York; Dr. H. M. W. Gray, Aberdeen; Mr. W. Gibbon, Nantgaredig; Dr. J. Gutch, Ipswich.

H.—Mr. H. C. Highton, Lond.; Dr. J. B. Hellier, Leeds; Messrs. Hankinson and Son, Bournemouth; The Harveian Society, Lond., Hon. Secretary of; Dr. L. K. Herschel, Bordighera; The Hydro, Harrogate, Manageress of; H. S.; Dr. Charles A. Hodgetts, Toronto.

I.—Dr. A. C. Ingle, Cambridge; International Society of Sculptors, Painters, and Gravers, Lond.; Ipswich, Borough of, Clerk of; Lieutenant-Colonel D. L. Irvine, R.A.M.C., Farnham; Ipswich Education Committee, Secretary of.

J.—Mr. L. Jones, Sialkote; Dr. James, York; *Journal of Economic Entomology*, Durham, U.S.A., Manager of.

K.—Dr. Harold Kerr, Newcastle-on-Tyne; Mr. A. Kidd, Godalming; Mr. H. W. Kershaw, Darlington; Messrs. Kutnow and Co., Lond.; Major F. Kiddle, R.A.M.C., Bombay; K. L. S.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. V. Laurens, Manchester; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of; Dr. W. Gordon Little, Blundellsands; Messrs. Lee and Nightingale, Liverpool; Leeds University School of Medicine, Dean of; Lanark County Council, Hamilton, Clerk to the.

M.—Mr. D. I. McVeagh, Coventry; Midland Medical Union, Nottingham, General Secretary of; Mr. J. Y. W. MacAlister, Lond.; Messrs. Meister, Lucius, and Brüning, Hoechst-a-M.; Milner's Publishing Agency, Middlesbrough; Messrs. Muller, Maclean, and Co., Lond.; Maltine Manufacturing Co., Lond.; Messrs. Maple and Co., Lond.; Dr. G. J. K. Martyn, Bath; Dr. D. H. C. Macarthur, Outwood; Manchester Medical Agency, Secretary of; Dr. T. H. Middlebro', Owen Sound, Ontario; Dr. H. A. D. Moore, Rotherham; Manchester Royal Infirmary, Secretary of.

N.—Northumberland and Durham Medical Society, Hon. Joint Secretary of; Newport County Borough, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Professor W. Osler, Oxford.

P.—Messrs. A. R. Pillai and Co., Trivandrum, India; Puzzled; Miss K. Phillips, Liverpool; Principal, Blackheath; P. H. S.; Plymouth Education Authority, Secretary to the; Phoner; Messrs. Peacock and Hadley, Lond.

R.—Mr. William Roper, Chideock; Mr. A. W. Mayo Robson, Lond.; Mr. Ludwig Rosenthal, München; Dr. F. W. Forbes Ross, Lond.; Dr. Axel Reyn, Copenhagen; Royal London Ophthalmic Hospital, Secretary of; R. M. T.; Messrs. Rogers, Chapman, and Thomas, Lond.; Royal Worcester Trading Co., Lond.; Royal Meteorological Society, Lond., Assistant Secretary of; Royal Berks Hospital, Reading, Secretary of; Messrs. Reynolds and Branson, Leeds.

S.—Dr. M. Saenger, Magdeburg; Dr. D. W. Samways, Mentone; Messrs. Siebe, Gorman and Co., Lond.; Sanatorium for Children threatened with Consumption, Lond.; Messrs. T. and W. and W. Southall, Birmingham; Stowmarket Urban District Council, Clerk of; Mr. S. J. Shapley, Exeter; Mrs. S.; Messrs. Southall Bros. and Barclay, Birmingham; Messrs. Spiers and Pond, Lond.; Messrs. Staples and Co., Lond.; Mr. A. T. Serrano, Lond.; Sceptre Life Association, Lond.; Mr. J. Lionel Stretton, Kidderminster; Sheffield, University of, Registrar of; Scholastic, Clerical, &c., Association, Lond.; Mr. E. B. Simpson, Lond.; Mr. G. W. Shackleton, Abergavenny; Mr. P. Smith, Sutton.

T.—Mr. Arthur H. Turner, Pudsey; Messrs. Toler Bros., Lond.; Dr. W. E. F. Tinley, Whitby; Trained Nurses' Annuity Fund, Lond.; Mr. J. Thin, Edinburgh.

U.—University College, Bristol, Registrar of; University of London, Principal of.

V.—Dr. F. Vaz, Oporto; Valetudinarian.

W.—Mr. J. Sim Wallace, Lond.; Dr. H. Augustus Wilson, Philadelphia; Mr. A. Willmott, Lond.; Mr. H. C. Wilson, Lond.; Miss M. A. Withers, Lond.; Mr. William Woodward, Liverpool; West End Hospital, Lond., Secretary of; Mr. G. Baillie Weaver, Newport; Professor G. Sims Woodhead, Cambridge; Dr. W. H. Wright, Derby.

Y.—Messrs. Douglas Young and Co., Lond.

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Mr. HALDANE replied: I am aware of the great service rendered by the commission in question. The commission's investigations and the adoption of preventive measures as the outcome of its recommendations have been followed by the practical disappearance of Malta fever from the garrison of the island. I think that the Royal Society is well aware how genuine is the appreciation of the Government. We owe much to the Royal Society's Commission for the successful issue of this remarkable investigation and for the excellent results which have followed. These results illustrate the enormous importance of bringing science into our business of government.

The Belfast Health Commission.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether any report had yet been received from the Health Commission which recently sat in Belfast; or, if not, when was the report likely to be published.—The Attorney-General for Ireland (Mr. CHERRY) replied in the absence of Mr. BIRRELL: The report has not yet been received, but I am informed by the Chairman of the Commission that it may be expected early next month.

Milk-blended Butter.

Mr. O'SHAUGHNESSY asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether he could say under what name was milk-blended butter sold with the approval of the Board of Agriculture, in accordance with the Butter and Margarine Act, 1907, when it contains more than 16 per cent. and under 24 per cent. of water; and whether, under the Act, there was any change in the description of margarine when offered for sale to the public.—Sir EDWARD STRACHEY replied: 19 names have up to the present time been approved by the Board for milk-blended butter. The law as to the manner in which margarine is to be described was amended by Section 8 of this Act, to which the honourable Member refers.

Milk Legislation.

Mr. COURTHOPE asked the President of the Local Government Board whether, in view of the intention of the Government to introduce general legislation on the subject of the milk-supply, he would move instructions to the committees on all private Bills containing milk clauses that such clauses be struck out.—Mr. BURNS wrote in reply: It does not seem to me that the course proposed could well be adopted. I think that the best plan will be that the clauses should for the present be retained on the understanding that they will be subject to reconsideration at a later stage in the event of a public Bill being passed.

Tuberculosis in Frozen Meat.

Mr. COURTHOPE asked the President of the Local Government Board whether he was aware that frozen beef from the Argentine had recently been seized in Hull affected with glandular tuberculosis, although accompanied by the official label of the Argentine Government certifying that the meat was sound; and what steps he proposed to take to safeguard the health of the community from such occurrences in future.—Mr. BURNS furnished the following written reply: The answer to the first part of the question is in the affirmative. Regulations under the Public Health (Regulations as to Food) Act, 1907, are in preparation and will, I hope, soon be issued to confer additional powers on port sanitary authorities and to enable them to deal suitably with any diseased meat which may be detected on arrival in this country.

TUESDAY, FEB. 18TH.

Horse Meat and Sausages.

Mr. RICHARDSON asked the President of the Local Government Board whether he had any official information as to the number of worn-out horses sent from Nottingham and Worksop to the continent, and as to whether these animals were there converted into sausages and then imported into this country for consumption as human food, if so, could he say to what port on the continent they were exported, and what proportion of this sausage was consumed in this country.—Mr. BURNS answered: I have no official information as to the number of worn-out horses sent from Nottingham and Worksop to the continent. I have not met with any definite evidence pointing to the importation into this country of sausages prepared from horses, though it is sometimes alleged that sausage meat imported in bulk contains horse meat. I have the subject of the importation of sausage meat under consideration in connexion with the regulations which I am preparing under the Public Health (Regulations as to Food) Act of last session.

Soldiers and Tuberculosis.

Mr. SUMMERBELL asked the Secretary of State for War what action he proposed to take in regard to soldiers suffering from tuberculosis in view of the findings of the Select Committee appointed to go into the matter.—Mr. HALDANE replied: The recommendations of the Select Committee have been recently considered by the Government as a whole. The decision is that, however desirable the special provision recommended by the committee in the case of soldiers discharged from the army because of tuberculosis, it is impossible to justify the assumption of this new kind of obligation by the State unless it is extended to other services as well as the army, and possibly more widely still. The question thus raised becomes one of great gravity and cannot be decided by any single department.

The London County Council and Inebriate Institutions.

In answer to Mr. CHARLES ROBERTS, Mr. GLADSTONE, the Home Secretary, wrote that he had received with much regret a letter from the London County Council stating that the Council did not see its way to renew its contracts with the national institutions for the care and reformation of inebriate persons. The accounts of seven out of the eight institutions of this kind in full working order during 1906 showed a maintenance cost varying from 10s. 4d. to 14s. per inmate per week, but the eighth, "Farmfield," managed by the London County Council, was not conducted at less than a weekly rate of 19s. 6d. per head. It was felt that 14s. per week should be considered the total amount required for maintenance and that the managers of reformatories should be induced to bring down their expenses to that sum per head. In furtherance of the view that the segregation of inebriates relieved imperial and local funds about equally, it was decided that the Government contribution should be reduced from 10s. 6d. to 7s. to correspond with the 7s. provided by local authorities. This reduction had been accepted as reasonable by the managers of reformatories except in the case of the London County Council. In May last the council decided to withdraw its contract with the national institutions and restrict its work under the Inebriates Act to that carried on at Farmfield for 100 cases. The right honourable gentleman added in conclusion that a few vacancies at Farmfield would probably be available from time to time, but these would be so few as practically to render the Act useless so far as London was concerned, and the step taken by the council would, involve reversion to the discredited system of short and repeated terms of imprisonment as the only means of dealing with female inebriates but no power existed by which the council could be compelled to reverse its decision or make other adequate provision for the needs of cases committed from within its administrative area.

WEDNESDAY, FEB. 19TH.

The Royal College of Surgeons of England.

Sir WILLIAM COLLINS asked the Prime Minister whether he would state what action had been taken by the Lord President of the Council in regard to the memorial which was presented to the Prime Minister in the session before last on behalf of Members of the Royal College of Surgeons of England, asking him to take such steps as might secure to Members some voice in the management of the College and its property; and what reply had been received from the Council of the College to representations made to them by the Lord President.—Sir HENRY CAMPBELL-BANNERMAN wrote in reply: It is a matter of common knowledge that in reply to the different deputations which he received, the Lord President expressed the general sympathy of the Government with the objects of the memorial; but the Council of the Royal College appear to maintain the rigour of their attitude on the subject.

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ASSOCIATION OF AMERICAN PHYSICIANS (Recorder: Dr. SOLOMON SOLIS COHEN, 1525, Walnut-street), Philadelphia.

Transactions of the Association of American Physicians. Twenty-second Session, held at Washington, D.C., May 7th, 8th, and 9th, 1907. Volume XXII. Price not stated.

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DORNAN, WILLIAM J., Philadelphia. (J. RIDDLE GOFFE, M.D., Secretary, No. 616, Madison-avenue, New York.)

Transactions of the American Gynecological Society. Volume 32. For the Year 1907. Price not stated.

FISCHER, GUSTAV, Jena.

Die Pathologie der Nebennieren und der Morbus Addisonii. Klinische und Anatomische *Untersuchungen*. Von Dr. Alexander Bittorf, Privatdozent und Assistent der Medizinischen Klinik zu Breslau. Price M.4.

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IMPRIMERIE OSMANIÉ, Constantinople.

Annales Médicales et Bulletin de Statistique de l'Hôpital d'Enfants Hamidié. Publié au Jour Anniversaire de l'Avènement au Trône de S. M. I. le Sultan, sous la Direction du Médecin en Chef en Collaboration avec les Médecins de l'Hôpital. VIIIème Année. (Printed mainly in Turkish.) Price not stated.

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The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Foyers, in the county of Inverness; at St. Germans, in the county of Cornwall; at Dulais Valley, in the county of Glamorgan; at Llandrindod Wells, in the county of Radnor; at Newcastle, in the county of Limerick; and at Ovoca, in the county of Wicklow.

Births, Marriages, and Deaths.

BIRTHS.

Archer.—On Feb. 15th, at Hamlet Court-road, Westcliff, the wife of Archibald Archer, L.D.S. Eng., of a son.

Dunne.—On Feb. 11th, at 20, Trent Boulevard, West Bridgford, Nottingham, the wife of Arthur Briggs Dunne, M.B., B.C. Cantab., D.P.H. Lond., of a daughter.

Hedley.—On Feb. 13th, at 56, Hans-place, S.W., to Dr. and Mrs. Edward Hedley—a daughter.

Wakefield.—On Feb. 10th, at Norwood-hill, Charlwood, near Horley, Surrey, the wife of Christopher Frank Wakefield, M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

Heath—Addison.—On Feb. 14th, at St. Paul's Church, Avenue-road, Regent's Park, Philip Maynard Heath, M.S., F.R.C.S., to Dorothy Mary Rosamond, only daughter of Joseph Addison.

Jenkins—Loveridge.—On Feb. 16th, at the Cathedral, Shanghai, Herbert Stanley Jenkins, M.D. Lond., F.R.C.S. Eng., of Sianfu, Shensi, North China, and Clifton, Bristol, England, to M. L. (Daisy), eldest daughter of Thomas Loveridge, Llandaff, Cardiff.

DEATH.

Harvey.—On Feb. 12th, at Westbury-on-Trym, Bristol, Alice Mary, wife of Alfred Harvey, M.B., and daughter of the late John Bassett, M.D., of Birmingham.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE UNIVERSITY OF LIVERPOOL IN ITS RELATION TO PUBLIC HEALTH.

A correspondent writes: "There is no University in Britain so deeply indebted to the local city council as that of Liverpool. The University was almost called into existence in 1880 by the municipal council which presented a site and buildings for the new institution worth £30,000; its annual grant in aid has risen to the sum of £11,700; the Lancashire, Cheshire, Bootle, and Birkenhead councils also contribute a total yearly sum of £2300. Whenever additional funds have been required, and the occasions are numerous, the city council has always lent moral support; indeed, it is not too much to say that the relation between council and University is a filial one. But the obligations are not all on one side; the University undertakes a great deal of the work that a higher conception of civic duty has compelled modern municipalities to assume. Liverpool University boasts that in every department a considerable body of students continue the work of original research under the guidance of the professors. The work of the School of Tropical Medicine is widely known. But, in addition, the useful work of analysing daily and systematically the water of the city is performed in the laboratories of the University; considerable quantities of food and beverages are sent to the authorities for bacteriological analysis and report on adulteration. Diseases of animals are studied and reported on. It is not very long since a mysterious disease broke out in a factory. Its cause could not be ascertained until the botanical department of the University discovered that a poisonous wood had been used in the equipment of the factory. Analyses of this kind could not be thoroughly and scientifically performed without great expense to the local authority but for the coöperation of the University. All the county and city councils named have a right to the services enumerated. The University also offers direct and important service to the whole of the local medical profession by means of its bacteriological and pathological departments."

"LOCAL HOSPITALS" IN AMERICA.

The *Nursing News* of Feb. 15th contains an interesting article by Miss A. L. Pringle, formerly matron of the Edinburgh Royal Infirmary, on the subject of "Local Hospitals" in America. These useful institutions are indispensable to a country where so many people make their homes in lodging- and boarding-houses with no conveniences for sick nursing. They do not find a match in our cottage hospitals, or in our nursing homes, but are something more on the lines of small and well-equipped general hospitals, in which the patients pay for their support according to their means and are attended by the practitioners of the neighbourhood, an arrangement which is alike beneficial to patients and medical men. When there is any deficit in the funds it is made up by public appeal and the benevolence of individuals, and the ladies in the various districts interest themselves practically in the hospital's welfare. The appointments and manner of serving meals approximate to that to which the patients are accustomed at home, and the patients altogether have more latitude than do the inmates of our hospitals for the sick poor. Miss Pringle draws a delightful picture of one of these hospitals in Massachusetts which "stands just outside the town on a shelf of high ground, the wooded summit of which rises behind it uncultivated, unfenced, a foot-hill of the beautiful range inclosing the valley of a famous river. In front are flowers and a lawn, but otherwise all round is rough woodland, and in favourable weather the patients lie out there in piazzas or in tent wards, enjoying the trees, the birds, and the sky as freely as if they were in the back-woods."

THE HOUR OF BIRTH.

Dr. F. W. Lynch of Chicago has lately (December, 1907) published in *Surgery, Gynæcology, and Obstetrics* an analysis of the hour of birth in 1503 full-term spontaneous labours at Johns Hopkins Hospital. He concludes that the theory that most births occur during the night is erroneous and that parturition is distributed fairly evenly throughout the 24 hours, though the variations between 7 P.M. and 7 A.M. showed 4 per cent. more births than in the other 12 hours, in which the variation was less than 0·5 per cent.

THE REMOVAL OF TATTOO MARKS.

In a recent number of *La Nature* an account is given of Dr. Everard's method of removing tattoo marks. A blister is raised over the whole of the affected area by means of a plaster. The epidermis is then removed, a solution of cocaine is applied, and the tattoo marks are effaced by a thermo-cautery. The cautery is passed over the entire area until it assumes a brown appearance, like that of wood in pyro-engraving. In this way all traces of indigo or carmine disappear. The parts are then dressed with an ointment containing 10 per cent. of salicylic acid. On the third or fourth day a scab may be removed and the pigmentation will have disappeared. An evident scar on section. Thus its appearance at operation is not always conclusive. When examined in cross sections it shows a varied disarrangement of its internal structure, fissures, hæmorrhages, and dislocation of the grey matter being frequent. Later the *dura mater* becomes bound down to the cord by adhesions which also form between the dura mater and the bony canal. The cord appears smaller than normal, perhaps one-third of its original size. It is also well recognised that injury to the spinal cord without detectable injury, even at necropsy, to the vertebral column may occur and is not rare. The usual symptoms are said to be due to hæmatomyelia, though Spiller also describes a condition which he calls traumatic myelitis. This is characterised by nerve cell and fibre degeneration, round cell infiltration, proliferation of neuroglia, congestion of blood-vessels, and miliary hæmorrhages. It is, however, impossible to diagnose clinically between these two conditions.

Frequency.—In one-third of the lesions affecting the vertebral column the spinal cord escapes all injury. This freedom from injury is seen most frequently in the cervical region for reasons already given. Children more often escape injury to their cords than do adults. The cervical and lumbar regions contain about one-half of the cases of fracture, the dorsal region the other half. Most of the dorsal fracture dislocations involve the eleventh or twelfth vertebra, this giving rise to a lumbar type of paralysis. Neurologically considered, the majority of cases of injury to the spinal cord from fracture-dislocations are either the cervical type, which includes the first dorsal segment, or the lumbo-sacral type, including the cauda equina. Surgical statistics show the latter to be much more frequent.

Clinical types.—From a clinical point of view of cases injury to the vertebral column may be divided into two main classes: (1) those in which the functions of the spinal cord are not interfered with; and (2) those in which there is more or less interference with the functions of the spinal cord, with or without obvious injury to the vertebral column. So that the first question to be decided when investigating cases of injury in this region is: Is the spinal cord affected? And if so, to what extent is it damaged? The first question can usually be answered without difficulty. The second not so, because it opens up the subject, to be discussed later, as to whether it can be definitely decided that the symptoms present are due to a total or partial transverse lesion.

Three types of cases may, I think, be recognised clinically: (1) those in which it is perfectly clear from the position of the fractured vertebræ that the cord must be completely severed; (2) those in which it *cannot* be decided definitely without waiting for some time whether the lesion is complete or partial; and (3) those in which it can be definitely stated that the lesion is a partial one. In the first class are included those cases in which the displacement is so great that the inferior surface of the body of the dislocated vertebra lies upon the anterior surface of the body of the vertebra next below it. It is obvious that when the bones are forced into this position the spinal cord must have been cut completely across. The position of the fragments in these cases can only be definitely determined by a skiagram, though the deformity is always greater than in other cases. The second class includes the largest number of cases. They are such that only by their persistence can the symptoms be said to be due to a total transverse lesion. The third class are those in which the symptoms point undoubtedly to a partial transverse lesion. They are chiefly seen in distortions, unilateral dislocations, isolated fractures of spinous processes or arches, and pressure fractures of the vertebral bodies.

Diagnosis between partial and total transverse lesions.—Is it ever possible to decide definitely from a study of the symptoms in cases of fracture-dislocation of the spine that the lesion in the spinal cord is complete? Or, in other words, is there any symptom-complex which establishes beyond a doubt that the injury to the cord is irremediable? It may at once be said that there *is not*. It is only by their persistence over a considerable length of time that the symptoms can establish the fact that the spinal cord lesion is a complete one. Certain symptoms, to which the unfortunate term "classical" has been applied, have been stated to denote always that the lesion is a complete one. Let me repeat that it is only by their persistence that they can do so. Their onset certainly does not preclude the possibility of the functions of the cord being restored, if not wholly, at any rate to a certain degree at least. What are these so-called classical symptoms that are usually held to point to a complete transverse lesion?

It will be well before answering this question to refer to those symptoms which undoubtedly indicate a partial lesion. These include any motor power below the lesion, any sensation, such as pain, numbness, cramps, of distension of the bladder and rectum, abdominal pain, or any sense of position. Pain felt in the hyperæsthetic zone upon *severe irritation of the paralysed parts*, even in the presence of total anæsthesia, determines that the lesion is a partial one. The deep reflexes may be abolished at the outset in partial lesions, to return later, and even become exaggerated. Return of the deep reflexes at any time decides that the lesion has been a partial one. Incomplete or limited anæsthesia, or anæsthesia of unilateral distribution, anæsthesia limited to regions far below the level of the lesion, and modification of the anæsthesia at different levels, all point to a partial lesion. In partial lesions sensation in the bladder and rectum may be retained, even though voluntary evacuation is impossible. Slow onset of paralysis or any sign of improvement points to a partial lesion. It may be said that symptoms referable to vasomotor disturbances are variable and confusing. Usually corresponding in extent to the motor paralysis, there is paralysis of vaso-constrictor fibres. This causes a rise in the superficial temperature of the lower extremities, due to dilatation of the subcutaneous vessels. Later this is replaced by coolness, or even marked coldness, of the extremities.

Turning now to a consideration of the symptoms which are *said* to indicate a total transverse lesion, these include total paralysis of motion and sensation, the anæsthesia being abruptly delimited, and surmounted by an area of hyperæsthesia. According to Kocher, below the hyperæsthetic area there often appears a strip of thermanæsthesia and analgesia, though this dissociation is not necessarily limited to the level of the lesion. Total loss of deep reflexes, priaprism, and paralysis of the bladder and rectum make up the picture as usually described of a total transverse lesion. As a result of a total transverse lesion the voluntary muscles below the lesion are all equally affected. They become flaccid, waste rapidly, and their faradic excitability lessens, rapidly at first, then more slowly, and, finally, it may be lost. The deep reflexes are permanently abolished and the sphincters lose their tone.

A differentiation should be made between an anatomical and a physiological total transverse lesion. For complete physiological abolition of function may occur without actual destruction of the nerve elements involved, and these may recover more or less completely. "When there is recovery from a total physiological transverse lesion the first sign of that recovery is the return of the knee-jerk and the gradual change from the flaccid to the spastic stage. Sensibility returns in the order, touch, pain, temperature, and the lowest sacral segments usually become sentient before the others. The first sign of this often is that the patient becomes conscious of the act of micturition or of catheterisation or of distension of the bladder during the routine lavage. Voluntary power returns in the flexors earlier than in the extensors, flexion of the toes being almost invariably the earliest voluntary movement possible. In cases where recovery is complete the plantar reflex does not resume the flexor type for some time after the patient has completely recovered the use of the lower limbs, the extensor response being the last of all the spastic signs to disappear." (James Collier.)

Complete motor paralysis and anæsthesia do not prove that the lesion is a total one, since recovery may follow their onset in pressure lesions. Though the knee-jerks be abolished at first they may return after a lapse of time, so that there absence denotes nothing in favour of a complete lesion. Priapism is not so frequent a symptom as would appear from text-books. Collier met with it in his series of cases only in connexion with partial lesions. He thinks that its presence signifies that the lesion is partial. None of these symptoms alone, nor all of them together, can be held to be pathognomonic of a total transverse lesion. Only their *persistence*, without variation, can be said to be so. And this persistence must last for some considerable time before a definite conclusion can be arrived at.

Regeneration.—The question of regeneration is a most important one in spinal cord pathology. It has been the opinion of most investigators that such regeneration in man does not take place. The report of the Stewart-Harte case, together with one by Fowler, has recently reopened the whole controversy. Both were cases in which suturing of the spinal cord, completely severed by a pistol bullet, was followed by a reported remarkable degree of recovery.

its full extent again and that pulsation returns (this is only possible where the cord has not been completely destroyed).

It is sometimes advanced as an argument that in operation there is a danger of interference in cases where spontaneous cure would result if the patient were left alone. I would reply by saying that if operation be not done and compression be allowed to continue a degeneration will assuredly result which will be as serious as though the cord had been destroyed by the original injury. Under like conditions life will not be endangered by the operation beyond an amount of risk constantly undertaken in less serious conditions, provided the initial shock due to injury has passed off. To this may be added an additional danger in those cases where the lesion is in the cervical region, with consequent paralysis of intercostal respiration. But even here, with a skilled anæsthetist and a practised operator, the risk is reduced to a minimum. The dangers of the operation are very slight therefore compared to the possible benefit to be derived therefrom.

Will any benefit result from the operation? Let us first consider what the operation may be expected to do. Briefly, it will relieve pressure, or, at any rate, remove any doubt as to whether continued pressure exists. Degeneration as a result of pressure appears within four days. If the spinal cord be not totally destroyed continued pressure may succeed in completing its destruction. Therefore the operation is indicated: (1) to relieve pressure from depressed or displaced fragments of bone; (2) to relieve pressure from blood clot or from extensive hæmorrhage, either extra- or intra-dural; (3) to relieve pressure and prevent further destruction from œdema by enlarging the constricted bony canal; and (4) to remove the future danger of pressure from exudate and inflammatory thickening. No operation will restore a cord in which complete transverse section has taken place. Therefore we are brought back to the one question, upon the answer to which hangs the whole subject of operation: Are there any symptoms by which we can in a reasonable time determine *beyond a doubt* the presence of a complete transverse section of the spinal cord? If there are not—and I believe there are not—then should not such a conclusion urge us—nay, compel us—to give our patient the benefit of an operation which experience shows neither materially endangers his life nor adds to his discomfort but lessens his pain? It will at least allow us to determine the exact nature and extent of the lesion and to place the cord under the most favourable conditions for recovery of function, if recovery be possible.

In respect to the question of operation in these cases surgeons have been divided into three classes: those who advocate operation in every case of injury in which cord symptoms are present; those who advise operation in selected cases; and those who abstain completely from operation. To those who would operate upon selected cases I would say, as Walton does, surely, "instead of selecting the occasional case for operation, we should rather select the occasional case in which operation is contra-indicated," by profound shock, high and rising temperature, and the obvious onset of dissolution. To those who abstain from operation completely I would put this question: May we not by operation often save a life or rescue a patient from a helpless condition of a most disabling character? If so, then surely the onus of proof lies upon the conservatism of those who refuse a sufferer this one chance of relief.

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MEDICAL INSPECTION OF SCHOOL CHILDREN.—At the annual meeting of the Gloucestershire Poor-law Association, held on March 7th, Mr. J. D. Birchall read a paper on the Medical Inspection of School Children, and after some discussion a motion was carried unanimously stating that the work of medically inspecting the school children should be carried out by and under the medical officers of health.

THE CLINICAL SYMPTOMS OF THE CASES OF EPIDEMIC CEREBRO-SPINAL MENINGITIS

ADMITTED INTO BELVIDERE FEVER HOSPITAL, GLASGOW, DURING THE RECENT EPIDEMIC, TOGETHER WITH A SHORT HISTORY OF THE DISEASE IN SCOTLAND.

BY WILLIAM DOW, M.B., CH.B. GLASG.,
SENIOR RESIDENT PHYSICIAN TO BELVIDERE FEVER HOSPITAL, GLASGOW.

THE first known cases of this epidemic occurred in Glasgow in March, 1906, but they were associated with cases occurring in the environment of the city within a radius of 15 miles. The first case treated in Belvidere Fever Hospital which was bacteriologically verified was admitted in May, 1906, but there had been a few cases verified in the city in the two months prior to this. From May, 1906, to the beginning of January, 1907, 55 cases subsequently verified were admitted, and these comprised practically all the cases occurring in the city which were sent to hospital. Of these, 2 cases were admitted in May, 5 in June, 7 in July, 7 in August, 5 in September, 14 in October, 5 in November, and 10 in December. Of these, 21 were acute cases (i.e., death taking place within the first 14 days); 2 were mild (i.e., the onset being mild and complete recovery taking place in from 21 to 40 days); 7 were of an abortive type (i.e., those which recovered within the first 10 days); and the remainder (25 in all) ran a chronic course (i.e., the onset being acute but lasting longer than 30 days). These cases were taken almost entirely from the poorer localities in the southern and eastern districts of the city. With the onset of very cold weather in December, 1906, a marked increase took place, so that in January of last year 17 cases were admitted, this being the greatest number since the commencement of the epidemic. 15 cases subsequently verified were admitted in February, 26 in March, 42 in April, and 28 in May, 1907. In all 128 cases subsequently verified were admitted during the first five months of last year. Of these, 55 were acute cases, 8 mild, 9 abortive, and 56 were chronic. During the latter phase of the epidemic the cases have been of a more acute type. The Glasgow epidemic therefore commenced in March, 1906, continued throughout the summer and autumn in a mild degree, and with the sudden onset of very cold weather about the beginning of January of the past year a marked exacerbation took place, culminating in April, and since declining.

The distribution of the cases as regards age, sex, and fatality is given in the accompanying tables. As the cases

TABLE I.—*May, 1906, to January, 1907.*

Ages of patients (years)	Males.			Females.			Total.		
	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.
Under 1	3	3	100·0	3	3	100·0	6	6	100·0
1 and under 2	—	—	—	5	4	80·0	5	4	80·0
2 ,, 3	1	1	100·0	1	1	100·0	2	2	100·0
3 ,, 4	2	2	100·0	1	—	—	3	2	66·6
4 ,, 5	2	1	50·0	—	—	—	2	1	50·0
5 ,, 6	6	5	83·3	3	2	66·6	9	7	77·7
6 ,, 7	3	3	100·0	2	1	50·0	5	4	80·0
7 ,, 8	—	—	—	3	2	66 6	3	2	66·6
8 ,, 9	2	—	—	3	2	66·6	5	2	40·0
9 ,, 10	1	—	—	—	—	—	1	—	—
10 ,, 15	—	—	—	5	4	80·0	5	4	80·0
15 ,, 20	3	3	100·0	2	1	50·0	5	4	80·0
20 ,, 25	3	2	66 6	—	—	—	3	2	·6
25 ,, 30	—	—	—	—	—	—	—	—	—
30 ,, 35	—	—	—	1	—	—	1	—	—
Total	26	20	76·9	29	20	68·9	55	40	72·7

The Hunterian Lectures

ON

THE SURGERY OF THE SPINAL CORD AND ITS MEMBRANES.

Delivered before the Royal College of Surgeons of England

By DONALD J. ARMOUR, M.B. Tor., F.R.C.S. Eng.,

HUNTERIAN PROFESSOR OF SURGERY AND PATHOLOGY; SURGEON TO BELGRAVE HOSPITAL FOR CHILDREN; ASSISTANT SURGEON TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, AND TO THE WEST LONDON HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 26th, 1908.

FRACTURE-DISLOCATION OF THE SPINE.

MR. PRESIDENT, LADIES, AND GENTLEMEN,—In to-day's lecture I propose to deal with the subject of injuries to the vertebral column in so far as they have to do with the main subject-matter of my lectures—viz., the surgery of the spinal cord and its membranes. It will be useful to review briefly the various injuries to which the bones and ligamentous structures surrounding the spinal cord are liable in order to appreciate the nature of the resulting lesion in the spinal cord itself. For this purpose I will follow, with some slight modifications, the classification laid down by Kocher, which I have had placed upon the wall above me.

Classification of Injuries to the Vertebral Column.

I. Partial injuries:
  1. Distortion.
  2. Single dislocation of the lateral joint (dislocation by abduction or rotation of Hueter).
  3. Bilateral dislocation (dislocation by flexion of Koenig).
  4. Isolated fractures of the vertebral column (pressure-fractures).
  5. Isolated fractures of the arches, spinous processes, and transverse processes.

II. Complete dislocation with fractures:
  6. Complete dislocation (dislocation of the lateral joints and displacement in the region of the intervertebral disc).
  7. Dislocations with fractures due to pressure (dislocation of one or both lateral joints and pressure-fracture of the vertebral body).
  8. Complete dislocation with fracture, dislocations with diagonal fractures (dislocation of the lateral joints and dislocation in the region of the fractured vertebræ).

A brief consideration of the various forms of injury and the methods in which the cord is injured is all that time will allow of. In distortion or diastasis limited practically to the cervical region the displacement is slight or wanting. The ligaments are stretched or ruptured by hyperextension or hyperflexion of the column. Symptoms due to cord injury are occasionally seen. The cord is not crushed, but the over-action has been followed by fatal hæmorrhage into the cord (hæmatomyelia). In fact, this form of injury is said to be the commonest cause of hæmatomyelia, occurring, as it does most commonly, in the region of the fifth and sixth cervical vertebræ. In single dislocation of the lateral joint—unilateral dislocation forward—cord symptoms are not commonly present and if present are usually slight. It should be remembered, however, that symptoms pointing to involvement of the spinal cord may appear some time after the injury. Kocher reports a case in which a month's interval elapsed before the cord symptoms appeared. However, the danger of injury to the cord is less in unilateral (i.e., those by abduction and rotation) than in bilateral dislocations. Hæmatomyelia may result also from unilateral dislocation. Though cord symptoms are uncommon those due to injury or pressure upon the nerves passing through the affected intervertebral foramina are common. They consist of radiating pains in the region supplied by the affected nerves. Isolated bilateral dislocations do occur, but practically the intervertebral disc is always ruptured or else the vertebral body is fractured. However, in rare cases so slight has the forward displacement been that the spinal cord has escaped injury. More commonly the lumen of the vertebral canal is narrowed. The spinal cord then suffers any degree of injury between compression and complete rupture. It results from the cord being [illegible] the upper edge of the body of the lower vertebra. The membranes may be partially or completely torn, with extravasation of blood both outside and inside the sheath. It is [illegible] the spinal cord may also be injured by [illegible] as a result of bilateral dislocation. Hæmatomyelia [illegible] associated with the injuries described. [illegible] It would appear that the cord is in greatest danger of injury when the lower cervical vertebræ, the fifth and especially sixth, are the seat of the dislocation, though it may escape even here.

Blasius thus summarises the subject of injury to the spinal cord in dislocations of the vertebræ. In no form of dislocation is injury to the spinal cord a necessary consequence. Such injury is less to be expected in [illegible] and in unilateral dislocation formed of the [illegible] it is always, or almost always, only a slight compression without crushing. In bilateral dislocation [illegible] forward the cord is exposed to more serious injury and seldom escapes entirely uninjured. When the displacement is forward the cord is mechanically affected in most cases, but the cases of severe injury are fewer than those in which all injury is escaped. Finally, the danger is least in bilateral dislocation in opposite directions.

In attempting to reduce a unilateral dislocation by reducing one joint and then the other, as advocated by Hueter, injury to the cord may result. Pressure-fractures occur most frequently at the dorso-lumbar junction. The bodies of one or more vertebræ are compressed, especially in their anterior halves. Fragments may be separated at the upper anterior edge of the body (anterior wedge fragments) or driven back into the vertebral canal (posterior wedge fragments). Occasionally an intervertebral disc may be ruptured without pressure-fracture of the bone. Illustrations of such cases will be thrown on the screen presently. The cord may now and then completely escape injury. When affected the injuries are brought about in various ways. The severest are produced by a posterior wedge fragment dislocated into the vertebral canal, causing more or less extensive contusion of the cord. The lesion may be a total transverse one, or more rarely a unilateral one. It may be accompanied by hæmatomyelia. Root pains, due to pressure upon the nerves in the constricted intervertebral foramina, may be present. Cord symptoms may arise later, due to an insufficient length of time given to treatment, to pressure from callus, or to inflammatory changes in the meninges. Callus is particularly prone to produce pressure symptoms because the fracture heals purely by periosteal bone formation, and so diminishes the vertebral canal space. Isolated fracture of a spinous process may result in injury to the cord by the fracturing force driving the fragment between two vertebræ into the cord. Injury to the cord is more likely to follow upon fracture of an arch, especially when the fragment is completely mobilised.

Complete dislocations with fracture are characterised by an interruption in the continuity of the anterior column formed by the bodies in front, and of the posterior articular column behind. The spinal cord is almost always damaged and often completely destroyed by being carried forward and pressed against the upper edge of the lower vertebra. The liability of the cord to injury is greatest in dislocations with diagonal fractures, in which the dura mater is torn through. The chances of partial injury are more favourable in dislocation pressure-fractures. The cord is carried forward and crushed between the arch of the dislocated vertebra above and the lower fragment of the fractured body below. It is important to remember that the amount of dislocation present at the time of injury may be largely reduced when the fracturing force ceases to act. The necropsy may show an approximately normal vertebral canal with a complete transverse lesion of the spinal cord.

Complete dislocation, with fracture of the upper two cervical vertebræ, is not always immediately fatal, and therefore of practical interest. The relatively large size of the vertebral canal in the cervical region, and especially opposite the upper two vertebræ, accounts for this escape of the spinal cord. A considerable diminution in the size of the canal may occur before pressure symptoms develop. This is in distinct contrast to the dorsal region of the column.

It will thus be seen that the cord may suffer injury [illegible] to compression, contusion, laceration, or complete di
On external examination the cord may
extensive injury it has

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[1] Lecture I. was published in THE LANCET of March 7th, 1908, p. 693.

in the latter part of the epidemic. It has, as a rule, occurred on the first or second day but sometimes as late as the second week. Its most common situation has been the angles of the mouth, as in a pneumonia, but frequently it has appeared on the cheek, around the ears, and the alæ of the nose. The number of the clusters of herpetic eruptions has varied from six to eight. In two instances the cluster upon the side of the face and neck has been as large as, or larger than, the hand. In one case the herpes has appeared extensively over one shoulder blade, and in another over the inside of one knee. In one instance a scarlatiniform rash has been present soon after the onset.

In two of the chronic cases an eruption beginning as papules and becoming pustular appeared distributed over the body. It ran a moderately definite course and but for the fact of its healing did not differ a great deal in appearance from those generally distributed septic infections of the skin frequently seen in emaciated children. The rose spots described by other writers have never been observed in this epidemic.

Nervous system.—Variation in the nervous symptoms naturally occurs according to the extent and intensity of the meningitis and the degree in which the cerebro-spinal axis is congested or implicated, but certain symptoms have occurred in all, or nearly all, cases and must be considered characteristic. Pain, already described as an initial symptom, has continued during the acute period of the illness. It has ordinarily been severe but its intensity has varied in different patients. Its most frequent seat has been the occiput, the frontal region, and the top of the head, and the same patient at different times has complained of all of these parts. It has also been common in the nucha and along the spine. The epigastrium, the umbilical and lumbar regions, and the extremities are frequently affected, and the pain shifts from one part to another. It has been more common and persistent in the head and along the spine than elsewhere. In these situations its appearance is in all cases coincident with the onset of the disease, and it begins to abate as a rule within the first few days and is much less pronounced by the end of the second week. The state of the mind is that of apathy or indifference, and between this mental state and coma there is every grade of disturbance. Delirium has not been infrequent. It is rarely quiet in form and seems chiefly the result of pain which rouses the patient from the state of stupor and causes him to cry out frequently and name the affected part. If the pain is severe such patients can hardly be restrained in bed, their restlessness is extreme, and their management is difficult. The patient may be quiet for a few minutes, and then aroused roll and toss from one part of the bed to another. It has always been primary, occurring with the onset of the disease, and has lasted a variable time, in some cases passing off after a few days and in others persisting until death. When delirium ceased it was an indication that the case was passing into a chronic form and did not necessarily mean commencing recovery. The form has varied from muttering to maniacal delirium, but in most cases the condition suggested that the origin of the mental symptoms was rather to be sought in the action of pain on a semi-conscious subject rather than in cerebral intoxication seen in other forms of infective disease. In one instance insanity was diagnosed at the onset. The patient was suffering from a muttering form of delirium. He seemed to answer certain questions quite intelligently, but talked away to himself in an incoherent rambling manner. There was no complaint of pain. The fluid removed from the spine was purulent and he died after an illness of six days' duration.

Hyperæsthesia of the skin has been a common symptom, friction upon the surface and even slight pressure with the fingers eliciting cries of pain. Contraction of certain muscles has been present in all cases, unless sometimes in very young children. This contraction has been most marked in the posterior muscles of the neck causing retraction of the head, but it has been also common in the posterior muscles of the trunk causing opisthotonos, and in less degree in those of the abdomen, and in the hamstring muscles of the lower extremities. In consequence of this the patient lies usually with his head thrown back, with the thighs and legs flexed, and with some degree of arching of the spine. Contractions have also occurred in the flexors of hands and feet, especially affecting the thumb and great toe. The varieties of these symptoms are naturally best seen in the chronic cases. In those which end fatally the muscular contraction and rigidity continue to the end, and in some of these the body is so rigid that it can be lifted like a statue. However, during the intervals of apyrexia which often occur in these cases the muscular rigidity frequently passes partly off, and in rare instances completely to reappear again with the recrudescence of the fever.

The plantar reflex has been exaggerated in acute cases before the onset of coma. It has been present throughout the disease in all cases, but in the chronic it is somewhat less active. Babinski's sign has never been obtained in any of the cases. The other superficial reflexes have also been active in the early stage but have been difficult to obtain later in the disease. The knee-jerk is generally exaggerated in acute cases before the onset of coma but may be unequally present in both limbs. It is almost generally absent throughout the course of the disease in all the chronic cases. The loss of knee-jerk persists into convalescence. Ankle or patellar clonus has never been elicited at any stage of the disease, nor has increased reflex of the tendons of the arms and wrists been observed.

Rapidly progressing emaciation begins to be observed in chronic cases from the fourteenth day onwards. The skin, particularly of the abdomen, in these cases becomes dry, wrinkled, and inelastic. The muscles also become extremely atrophied. Trophic lesions of the skin have not been observed. In cases which recover flesh is put on rapidly.

Chronic hydrocephalus is fairly common and its presence may be recognised from the twentieth day onwards and sometimes earlier. The condition is suggested by the extremely wasted appearance of the face and its small size in comparison with that of the head. The eyes have a fixed stare. There is commonly retraction of the upper eyelid, which is occasionally associated with an irregular form of nystagmus, and rhythmic contraction and dilatation of the pupil, a form of hippus which is described fully later. Optic neuritis is found in all these cases. Headache already described is present. The mental condition is variable. The mental faculties in some degree as a rule are retained, but sometimes there is coma. Convulsions occasionally occur in children at this stage. Polyuria is also a symptom. In these cases, although the symptoms present for the most part can be referred to the hydrocephalus, it is noteworthy that the organism is still usually abundant in the spinal fluid. The extreme loss of nutrition is not due to the loss of power of feeding or digestion, as such patients in general feed well. Paralysis of any muscle or group of muscles has only occurred in one case, when complete hemiplegia affecting the right side developed a few days before death. In the very acute cases, however, difficulties of deglutition appeared shortly before death.

History of convulsions is commonly obtained as accompanying the onset in children under a year, but no such history has been recorded in adults. Convulsions have occurred in the course of the disease in children in acute cases, and they have been found associated post mortem with leptomeningitis extending over the vertex of the brain. They also occur in children throughout the course of the disease in chronic cases, when basal meningitis is present. Convulsions have been absent in adults but seem to have been represented by muscular twitchings in acute cases. These twitchings have been observed in the face, the arms, and the legs. They occur only at intervals and are commonly produced reflexly by movements of the limbs or by touching the skin.

Organs of special sense.—Of the organs of special sense the eye and the ear have been most frequently affected. With regard to the former, the pupils in the irritative stage of the disease have been contracted when there has been delirium. In the stage of coma they have commonly been dilated. Inequality of the pupils has been very frequent in all stages of the disease. They have commonly responded very feebly to light. An irregular form of hippus has been frequently observed both in acute and in chronic cases. In this the pupils have contracted and dilated with something approaching a rhythmic frequency, the oscillations commonly occurring from 10 to 15 times a minute. A comparison between the maximum of dilatation and maximum of contraction has been greater than normal and the oscillations have been irregular in speed and in rhythm. This has occurred without the eye being illuminated or the gaze being fixed on a distant object. Strabismus has been moderately common at all stages, being apparently due to pressure rather than to central lesion of the nerve, as it varied in the same subject from day to day. In only one case which recovered was the squint permanent, and in this case it was internal.

In the first case the ends of the cord were three-fourths of an inch apart (two centimetres). Working upon the subject of regeneration Marinesco and Minea have described the appearances found in the cords of dogs examined at periods varying from 1 to 15 weeks after section, and also in two cases of compression of the spinal cord in man. The conditions found were very similar in both the experimental and the pathological conditions. New formation of nerve fibres occurred, as described both by the authors and by Cajal, in peripheral nerves—namely, progressive growth of old fibres, and multiplication by successive dicrotomy of fibres of new formation. Growth occurred from both upper and lower ends, but seemed to be more prolific from the posterior roots upwards than from above downwards. The new fibres were of varying calibre. Some were myelinated, but most were not. They ended in cones of growth of spherical terminal masses and frequently had fusiform swellings in their course. Cells which are termed "apotrophics" played a somewhat important rôle here, as they do in peripheral nerve regeneration. These are fusiform cells, which were found in the tissue between the divided ends a few days after section, with a fusiform nucleus, and rich in chromatin granules. Sometimes they were elongated, with several nuclei, and were described as protoplasmic bands. They had chemiotaxic properties, by which the young axons were attracted, often actually drawn into their interior and nourished. The new nerve fibres extended by growing along these bands of apotrophic cells, and also by following the lines of the new vessels forming a sort of perivascular reticulum. The course of the fibres was very irregular. Many actually doubled back on themselves and few succeeded in crossing the cicatrix, so that in spite of the apparent double cord and root regeneration there was no functional regeneration. In order to accomplish this it would be necessary for the proper neurons to become connected up as before, an event which, in the opinion of these investigators, can only occur, if at all, with extreme rarity.

Fickler, experimenting upon the changes found in the spinal cord after contusions of various degrees, reports finding evidences of regeneration. This occurred only in the nerve fibres, never in the ganglion cells. If the ganglion cells controlling the nerve fibres were destroyed by pressure or by any other cause regeneration did not occur. The commonest source from which regeneration proceeded was the spinal ganglion nearest to the focal lesion. His experiments seem to indicate that regeneration only occurs in sensory fibres from the spinal ganglia and in the fibres uniting various segments of the spinal cord. Consequently, the number of fibres capable of regeneration is not very large. When these regenerated fibres reached the grey substance they travelled upward for a considerable distance and even came into relation with the dendritic processes of the ganglion cells of the grey substance. According to Fickler the fibres of Clarke's column do not appear to be capable of reaching the central neurons. He concludes that the functional result attained by such regeneration is probably insignificant.

Pierce Clark, after a searching analysis of all the facts, submits the following as conclusions in answer to the query as to whether the tracts of the nervous system regenerate. 1. Animal experiments fail to provide conclusive data that central tracts of the nervous system ever regenerate, so that the former function is restored. ... In warm-blooded animals, and in the human species in particular, an abortive attempt on the part of the cord to regenerate is largely, if not solely, confined to fibres of undoubted peripheral type. 2. Histological analysis of cases of hemi-section, compression paraplegia and myelitis, and similar destructive lesions of the cord, fails to show positive evidence that actual structural regeneration of axis cylinders ever occurs in the central nerve tracts of the human spinal cord. In a case of complete division of the brain and spinal tracts there is simple degeneration, followed by sclerosis. 3. A most acceptable reason for non-regeneration of such tracts is shown in that the compressed nerve fibres do not possess a neurilemma sheath from which the nerve regeneration mainly, if not solely, occurs. This lack in cord and brain tracts, in contrast to the regenerating peripheral nerves, is due possibly to a difference of embryological origin of these two structures of the nervous system.

Dr. Gordon M. Holmes, director of the research laboratories at the National Hospital for the Paralysed and Epileptic, has kindly placed at my disposal the results of his researches on the subject. He says:—"The evidence against the opinion that regeneration of completely interrupted fibres of the *central* nervous system may occur is threefold: 1. There are no satisfactory or conclusive observations that *central* fibres do regenerate. 2. When a central tract degenerates its place is soon occupied by such dense sclerotic tissue that it is scarcely credible that such delicate structures as regenerating axis cylinders should be able to find their way through it. On the other hand, such cells as the proliferated neurilemmal elements of a secondarily degenerated peripheral neuron, which it is generally assumed possess a chemiotactic attraction for the regenerating axis cylinder, do not exist in the central nervous system. 3. There is definite evidence, for a considerable number of systems at least, that when a central fibre is interrupted its cell of origin soon undergoes complete atrophy and disappears."

The clinical evidence, when analysed, in support of regeneration occurring in the spinal cord is even less convincing than the experimental. That recovery of function after total loss does occur may be explained in several ways. This loss may be due to pressure or œdema, producing physiological abrogation of function without necessarily destroying the nerve elements completely. On removal of the compression the fibres recover their powers of conductivity. Or the function of fibres actually destroyed may be taken over by other fibres which have escaped. This would appear to take place in relation to the bladder and rectum in cases of hemisection of the spinal cord.

The question of operation.—Paulus Ægineta in the seventh century was the first to advise operation for fracture of the spine. He says (Book VI., Sydenham Society's Translation): "The round bodies of the vertebræ may sometimes be crushed, in which case the membranes of the spinal marrow, or the marrow itself, being compressed, sympathetic nervous affections take place, and death speedily follows, more particularly if the vertebræ of the neck be affected. Wherefore, first having given warning of the danger, we must if possible attempt to extract by incision the compressing bone, or if not we must soothe the part by anti-inflammatory treatment. But if any of the processes of the vertebræ, of which the spine, as it is called, consists, be broken off, which will readily be felt upon examination by the finger, the broken piece yielding, and returning again to its position, we must make an incision in the skin externally, and extract it, and having united the wound with sutures, pursue the medicaments for healing wounds." But the subject did not receive serious attention until Paré in the eighteenth century recommended operative treatment. Heister recommended extraction of the fragments in cases of fracture where the depressed fragments compressed the cord. "But to offer the patient no assistance because we despair would seem cruel and uncharitable, therefore we must try our skill though our attempts should be in vain; in order to which the surgeon must lay bare the fractured vertebræ with a scalpel, and replace or else remove such fragments as injured the spinal marrow." The first operation for fracture of the spine was performed by Louis in 1762, though one of the earliest of the more formal operations was carried out in 1814 by the younger Cline. In 1823 Sir Astley Cooper wrote: "If you can save one life in ten—nay, one in a hundred—by such an operation, it is your duty to attempt it, and he who says it should not be attempted is a blockhead."

The questions that will arise in discussing the subject of operation in cases of fracture-dislocation of the spine are, in order of importance: 1. Will any benefit to the patient result from the operation? 2. Will his life be endangered by the operation? 3. Will he be made worse as a result of the operation?

Let us take these in the reverse order. The condition will certainly not be aggravated as a result of the operation. This statement is made with the proviso that the operation is undertaken by a competent surgeon, accustomed to operate frequently upon the spinal cord, and whose aseptic technique is beyond reproach. Unless the operator has had considerable experience in spinal surgery it is very easy to overlook the cause of compression. It is essential, in order that an operation should be perfectly successful: (1) to remove enough laminæ to be absolutely sure that there is no remaining pressure on the cord; (2) to remove any projecting bone, whether it be a portion of the vertebral bodies, or one or more articular processes; (3) to remove all blood-clots, even though laminæ of unaffected vertebræ have to be removed to do so; (4) to open the dura mater to ascertain definitely the condition of the cord; and (5) to see that the cord dilates to been found to be enlarged. The bowels, as a rule, have been constipated. There has been loss of control of the rectum in all the acute cases and also in many of the children even when they have been conscious.

Urinary system.—In the acute stage of the illness the amount of urine passed has not been altered. In chronic cases, however, where hydrocephalus has developed, the amount has been greatly increased and the colour has been pale. No sugar has been present in any of the cases. Albumin has only been found very occasionally and in small quantity in acute cases shortly after onset. It has never been present at any other stage of the disease. Blood has never been found. There has been no instance of nephritis observed. Incontinence of urine has been common in children throughout the course of the disease. It has only been observed in adults during the state of unconsciousness.

Joints.—Arthritic pain, though it has been a feature of some other epidemics, has only occurred in a very few cases. The wrists, knees, and ankles have been chiefly affected. The joints have been tender to touch. This symptom when present appeared shortly after the onset and subsided in a few days. A purulent arthritis has occured in only two cases. In the first case the knee-joint alone was affected. The patient had a sharp attack of the disease, which aborted. The swelling appeared the day in which the crisis occurred, when the patient was otherwise well. The cavity of the joint was much distended. The skin was red and tender to the touch. On exploring thick yellow pus was obtained, from which the diplococcus of Weichselbaum was isolated in pure culture. The knee was opened and drained and the patient made an uninterrupted recovery with, however, an ankylosed joint. The other case was chronic in character. Swelling of both wrists, both ankles, and the right knee-joint developed within a few days of each other well on in the course of the disease. Slightly turbid fluid was obtained on aspirating the knee-joint and the diplococcus of Weichselbaum was again isolated in pure culture from this fluid. This patient died eventually, but the swelling of the joints subsided without surgical interference.

Historical Note.

In view of the fact that cerebro-spinal fever has assumed epidemic proportions in Scotland for the first time, an account of its history and its clinical aspect should not be without interest.

The first case definitely recognised occurring in Scotland was communicated to the Glasgow Clinical and Pathological Society in 1883[1] by the late Dr. James Finlayson. This case was admitted to the Glasgow Western Infirmary in February of the same year and was verified by post-mortem examination. However, in 1878 the late Dr. T. J. Maclagan had reported in THE LANCET[2] a series of cases occurring in Dundee, but doubt was expressed at the time as to their real nature, many considering that they were aberrant cases of typhus fever, and a careful comparison of his clinical account with the symptoms observed in this epidemic leads to the belief that such was really the case. One of his chief points, the absence of rash, is of much less weight at the present time, as it is now known that the characteristic rash of typhus fever is absent in fully a third of the cases. Dr. Maclagan reported these cases again more fully in the *Edinburgh Medical Journal* in the year 1886.

In May, 1883,[3] a case subsequently verified by post-mortem examination was admitted to the late Sir William Gairdner's wards in the Glasgow Western Infirmary. In January, February, and March, 1884,[4] the first definitely recognised outbreak of this disease in Scotland occurred in Galston, Ayrshire. These cases, six in all, were reported by Dr. William Frew (Kilmarnock) to the Clinical and Pathological Society of Glasgow in May of that year. Two of them were verified by post-mortem examination. Dr. Frew also describes some cases of an abortive type which occurred at the same time. Immediately on seeing this paper Dr. Byrom Bramwell[5] wrote to Dr. Frew stating that he himself had observed sporadic cases in Edinburgh. Dr. Alexander Collie[6] also wrote about the same time stating that cases of this disease had come under his own observation in Scotland.

In 1885[7] the late Dr. Finlayson reported a further case occurring in his wards in which the diagnosis was confirmed post mortem. In the same year[8] Dr. J. Nigel Stark reported two cases occurring in the Royal Infirmary, Glasgow, in which the diagnosis was likewise confirmed post mortem. In 1887[9] Dr. Anstruther Davidson (Sanquhar) reported a case which recovered, convalescence being very protracted. From 1884 to 1888[10] single sporadic cases of the disease occurred in Rothesay, Dumbarton, and Kilmarnock, while in the four years six further cases were observed in Galston. These were also recorded by Dr. Frew. In some of these the diagnosis was verified by pathological examination. In 1892[11] Dr. W. A. Maclachlan of Dumbarton reported a case which recovered. At the annual meeting of the British Medical Association at Carlisle in 1896 Dr. Frew read a further paper in which he states that he had collected notes of upwards of 100 cases of cerebro-spinal fever which had occurred in Scotland without, however, specifying the exact localities in which they occurred. A third fatal case verified post mortem was admitted into the wards of the late Dr. Finlayson in 1900. In the same year[12] Dr. T. K. Munro reported a case occurring in the *Glasgow Royal* Infirmary in which recovery took place in five days. The three cases of Dr. Finlayson, the case of Sir William Gairdner, and the two cases of Dr. Stark all occurred in persons residing in Glasgow and afford proof that the disease has been present in the city since 1883.

Professor J. Glaister made in 1902 a post-mortem examination on a case of sudden death occurring in Paisley. In his report to the corporation he stated that he had found the characteristic organism of cerebro-spinal fever in the exudation round the brain and spinal cord, and he also expressed the opinion that six other cases occurring at the same time were clinically cases of the same disease. Six undoubted cases occurred in Rothesay between May 6th, 1904, and June 4th, 1905, one of which was verified by lumbar puncture. Dr. F. Dittmar made a report on these to the Local Government Board of Scotland. Dr. J. Wallace Anderson has believed for a considerable number of years that the disease was constantly present in Glasgow in small amount. He has published a note of his cases in the Transactions of the Epidemiological Society and he recently gave a demonstration of cases that had recovered in the Glasgow Public Health Office. I had the fortune to be present at this demonstration and I had no doubt that the majority of his cases had been genuine examples of the disease. Sporadic cases have therefore occurred in Scotland during the last 20 to 30 years, but this is the first occasion there has been an epidemic comparable in extent with any that has occurred in the Continent or America.

Belvidere Fever Hospital, Glasgow.

A REMARKABLE CASE OF PERSISTENT INGESTION OF NEEDLES

AND THEIR REMOVAL FROM DIFFERENT PARTS OF THE BODY, ESPECIALLY FROM THE ORGANS OF THE ABDOMINAL CAVITY, BY LAPAROTOMY SEVERAL TIMES REPEATED.

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OPERATIONS for the removal of needles from the human body are by no means infrequent, but a somewhat extended examination of surgical literature has not discovered a case in which the patient so persistently ingested needles and submitted to severe operations for their removal as the one narrated in this paper. It has attracted considerable attention through her readiness to give information when she was out of the hospital, and now that the end has come it seems fitting to publish the details, if it serve no other purpose than to add a very unique case to the already varied collection of records of foreign body perforations of the gastro-intestinal tract.

On Oct. 26th, 1906, the patient who is the subject of this are so few any elaborate discussion of these figures is unnecessary. Certain points may be noted: the number of males and females has been practically identical. The fatality during both phases of the epidemic has been practically the same—viz., about 73 per cent.

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[1] Glasgow Medical Journal, September, 1883, p. 219.

[2] THE LANCET, Feb. 9th, 1878, p. 219.

[3] Glasgow Medical Journal, June, 1883, p. 459.

[4] Ibid., July, 1884, p. 21.

[5] Ibid.

[6] Ibid.

[7] Ibid., July, 1885, p. 56.

[8] Ibid., July, 1885, p. 58.

[9] Ibid., April, 1887, p. 241.

[10] Ibid., March, 1888, p. 193.

[11] Ibid., August, 1892, p. 90.

[12] Glasgow Hospital Reports, 1900, p. 253.

TABLE II.—*January to May, 1907.*

Ages of patients (years).	Males.			Females.			Total.		
	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.	Admitted.	Died.	Mortality per cent.
Under 1	10	8	80·0	8	8	100·0	18	16	88·8
1 and under 2	4	4	100·0	7	6	85·7	11	10	90·9
2 " 3	1	1	100·0	6	4	66·6	7	5	71·4
3 " 4	7	6	85·7	5	4	80·0	12	10	83·3
4 " 5	7	6	85·7	3	2	66·6	10	8	80·0
5 " 6	2	1	50·0	5	5	100·0	7	6	85·7
6 " 7	3	3	100·0	2	2	100·0	5	5	100·0
7 " 8	—	—	—	2	—	—	2	—	—
8 " 9	3	1	33·3	2	1	50·0	5	2	40·0
9 " 10	1	1	100·0	—	—	—	1	1	100·0
10 " 15	8	5	62·5	11	9	81·8	19	14	73·6
15 " 20	12	7	58·3	5	2	40·0	17	9	52·9
20 " 25	2	1	50·0	1	1	100·0	3	2	66·6
25 " 30	1	1	100·0	1	—	—	2	1	50·0
30 " 35	—	—	—	1	—	—	1	—	—
35 " 40	—	—	—	2	2	100·0		2	100·0
40 " 45	2	1	50·0	2	1	50·0	4	2	50·0
45 " 50	—	—	—	1	—	—	1	—	—
50 " 55	—	—	—	1	1	100·0	1	1	100·0
Total	63	46	73·01	65	48	73·8	128	94	73·4

The clinical symptoms of the cases in Belvidere Fever Hospital, as they have been observed during the recent epidemic, are recorded below under appropriate headings.

Symptoms of onset.—The onset has in general been sudden. Headache and vomiting have been the chief initial symptoms. The former has always been present and the latter has only been absent very occasionally. In adults there has often been a history of shivering or rigor and in infants of convulsions. Vertigo has been present in many instances at this stage, sometimes so acute as to cause the patient to fall down on the street. Prodromal symptoms have generally been absent, but as the great majority of the cases were children their frequency cannot be estimated. Malaise has been occasionally present for a few days prior to the onset, and in some cases a feeling of uneasiness incapable of definition has preceded the acute attack by a number of hours. Sore-throat of one to two days' duration has been noted. Nasal discharge has been only occasionally observed. The onset has in many cases been fulminant, in some instances the patient having taken a full and hearty meal immediately before.

The physiognomy has been very characteristic. Generally the cheeks are flushed and in acute cases the flush is dusky or even cyanotic. Herpes when present usually appears round the lips at this stage, so that the facies resembles that of a typical pneumonia. There is generally a look of anxiety. In severe cases the conjunctivæ are suffused. The condition of the pupil is variable and will be discussed more fully later. A petechial rash sometimes appears within the first 12 hours in fulminant cases, but when present in other cases it has commonly been observed for the first time on the second, third, or fourth day. The patient is restless and lies with his head rigid or somewhat pulled back, and the arms and legs may be tossed from one part of the bed to another. There has always been stiffness of the head and neck, unless sometimes in children under a year old, when even this sign has been absent. Kernig's sign has been present in the majority of the cases a few hours after the onset, but by no means always. A type of case has occasionally occurred, death taking place in from 24 to 48 hours, in which neither rigidity of the head and neck nor Kernig's sign has developed. All degrees of mental activity have been displayed, but stupor more or less profound, and less frequently delirium, have succeeded the onset according to the gravity of the case.

The type of case has varied considerably, and for purposes of description they will be referred to hereafter under the following heads: the acute, the chronic, the mild, and the abortive. In the acute case delirium with more or less coma develops within the first few hours, and death occurs within the first 14 days. The chronic case is generally acute at onset, being ushered in with delirium, semi-coma, or coma, within the first few hours, but a fatal result does not immediately occur, and after about 14 days the case assumes a chronic character. Mild cases are those in which the symptoms of onset are quite characteristic, but there is an entire absence of delirium and coma; consciousness persists throughout the attack, and there is only moderate complaint of pain. In some of these cases there is considerable retraction of head and neck, and even opisthotonos. Abortive cases are those in which the onset has been commonly acute, and in rare instances mild, but in which recovery is complete within the first few days.

Skin.—The features have as a rule been flushed at the commencement of the disease, but in advanced cases they have been pallid. Temporary flushings of the face and of the skin generally have been common throughout the course of the disease. On the face especially circumscribed areas of deep congestion surrounded by areas of pallor have been seen. These are very evanescent, passing within half an hour from the stage of extreme brilliance to a condition only recognisable with difficulty. Goose skin has been common in the chronic stage. The tache cérébrale has been common throughout the course of the disease. Considering that the disease has been named from the eruption which accompanies it, it is noteworthy how seldom the true rash has been present. This rash, however, does not conform in the least to any of the types which we are accustomed to associate with the acute exanthemata. It has consisted of small hæmorrhages into the more superficial part of the corium, which on appearance have been bright purple in colour and of irregular form. They commonly have varied in size from ⅛ to ¼ inch in diameter, but smaller and larger elements have been not unusual. The largest observed approached the area covered by a shilling piece. The common duration of these hæmorrhages has been from three to four days and they have faded in brightness usually within 24 hours. They pass through the ordinary stages of the disappearance of a hæmorrhage. Their whole course is much shorter than that seen in the typhus eruption and they have never been preceded by the roseola commonly present in the latter disease. When these hæmorrhages have occurred in the subcutaneous tissues they have been faint blue in appearance. Another feature of the skin occasionally observed has been a mottling not unlike that seen in typhus fever, but this has never appeared with the widespread distribution common in the latter disease. This has been observed in seven cases, and in the first week of the disease. It has only been associated with the rash in one case. As regards the appearance of the eruption there is little to distinguish it from an ordinary purpura except its rapid evanescence. This would seem to show that the amount of blood effused is very small and very superficial. This eruption has commonly appeared from the first to the fifth day, the commonest days having been the third and fourth. A petechial eruption not distinguishable from that described distributed generally has been observed in four instances immediately prior to death. In cases which have developed chronic hydrocephalus an eruption of very small petechiæ distributed more or less generally have been common shortly before death. These have been a faint blue in colour and not easily visible. Six cases out of 55 treated during 1906, or 10·9 per cent., had a generalised petechial eruption all over the body. 27 out of 128 cases, or 21·09 per cent., treated during the first five months of 1907 had generalised petechial eruptions, so the petechiæ have been much more common during the latter phase of the epidemic. Four out of these latter cases had hæmorrhages also under the conjunctivæ. Two had hæmorrhages under the conjunctivæ alone. Recovery has only taken place in one case where petechiæ were found in the skin. In this case the fever continued for 160 days, recovery taking place with deafness.

Herpes has occurred in 18·1 per cent. of cases in the first phase of the epidemic and in 21·09 per cent. of cases in the second phase. The frequency of the occurrence of herpes and the petechial rash has been therefore exactly the same abdomen three needles were discovered, two of them lying in the parietal peritoneum and one in the preperitoneal areolar tissue. All seven needles were removed, those lying in the peritoneum requiring for their removal a simple incision of that membrane, the resulting wounds being closed by individual running sutures of No. 1 catgut. The single needle which lay in the preperitoneal tissue was reached by freeing the peritoneum from the deep fascia and was thus removed extra-peritoneally. Further search showed the presence of a needle in the cul-de-sac of Douglas. This was apparently safely encysted, had caused no pain, and required for its removal a marked extension of the incision with a much greater tendency to post-operative accident, and the prolongation of an already necessarily protracted operation. It seemed wise to leave it where it was being so well protected. The small intestine was next investigated by gently passing it between the fingers its entire length. It was found to contain no needles nor any other unusual foreign bodies, and at no point was there any scar to show a possible previous perforation by any of the needles found elsewhere in the abdominal cavity. All the remaining abdominal viscera were palpated, as also were the walls of the peritoneal cavity. Nothing else of an abnormal nature was found. I closed the abdomen by layer sutures, plain catgut No. 2 being used throughout; skin edges were approximated by a subcuticular suture of the same material.

One event in an otherwise uneventful recovery deserves mention and is of interest in the light of later knowledge. 24 hours after operation the patient, who had been progressing exceedingly well, utterly collapsed and responded to vigorous stimulation only after an hour of hard work with high saline enemata with whisky, hypodermatic injections of the usual heart stimulants, and intravenous infusion of normal salt solution. I am indebted to Dr. William Hinz, then house surgeon of Fordham Hospital, for his efficient aid at this time. After this temporary set-back the recovery of the patient was rapid and satisfactory. On the third day after operation she began taking soft food. On the fourth day her bowels were moved thoroughly by fractional doses of calomel followed by salts. On the fifth day temperature and pulse were normal and she was allowed a restricted solid diet. On the tenth day her wound was dressed and found healed. She had not vomited since the operation. Excepting the fact that she was occasionally nauseated and complained of some abdominal pain her convalescence was uneventful.

When confronted with the conditions found at the operation the patient became taciturn and unresponsive and it was not until six months later, when her hysterical condition had temporarily disappeared, that she confessed to having "eaten" the needles about 18 months before she came under observation and said that she had swallowed them all at the same time. How many she had taken she was unable to state.

In the foregoing description of the operation the use of the word "needle" requires, perhaps, some explanation. In not every instance was a complete needle encountered but each piece was of sufficient length to warrant the assumption that it represented a full needle. They varied in length from half an inch to the full three-inch length. Sometimes the point was lacking, sometimes the eye; in every case the metal was much corroded and in some cases so friable as readily to break up into several pieces when grasped between the thumb and fingers. So firm was the clutch of the enveloping tissue upon these roughened bodies that no needle could be *pulled* out, but each required to be *cut* out.

The remarkable versatility of the great omentum was beautifully demonstrated in this exploration. Needles just in the act of perforating the stomach or intestinal walls were invariably covered by a small portion of omental tissue. Those which had entirely perforated were found in the omentum itself, and the course of those lying in the abdominal wall was indicated by the needles found in the omentum at various levels. Apparently the omentum anticipated the perforation, enshrouded the offending body in its protecting folds, and passed it on to the comparative safety of the abdominal wall. The fact that the needles which escaped from the stomach into the duodenum should traverse safely the entire length of the small intestine and then find the lumen of the colon too cramped to allow of their continued progress is but another illustration of the well-known paradox. The needle found in the cul-de-sac of Douglas probably perforated the upper part of the rectum itself. However, that the small intestine is but human after all was shown later on in this case.

On Nov. 30th, three weeks after operation, the patient again required attention. In the afternoon of that day she complained of nausea, faintness, and abdominal pain. This pain she significantly described as of a sticking character and localised at a point one and a half inches above the umbilicus and slightly to the right of the median line. The pain and nausea continued and increased, the epigastrium became tender, the temperature rose to 101°, and the pulse quickened to 120 per minute. At 7 o'clock the patient vomited four ounces of pure, bright-red blood. Suspecting another perforation I deemed operation advisable.

At 12 o'clock, under ether anæsthesia, I opened the abdomen through the upper portion of the left rectus. The large and small intestines were normal save for the scars already mentioned. A good-sized hæmatoma was discovered between the layers of the omentum, and the formation of this accounts, I believe, for the severe secondary shock which has been described as occurring 24 hours after the first operation. The clotted blood was merely shelled out and the cavity allowed to take care of itself. At the site of the perforation of the first needle removed at the first operation there was some thickening, suggesting the presence of a gastric ulcer. The stomach was opened at this point, its cavity thoroughly explored, and nothing found. The only explanation of the hæmatemesis seemed to lie in bleeding from minute ulceration at the site of the scar or from an inaccessible lesion of the œsophagus. The thickened portion of the stomach wall was turned in by means of four or five interrupted stitches of black silk. The abdomen was closed by layer sutures in the usual manner. No drainage was employed. The patient again made an uneventful recovery.

On Dec. 15th, after the patient had apparently recovered and had been up and about the ward for several days, she again vomited about three ounces of blood unmixed with food and bright red in colour. She was put to bed and all food and all medication by the mouth were stopped. There was no particular abdominal tenderness. She was occasionally nauseated during the next 24 hours, but improved and was up and about at the end of three days.

Jan. 1st, 1907, was the starting point of another attack similar to the one just described and for several days she was again confined to bed. Repose and complete stoppage of food again proved sufficient curative measures.

On Jan. 10th a point of local tenderness appeared about two inches above the umbilicus and evidences of deep-seated inflammation were discovered. The patient was put to bed and an ice-bag relieved the pain. On the 12th the point of an ordinary sewing needle presented itself at the centre of the inflammatory mass and was removed. Occurrences similar to this, at times previous to her submitting to treatment, account, I believe, for the presence of the irregular abdominal scars about which she was so reticent. The small wound in the skin immediately healed but the pain continued. Vomiting again occurred and persisted but the vomitus was not discoloured with blood. The upper central portion of the abdomen became distended and tender, the temperature rose, and, in short, the patient exhibited all the signs of obstruction of the small intestine. Though the bowels were moved freely with enemata the obstructive symptoms persisted.

On Jan. 15th an operation was resorted to for the third time. The abdominal cavity was opened above the umbilicus in the median line. The point of obstruction was found in the small intestine about 24 inches from the beginning of the jejunum. The lumen of the bowel was almost obliterated by dense scar tissue in the intestinal wall and the obstruction was completed by encircling bands of omental adhesions. In this mass of adhesions and lying immediately next to the bowel itself was a cambric sewing needle. Just above the obstruction another needle was discovered in the act of perforating the intestinal wall. Both needles were removed and were found to be entirely intact and bright and shining. They had none of the corroded, "digested" appearance of the needles removed at the first operation. After removing the needles and freeing the bowel of the constricting bands, I split the intestinal coats through the stenosed area for a distance of about two inches and sewed the resulting wound transversely with a through-and-through running stitch of black silk. A single layer of Lembert stitching covered this suture line. The abdomen was closed with layer sutures without drainage. Again the patient made a good recovery and was out of bed on the fourteenth day. She remained under observation for about six weeks, during

Nystagmus, both horizontal and vertical, has been commonly observed in very acute cases and occasionally in the chronic stage.

A curious condition, consisting of an associated movement of the upper eyelids, pupils, and eyeballs, has been occasionally observed in chronic cases in the stage of chronic hydrocephalus. This consisted of spasmodic retraction of the upper eyelids, accompanied with the form of hippus already described and with an irregular form of nystagmus, but not true nystagmus, where an involuntary oscillation of the eyeball occurs from side to side of the central line of vision. In these cases the nystagmus has consisted in irregular twitchings of the eyeballs in all directions and not from side to side of the middle line. Retraction of the upper eyelids has been moderately common in the stage of chronic hydrocephalus. Ptosis has not been observed. Conjunctival hæmorrhages have been only observed in six cases. In acute cases there has commonly been a uniform diffuse redness of the conjunctivæ. In only a very few cases has there been purulent conjunctivitis and this in exceptional instances has proceeded to ulceration of the cornea. Out of a series of about 40 cases which were examined carefully for changes in the fundus optic neuritis has been observed in all the cases which had developed chronic hydrocephalus, but has not been found at any other stage of the disease. In the acute cases hyperæmia of the optic discs has commonly been noted. A few patients have appeared to be blind throughout the course of the disease but none of these have recovered with blindness.

As to the ear, both the middle ear and the central auditory system have been frequently affected. In children, inflammation of the middle ear with purulent discharge has been moderately common. The diplococcus of Weichselbaum has never been isolated in pure culture from this discharge. Out of the 14 recoveries in the first portion of the epidemic complete deafness was present in four. In two of these the disease was abortive in character and in two it was chronic, and the deafness was observed in all immediately after the initial stage of coma had passed away. Out of 30 patients who recovered from January to May, 1907, five were completely deaf. Of these, three were abortive cases and two were chronic, and the deafness was observed in all, in the early stage of the disease, as soon as the stupor had passed away. Other patients, especially children in whom a fatal result occurred, may have been deaf during the course of the disease, but it has been difficult to make this out. The deafness in all cases has been bilateral and complete. In none of these cases has improvement in hearing taken place since dismissal. No discharge from the middle ear has occurred in any of those who recovered with deafness.

Taste and smell have not been affected.

Nasal discharge has not been a feature of any of the cases.

Temperature.—At the onset in acute cases the temperature commonly ranges from 102° to 104° F. In these cases it commonly continues at this level without remitting throughout the course of the illness and rises or falls immediately before death. In many cases, however, in which coma has occurred within the first few hours after the onset the temperature has been sub-febrile, normal, or subnormal when admitted on the first or second day of illness. Fever has probably been present at the onset and the temperature has fallen with the commencement of coma. When the acute case aborts the temperature remains high for some days and falls by crisis or less commonly by lysis. In the chronic cases there has been so much variability in the course of the temperature that classification is impossible. In many of these cases the temperature has been apparently arbitrary. In some there have been periods of apyrexia, lasting from three to seven days, followed by febrile periods remittent in character, lasting for about a similar period, though the periods of apyrexia became gradually longer as the illness progressed. In one chronic case this form of fever lasted for 160 days, but the pyrexia did not occur at regular intervals. In this case during the latent intervals of the fever all the symptoms of pain, rigidity, &c., passed completely away, but the renewal of the fever on every occasion was accompanied with nausea and vomiting, headache, and rigidity of the muscles. There is, however, one form which has been much more common than the rest. In this commencing at a period from the eighth to the fourteenth day the temperature has taken on a markedly remittent type, the daily swings amounting to as much as 3° or 4°. The maxima and minima do not regularly occur at set hours, and consequently the phenomenon is much more discernible in a four-hourly chart. This remission in some cases reaches the normal line, or even a degree below it, and persists for a considerable time. There is no phenomenon such as sweatings or burnings of the skin associated with this daily oscillation, but headache and vomiting are common. The oscillation may persist for five weeks or longer, and either end abruptly or by the excursus becoming gradually less marked. The return of the temperature to normal may either mean approaching convalescence or the approach of a stage of gradual wasting, fatal sooner or later. The commencement of this stage of daily remission supervenes sometimes on the acute high fever, while sometimes there is a period of several days' normal temperature between the end of the primary fever and the beginning of this stage. In many of the chronic cases the temperature has been more or less normal for weeks before death. In some of the milder cases the temperature has remitted regularly from 101° to 102° to normal in the morning throughout. In cases of this kind, where there has been no delirium or coma and where relapses have not occurred, recovery has been the rule.

Circulatory system.—The pulse-rate had varied greatly in different cases. As a rule it has been much accelerated. In a number of cases the pulse has been slow, in a few ranging as low as 40 to 50 per minute. Marked variation in its frequency at different hours of the day and on consecutive days has been frequently observed in the same individual. The pulse-rate is ordinarily little influenced by alterations in temperature. In two cases which recovered its rate remained normal during the whole course of the disease, although the temperature throughout the illness was considerably elevated. In the early stage the pulse has been full, regular, and of good tension, and it remains good in cases which recover. In chronic cases it becomes rapid, irregular, and of poor tension. Several hours before death in acute cases the pulse has usually become very rapid and feeble. This has been associated with lividity of the body. No changes in the heart sounds are observed beyond what are common in all wasting diseases.

Respiratory system.—The respirations as a rule have been accelerated at the commencement of the illness, always absolutely, but frequently also out of proportion to the acceleration of the pulse, though no lesions of the lungs could be detected on auscultation. This has been one of the conditions which produced the resemblance of the patient's appearance to that of one suffering from acute pneumonia. In those cases in which the pulse-rate has been slow at the commencement the pulse-respiration ratio has been as high as 1 to 2 or even higher. In the acute cases various forms of nervous breathing were frequent, particularly in young children, and shortly before death. True Cheyne-Stokes breathing was very rare, but the various modifications of this, such as that where the breathing rises gradually to a maximum, falls suddenly to a minimum, rises slowly again, and passes through cycles of irregular length, have been not infrequent. In some of these the pulse has followed the respiration, and in some not. How far these irregularities of the respiration have been pain reflexes in a patient in a state of stupor is naturally not clear, but a number must undoubtedly be placed under this category. In the acute cases immediately prior to death, intermittent, sighing, and irregular respiration have been frequent. In chronic cases the breathing has generally been quiet.

Digestive system.—Vomiting has been the most prominent symptom of disorder of the digestive system. A history of this has been almost uniformly obtained. It commonly ceases after the first few days, but in chronic cases it may occur at intervals without reference to the pyrexia. In those cases, however, in which relapses occur it has been a feature of the periods immediately preceding the recrudescence of the fever. It has occurred with little effort and without apparent nausea. Unless throughout the first few days, during the acute stage of the disease the appetite has as a rule been good and considerable nutriment has been taken, and often with apparent relish. The occurrence of vomiting seems to have interfered very little with the taking of food. The fæces in general have been quite normal, showing no evidence of incomplete digestion. Throughout the course of the disease the tongue, as a rule, has been fairly clean, with perhaps a thin white moist fur. In very severe and protracted cases only has it been dry and brown. It has been observed to peel in an irregular and patchy manner in some cases. The abdomen has never been distended, nor has the spleen impossible to get the girl to tell truthfully why she had inflicted such a peculiar form of punishment upon herself.

On Nov. 20th I removed a needle from the left breast of this patient, making in all 42 needles and two pins removed during the course of 13 months and by means of four major and four minor operative procedures. Shortly after this slight operation she began to complain of nausea. Her general health was bad and she rapidly lost flesh and strength. Soon she became unable to retain nourishment and was put to bed. Abdominal distension was marked and vomiting became persistent. It was evident that intestinal obstruction, due to adhesion, was rapidly being established. Rectal alimentation was undertaken and, together with gentle stimulation, was successful in bringing her strength up to a point where operation for the relief of the obstruction was possible.

On Dec. 14th I performed the fifth laparotomy. The abdomen was opened through the scar of the second and fourth laparotomies. A rapid survey of the abdominal cavity disclosed the obstructed area of the small intestine. The mass of coils was quickly freed of its numerous adhesions and the peritoneal toilet completed. As much as possible of the old cicatricial tissue was excised and the abdominal wound was closed with layer sutures of plain No. 2 catgut. Interrupted sutures of kangaroo tendon were placed in the muscular and fascial layers and the skin edges were approximated with a subcuticular suture of No. 1 catgut. This was the only one of the five laparotomies in which the material used for the closure of the wound was other than plain No. 2 catgut. I mention this merely because it is a singular fact that in the only case in which I used *unusual* precautions to guard against post-operative accident the precautions did not avail. On the following day the patient's temperature rose to 103° and she was slightly cyanosed. Examination of the chest discovered subcrepitant râles and prolonged high-pitched respiration over the upper and middle lobes of the right lung. She complained of no pain but was quite apathetic. 48 hours after operation the patient was seized with a violent and uncontrollable fit of coughing and immediately collapsed. A hasty examination disclosed the fact that, in spite of the strong suture material used and the extra precaution of a firm abdominal binder of adhesive plaster, the intestines were protruding. The patient was immediately taken to the operating room and under nitrous oxide and oxygen anæsthesia I repaired the abdominal wound with through-and-through sutures of kangaroo tendon and silkworm gut. Artificial respiration was repeatedly necessary during this procedure and only the most vigorous stimulation availed to prevent her death upon the operating table. The possession of an almost incredible vitality enabled her to rally, and 24 hours after this secondary suturing she was conscious and gradually gaining strength. Auscultation revealed complete consolidation of the upper and middle lobes of the right lung. With a dogged courage and tenacity which were a revelation to me the patient fought for her life until, overwhelmed by the pulmonary infection and the drain consequent upon the attempt to repair the abdominal wound, and vainly striving to throw off a hitherto unsuspected tubercular focus, she succumbed on Dec. 30th, 16 days after her last operation.

At the post-mortem examination a thorough fluoroscopic examination of the head, the neck, and the extremities revealed no foreign bodies. The following are brief details of the examination:—

Thorax.—Heart: Normal. Left lung: Intense hypostatic congestion and a few scattered tubercles. Right lung: Upper and middle lobes filled with tubercles and small cavities containing pus and cheesy detritus; lower lobe practically normal. Mediastinum: Normal save for a few slightly enlarged lymph nodes. Pleural cavities and pericardium: Normal.

Abdomen.—Abdominal wall: The wound of the last laparotomy was unhealed and the edges were dark in colour and dry. Very little granulation tissue had formed. Peritoneal cavity: In the left ilio-inguinal region there were some peritoneal inflammation and a small quantity of thin greyish pus, offensive in odour. A similar condition was met with in the pelvis. The general peritoneal cavity was walled off from these two areas by matted intestines and was normal. Viscera: The spleen, pancreas, kidneys, ureters, and pelvic organs were normal. *The liver*: On the upper surface of the right lobe at a point about two inches from the suspensory ligament and the same distance from the anterior border was a spot marking the point of attachment of an old adhesion. Incision into the substance of the liver at this point brought to light a bit of steel half an inch long, the remainder of the needle of which I removed a part at the fourth laparotomy. Immediately behind this was another needle, intact, two and a half inches in length. Both of these pieces of metal were almost disintegrated by rust. It is a curious fact that the hepatic tissue was as devoid of signs of irritation as though the needles had been thrust in after death. The rest of the liver was normal and contained no foreign bodies.

The gastro intestinal tract.—Œsophagus: There were no dilatations strictures, ulcers, perforations, or scars. Just above the cardiac opening of the stomach an area about two inches in width and embracing the entire circumference showed unusual and intense pigmentation. Stomach: The mucous membrane showed merely the changes of a chronic gastritis. No ulcers were present. It is worthy of note, from a surgical standpoint, that the silk sutures placed in the stomach wall some 12 months previously to death were almost entirely absorbed, their situation being marked only by a few disorganised silken threads. The small intestine: A thin, transverse cicatrix indicated the point at which the enteroplastic operation at the third laparotomy had been done. At this point also the Lembert stitches had undergone absorption. Aside from several scars upon the peritoneal surface of the small intestine nothing else worthy of record was found. *The large intestine*: The puckered scars, already referred to, were the only abnormal features. The retroperitoneal tissue: In the median line, lying transversely upon the left renal vein, was a complete needle. It was entirely intact, except for a break a quarter of an inch from each end. These two little fractures allowed it to accommodate itself to the rounded contour of the vein. When the needle was removed I found it to be exceedingly friable, and it seems reasonable to believe that it was broken by the repeated hammering of the transmitted pulsations of the renal artery.

The *source* of some of the needles is still a question in my mind. A great majority of those found in the abdominal cavity were undoubtedly swallowed; she admitted this and their position in reference to the gastro-intestinal tract bore her out in her statement. At times, however, I had detected tiny red spots upon her abdomen which I believed to be the points of entrance of needles thrust into her body through the skin. She absolutely denied this, however, and as she had never been detected in the act this must remain a pure conjecture. The group of needles in her arm, too, would suggest some such procedure, although the migrations through the tissues of foreign bodies of all sorts have been the source of much comment and are, indeed, astonishing in their extent.

The *motive* which compelled this strange diet is also conjectural. Hysteria is undoubtedly the keynote. The assumption that her acts were in the nature of serious attempts to destroy herself is unwarranted. She said that family troubles were the cause of her peculiar actions and slyly intimated that she wished to commit suicide, but her manner during her confidential outbursts was not convincing. She told me, in all seriousness, that she had made several attempts at self-destruction previously to swallowing the needles but in every instance she fell suspiciously short of accomplishing her end. The notoriety to which she readily subjected herself appealed to her strongly and she felt that her position as a "celebrity" was indeed an enviable one. Another feature of interest is this: she had no areas of anæsthesia or of demonstrable paræsthesia, hence the presence of the needles must have caused distinct sensations of some sort; perhaps, in addition to the undoubted hysterical condition, or as part of it, there existed a perverted sexual appetite which found its gratification in sensations that normally would produce only pain. Incidentally, while she was under observation, the patient's menstruation was most irregular. She was the only one who could positively solve the problem of the motive. She was quite an entertaining person. The stories she had to tell of the various members of the medical profession with whom she came in contact, and her unconcealed mirth at their vain attempts to diagnose her case correctly, showed a sense of humour which, while certainly perverted, was remarkably acute. When not ill or in pain she was cheerful and happy. She took a childish pride in the extent and magnitude of the various operations to which she was subjected. But with all her perversity there was an undercurrent of shrewdness that was positively baffling. Naïve, irresponsible, roguish, sullen, and morose by turns, grateful always, she had won the personal interest and sympathy of her medical attendant by her unswerving loyalty.

I am indebted to Dr. John Aspell, upon whose service this patient was first admitted to Fordham Hospital, for the opportunity to see and report this interesting case. Dr. George Roe Lockwood kindly allowed me the use of the x-ray plates taken under his direction.

The literature of pins, needles, and other foreign bodies introduced into the body is large, but I have been able to find few cases which closely resemble this one. The following reported cases are of interest in this connexion.

Dr. Joseph D. Craig of Albany has kindly sent me a copy of a paper[1] in which he describes a case which resembles in some respects the one which I have reported. The following is a brief *résumé* of his case. A woman, aged 24 years, single, insane, but in fair physical health, paper was admitted to Fordham Hospital, New York. She was 23 years of age and married. Her illness at that time was referred entirely to her stomach. Attempts at eliciting a satisfactory history from the patient were met, in the main, by sullenness, evasion, and apparently deliberate misstatements. I learned, however, that she had been the subject of surgical attention at different times, the extent of her operative treatment having been such measures as repair of a cleft palate, removal of the coccyx, and uterine ventral suspension. She stated that she had always been exceedingly nervous, was occasionally the subject of convulsions, and had never had any illness resembling her present trouble. She had been sick for a week previously to her admission to the hospital with gradually increasing pains in the region of the stomach and persistent vomiting. The vomiting seemed to bear no relation to the ingestion of food and neither relieved nor aggravated the pain in her stomach.

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[1] Read before the Medical Society of the County of Albany on Feb. 10th, 1892.

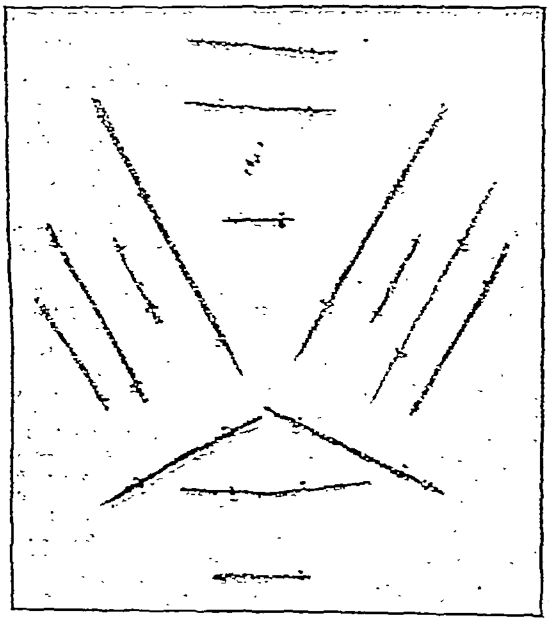
Examination showed the evidences of the above-mentioned operations and, aside from the fact that the patient was of an extremely hysterical type, directed attention to the abdomen. There were several small scars over the stomach the presence of which she either *could* not or *would* not explain. The entire abdomen was distended and tender, and rigidity in the upper portion was particularly marked, but I made out no intra-abdominal mass. Vaginal examination showed merely a normal uterus and appendages in an abnormal position, and a point of tenderness immediately behind the cervix in the posterior vaginal fornix. The temperature was 99·6° F., the pulse was 88, and the respirations were 20. Urinalysis indicated normal kidneys.

In the light of later events the character of the tenderness and rigidity of the abdominal area is interesting. The *tenderness* upon the lightest and most superficial touch was apparently exquisite, was most marked over the region of the stomach, and was a little more marked to the left of and below the umbilicus than in a similar region to the right. It was noticeable that the *rigidity* disappeared when the patient's attention was diverted to another place. These two facts, the exaggerated superficial sensitiveness and the fleeting character of the rigidity, taken in consideration with the general demeanour of the patient strongly suggested hysteria as the sole explanation of her trouble. In addition to these facts the cicatrices of the operations already performed, coupled with the patient's repeated demands for "surgical treatment," as she herself put it, tended to strengthen further the presumption that she belonged to the class of hysterical women who have compelled that phrase of medical slang "operation crazy."

On the day following her admission the patient vomited about three ounces of bright red fluid blood, unmixed with food of any kind. She was not seen in the act of vomiting but an immediate examination failed to reveal any bleeding point in the mouth or pharynx and there was no evidence of epistaxis. Gastric sedatives were administered and a restricted diet was ordered. A normal bowel movement was obtained. On the second day after admission the patient again vomited some blood, this time mixed with a little food. In the afternoon of this day she also had a general irregular convulsion with opisthotonos. On Oct. 29th she vomited frequently, the vomitus always containing a little fluid blood. Her convulsion was repeated and overcome by gradual digital dilatation of the sphincter ani. This measure proved valuable in both a curative and prophylactic manner for she was never again affected in a similar way. On the 30th the vomiting continued. The temperature at no time rose above 100°, and the pulse afforded no guide to the general condition of the patient, as it varied from 80 to 140 per minute with no apparent cause. On the 31st, being unable to explain the presence of blood in the vomitus by a diagnosis of hysteria, and bearing in mind the fact that a great many of the cases of gastric ulcer occur in highly neurotic patients, the tentative diagnosis of such a condition was made and operation for its relief was undertaken. When the patient found that an operation was considered advisable she appeared quite satisfied—a feature of the case which was not at that time properly appreciated.

Under ether anæsthesia I opened the abdomen through the sheath and fibres of the right rectus abdominis, the incision extending from the free border of the ribs downward for about three inches. The fingers of the exploring hand came in contact with an omental adhesion fixing the stomach to the anterior abdominal wall. At this point was a hard mass which was removed and found to contain an ordinary cambric sewing needle very much corroded. Further search brought us immediately upon another needle protruding from the stomach itself, half an inch from the greater curvature and about two inches from the pylorus. Part of this needle was in the cavity of the stomach and part was protruding into the abdominal cavity, the extra-gastric portion being entirely protected by a small omental graft. So roughened and corroded was this needle that in order to remove it an incision was necessary, the stomach wall being split for about half an inch. This small opening was sutured with a single row of the ordinary Lembert stitching, black silk being the material used. Two other needles were found perforating the stomach nearer to the lesser curvature and about equally distant from the cardiac and pyloric extremities. These were removed and the resulting wounds treated in a manner similar to that described above. Lying between the folds of the gastro-hepatic omentum were two more needles. Here I merely split the peritoneum, removed the needles, and whipped the resulting raw surfaces together with a continuous suture of No. 1 catgut. Continuing the investigation downward, the transverse colon was next encountered. This was bound to the parietal peritoneum by numerous delicate adhesions which were thoroughly organised. The wall of the colon was dimpled and pitted in several places by little puckered scars, the origin of these scars being immediately made manifest by the discovery of four needles in different stages of emigration from the large intestine into the folds of the great omentum. Each of these needles was treated as follows. The intestinal coat was incised sufficiently to allow removal of the foreign body and then was closed by a single row of Lembert stitches of black silk. Proceeding downwards from the colon the omentum was next examined. It was found to be quite adherent to the abdominal wall and was gently freed by means of the fingers. It contained six more needles. These were clustered together in the lower left quarter of the omentum and a simple resection of the needle-bearing area was resorted to. In order to continue the exploration I had found it necessary gradually to enlarge the original incision as more room was needed, and it now reached to a point one and a half inches below the level of the umbilicus. The general transmuscular character of the incision was preserved throughout. In palpating the abdominal wall from within, four more needles were found lying in the parietal peritoneum at the point of the union of that membrane and the omentum. They were gathered together in an area three inches in diameter just to the left of, and below, the umbilicus. In nearly the same position on the right side of the

FIG. 1.



Needles removed at first operation. The reproduction of the photograph shows well the extent to which they were corroded.

discovered. The woman had no recollection of having swallowed any such thing, but said that she was in the habit of putting pins in her mouth.

Dr. Forbes Hawkes[13] reports a case which has traumatism as its essential feature. An Italian labourer sewed a button on his vest and then stuck the threaded needle in his cravat. He indulged himself in true Italian style by fighting with some compatriots and received a sharp blow upon the epigastrium. He experienced a pricking sensation and a few days later noticed a scratch over the region of his stomach. Ten days later the man became quite ill, and all symptoms pointing to some grave intra-abdominal condition laparotomy was resorted to. An abscess cavity was found beneath the liver and from this a pint and a half of greenish pus and one needle, threaded, were evacuated. Recovery followed.

Dr. Charles H. Peck[14] removed a long upholstery tack from the appendix of a patient who had suffered from recurrent attacks of appendicular colic. He reports that while the appendix contained two fæcal concretions in addition to this foreign body, there was no inflammation.

The low mortality of cases of this nature is indeed surprising. In the two cases of insanity which I have quoted above it is distinctly stated that the presence of the foreign bodies did *not* contribute to the fatal result, in spite of the variety and multiplicity of the objects found.

The two cases reported by Dr. F. C. Bottomley[15] would seem to offer negative proof of the statement that there is "safety in numbers." The first was that of a man, 56 years old, who had for four days suffered great pain in his back, high up between the shoulder blades, and had had several attacks of hematemesis during that time. When admitted to the Royal Free Hospital, London, the temperature was 102° F. and for the two days between admission and death he suffered excruciating pain and had repeated attacks of bloody vomiting. The patient's temperature ranged between 102° and 104° and he died after an illness of only six days' duration. The post-mortem findings were as follows. The upper dorsal portion of the aorta was perforated by a broken needle which also lay partly in a cavity between the aorta and the œsophagus. This cavity was small, was filled with blood and clot, and had a direct communication with the canal of the œsophagus. The second case was that of a woman, aged 35 years, who suddenly collapsed in the street. She was taken to the same hospital and examination revealed a tent-like, pulsating swelling over the cardiac area. A small incision was made over this and a needle, an inch and a half long, was removed. The woman regained consciousness and gave the meagre information that she had had pain in her left breast and had noticed a "tumour" for two days previously to her attack of syncope. Shortly after talking the patient became cyanosed and restless and died. The post-mortem findings were as follows. A pericardium distended with three-quarters of a pint of blood; a perforation a quarter of an inch in diameter situated at the base of the right ventricle, near the origin of the pulmonary artery; numerous scratches elsewhere upon the wall of the right ventricle.

An interesting necropsy finding is reported by Dr. Charles J. Cooke.[16] A girl, aged eight years, swallowed a needle. Four days later Dr. Cooke found her suffering from meningitis, from which she died after having been under his care for six days. A necropsy showed a needle an inch and a half long imbedded firmly in the posterior wall of the pharynx on a level with the floor of the nasal cavity. It projected upward and backward. Manipulation dislodged it before accurate observation of the position of its upper end could be made, but Dr. Cooke believes that it penetrated and infected the sheath of some nerve and produced, by extension of the infection, the fatal meningitis which was demonstrated.

Such an interesting subject as the ingestion of pins and needles could scarcely be dismissed without mentioning its connexion with the much-mooted question of the causation of cancer. Dr. Knott's paper, quoted above, contains this paragraph: "Godelias and Moniere have each recorded a case of cancerous stricture of the œsophagus attributable to the swallowing of a pin a long time before. In each case the pin was found imbedded in the cancerous mass."

New York.

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[13] Annals of Surgery, 1903, vol. xxxvii., p. 950.

[14] Ibid.

[15] Brit. Med. Jour., 1896, vol. i., p. 1640.

[16] THE LANCET, Feb. 22nd, 1896, p. 479.

A STUDY OF FIVE CASES OF APPENDICOSTOMY.

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THE operation of appendicostomy has been described as of the simplest possible nature—"a small button-hole incision through which the finger is passed and through which the appendix is withdrawn and fixed in position." This proceeding may be possible in some cases, but my experience is that the finding of the appendix is not so easily accomplished. There is no certainty as to its situation or condition. In three of my five cases (Cases 1, 2, and 5) it was curved and adherent, and in neither of them could it have been brought out of such an incision. I have found it preferable to make an opening sufficiently large to allow of easy manipulation, and latterly I have increased this in order that I may make a thorough examination of the abdominal contents. The increased risk is infinitesimal, while the conditions indicating the desirability of the performance of the operation are often obscure. With an incision of the length which I advise it is possible to fix the appendix in the most suitable position for the future passage of the catheter. I fix it outside by means of a pin passed through its mesentery and close the wound round it in layers, being careful not to constrict it too tightly. It is a disadvantage to put any sutures through its walls. It may be amputated at the end of 48 hours, but in future cases I shall leave it for a fortnight or three weeks unless there is pressing need for immediate irrigation. In Cases 1 and 5 its early removal was the cause of wound infection, a risk which must always be present, and if it occurs is a source of considerable trouble. It not only prolongs the process of healing but, owing to granulations and the retraction of the orifice of the appendix, it causes difficulty in passing the catheter and ultimate contraction of the opening. To show that this experience is not confined to myself I may cite a case reported in THE LANCET of Dec. 28th, 1907 (p. 1819), by Dr. J. A. Pottinger, who says: "The catheter was at first removed between each occasion of irrigation, but it was found that even in 24 hours the wound closed so owing to the growth of granulations that it was somewhat difficult to find the opening and latterly a soft rubber instrument was used and left in." Since the operation was brought into prominence in this country I have performed it on five different occasions. The following are the notes of the cases operated upon:—

CASE 1.—The patient, a female, aged 29 years, was admitted to the Kidderminster Infirmary in October, 1905, on account of mucous colitis and obstinate constipation. She had suffered for 14 years and no treatment had benefited her.

On Nov. 7th the appendix was exposed through the usual incision. It was a long appendix, curved, horseshoe-shape, which necessitated dividing the meso-appendix to bring it out. A suture on each side fixed it to the skin. On the second day after the operation the appendix was cut off level with the skin and irrigation was commenced with a satisfactory result. The orifice of the appendix sloughed and by the end of a week it was impossible to find a passage for the catheter. A second operation was performed in order to fix the orifice at the skin level, and a piece of indiarubber tube was left in for a few days. The patient complained of the pain caused by the passage of the catheter and became so unruly that it was found advisable to discharge her on Jan. 18th, 1906. The orifice to the appendix was then visible. She returned, however, in May and begged to have the part reopened. On examination the orifice had completely disappeared. Under ether the cicatrix was excised and the orifice was discovered immediately beneath. It was sutured up to the skin and irrigation was commenced. The patient was soon able to pass the catheter to perform the irrigation herself and she derived great benefit therefrom. The bowels acted freely and there was much less mucus. She was discharged on the 25th. On March 28th, 1907, she returned again. She had allowed the opening to contract almost to a pin point. With great difficulty a fine probe was introduced and then a No. 1 catheter. It was dilated up to No. 5 and irrigation was again commenced. She was cautioned as to the necessity of keeping the orifice patent and again discharged, but she had not the courage to continue the treatment. She was seen again in October when the orifice was found to be contracted as it had been in March. It was evidently quite useless to persevere any further so I decided to perform an ileo-sigmoidostomy.

CASE 2.—The patient, a female, aged 19 years, was admitted to the infirmary in March, 1906, on account of obstinate constipation. It was impossible to regulate the bowels by drugs and diet.

On April 3rd the appendix was exposed through an oblique incision; it was curved (horseshoe shaped) and the tip was adherent posteriorly. It was brought out and fixed by a pin through its mesentery. The abdominal wound was closed in layers. On the fourth day after the operation the appendix was cut off level with the skin; on the fifth day the pin was removed and irrigation of the bowel was commenced. The administration of a pint of water with half an ounce of sulphate which time she was occasionally nauseated and sometimes vomited. About March 5th she vomited a small quantity of blood unmixed with food. At this time facilities for x ray work were available and skiagraphs were made of both thorax and abdomen. The picture of the abdomen showed the presence in an unaltered position of the needle in the cul-de-sac of Douglas described in the early part of this paper. No other foreign bodies of any sort were shown in the photographic plate. The x ray picture of the thorax and neck showed nothing unusual.

The making of the x ray plates was apparently a form of investigation which, to the mind of this particular patient, was of a nature entirely too intimate and searching and she refused further treatment and left the hospital on March 10th in good general physical condition.

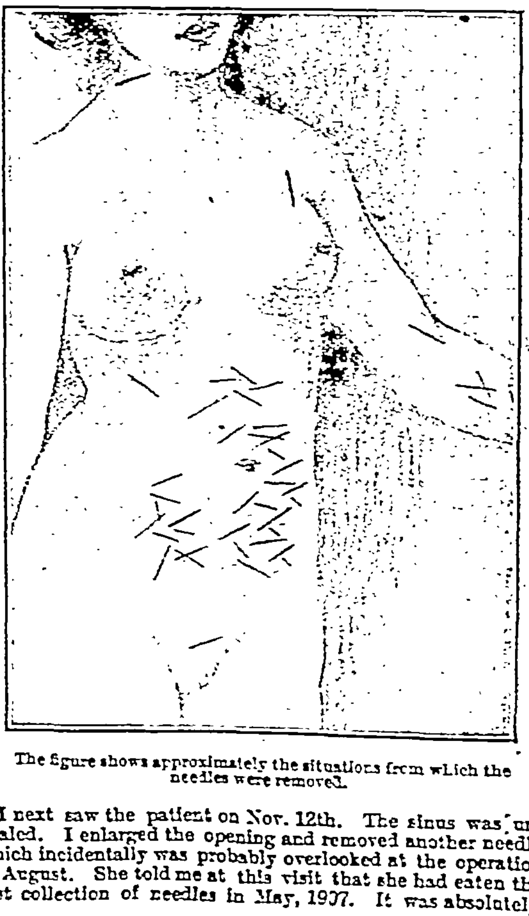
On April 12th the patient came to my office and told me that she was becoming nauseated again, that she had "discovered" another needle—in her neck this time—and that it was giving her trouble. The foreign body was easily felt just behind the ramus of the jaw and the slightest pressure upon this point brought on an attack of vomiting. The x rays failed to show this needle because it lay about a quarter of an inch above the upper limit of the x ray picture. Under cocaine anæsthesia, at my clinic at St. Vincent's Hospital, I removed this needle which was lying immediately under the skin with its point directed horizontally inward and backward. Undoubtedly the presence of an irritating foreign body in the immediate vicinity of the pneumogastric nerve would be sufficient to cause nausea and vomiting. Blood could readily appear in the vomitus, inasmuch as the internal end of this needle was in direct relation with the lower portion of the pharynx. The little wound in the patient's neck healed quickly. She took a position as domestic and discharged her ordinary duties without any difficulty. On May 17th a small abdominal-wall abscess required opening and drainage. This procedure, she proudly informed me, constituted her *eleventh* operation.

On June 20th the patient came to see me again and was in good health. She said that she felt well and her appearance confirmed her statements. She told me at this visit that she had at first experienced trouble from "eating" the needles about three weeks after she had swallowed them and that the first unpleasantness was the formation of a large abscess in her neck, undoubtedly caused by the irritation of the last needle removed. She assured me that she had opened this herself but "could not find the needle." Incidentally she confessed that she had swallowed "six or seven" needles immediately after the second operation, thus confirming my suspicions concerning the one which made its way through the abdominal wall and the two which I removed at the third laparotomy. (Inasmuch as the x rays failed to show the balance of the "six or seven," we must presume that they escaped *per viam naturam* or that her statement was somewhat exaggerated.) She told me, in addition, that she had removed a number of needles as they presented themselves at the surface of her body in the centre of small suppurating spots. A "few" were removed from her neck. At her request I examined a small area of induration deep in the cellular tissue behind and above her left elbow. She thought it was a needle and so did I. She would not submit to examination by the x rays and as she had no pain or tenderness at that point I did not urge the advisability of an exploratory incision.

I felt that the patient was practically through with her operations and was beginning to congratulate myself upon the successful termination of her case, but I was doomed to be disappointed. On June 25th she had a fall from a horse, resulting in an injury to her left arm. The arm and forearm became greatly swollen and suppuration ensued. Again she was admitted to Fordham Hospital. Examination with the x rays revealed several needles in her forearm, one especially long lying in the bend of the elbow. On the 27th, under general anæsthesia, I made an inverted T-shaped incision over the anterior aspect of the arm and forearm and with the aid of the x rays dissected out five needles. The largest one measured two a half inches in length and was situated behind the tendon of the biceps, in immediate relation to the great vessels of the cubital fossa and the elbow-joint itself. The wound was sutured and appropriate drains were inserted. Two weeks later the patient insisted that she had appendicitis. Notwithstanding the absence of the usual symptoms I kept her in the hospital for the purpose of observation.

On July 27th the patient complained that she was too ill to sit up and she was put to bed. She complained of abdominal distress and her abdomen became distended and tender; her temperature rose to 101·5° with a variable pulse and irregular hysterical respirations. On the 31st I opened her abdomen for the fourth time, excising the scar of the second laparotomy. The abdominal cavity was singularly free from adhesions. From the omentum I removed two needles and from the mesentery of the small intestine two more. Beside the ascending colon and just external to it another needle was found and removed. The needle in the cul-de-sac of Douglas, which has already been referred to, was accessible and was removed. I took a needle also from the small intestine. A sharp bar of metal, representing the business end of a safety-pin, *the remainder of which had already been found in her bed*, was removed from an omental adhesion binding the stomach to the anterior abdominal wall. A very stout adhesion firmly fixing the liver to the dome of the diaphragm contained a needle. The difficulty of working in this portion of the abdomen is responsible for my removing only a portion of this, the respiratory movements of the diaphragm breaking it in two in the grasp of my forceps. The portion left behind promptly disappeared into the substance of the liver. At a point over the appendix and in the abdominal wall I found another needle, imbedded in a mass of cicatricial tissue of cartilaginous hardness. This was removed through a separate small skin incision. Systematic search of the abdominal cavity, viscera, and parietes revealed no more foreign bodies. I removed the appendix as a prophylactic measure and for the moral effect which the knowledge of its loss would have upon her. The abdomen was closed in the usual manner with layer sutures. Again the patient's recovery was rapid and uneventful. Slight suppuration occurred in the superficial abdominal cellular tissue. When she had regained strength she was discharged from the hospital with a small abdominal-wall sinus.

FIG. 2.



The figure shows approximately the situations from which the needles were removed.

I next saw the patient on Nov. 12th. The sinus was unhealed. I enlarged the opening and removed another needle which incidentally was probably overlooked at the operation in August. She told me at this visit that she had eaten the last collection of needles in May, 1907. It was absolutely fingers and thumb from right to left and *vice versâ*, he will the more readily find the characteristic small hard mass, and not only detect it but gauge its size and shape and even note the accompanying induration of the stomach walls. In thin babies no difficulty should be experienced, and a plump healthy infant with this condition is not likely to come under medical observation. Prior to my own experience about to be related, although preserving a perfectly open mind on the subject, I doubted whether the true explanation had been arrived at for the pyloric tumours which had been found in the cases treated successfully medically. But now I no longer have any doubt, and I am perfectly satisfied that cases of congenital hypertrophic stenosis of the pylorus can be relieved by medical means and without the surgeon's aid.

Hopeless in regard to medical treatment as the typical hypertrophied pylorus appears to be in the post-mortem room—the tightly shut orifice, the thick gristle-like walls, the cervix and os uteri-like appearance on its duodenal aspect, its capacity securely to hold a dilated stomachful of water—I do not think this after-death state denotes its natural condition during life. I think that tight post-mortem contraction of the hypertrophied circular muscular fibres occludes the pylorus, and this prevents the exit of water when tested in the usual way. Indeed, quite apart from other reasons I know that this must be so, because I have seen the channel patent (No. 4 catheter) during life, even in an extreme case of this interesting condition.

There are two hypotheses as to the causation of congenital hypertrophic stenosis of the pylorus—viz., (1) that this condition is a muscle hypertrophy not only of the pylorus but of the rest of the stomach, and that it is secondary to a functional disturbance (Heubner[2]); and (2) that it is a primary malformation or new growth. Heubner does not state definitely whether his conclusions were based upon his own post-mortem experience; in any case he could not have performed more than one necropsy as he had only one death. And secondly, from the remarks in his paper which was read before the Children's Section of the seventy-eighth Versammlung Deutscher Naturforscher und Aerzte in Stuttgart, he gives the impression that he bases his conclusions on necropsies performed by Wernstedt. He claims 49 cases out of a clinic of 10,000 children. In regard to the two views I am in favour of the congenital hypothesis for these reasons: (1) the condition has been found in the fœtus (Dent); (2) symptoms frequently arise immediately after birth in cases where it is known to exist; and (3) the associated muscle hypertrophy of the stomach is not a general hypertrophy of the organ, or if it be a general hypertrophy of the viscus the part near the pylorus, to the extent of a quarter or one-third of the pyloric end, is immensely thicker in comparison. The stomach being a hollow viscus I think hypertrophy would be general rather than partial if that hypertrophy were due to increased work. It is so, as a general rule, in the bladder with a large prostate, the nearest resemblance to it that I can think of, whatever may be the exceptions to that rule, if there be any. I have made microscopical examinations in three cases and I have found in the pylorus thickening of *all* the muscular layers, including the muscularis mucosæ. The longitudinal fibres were two or three times larger than they should have been, but they were not hypertrophied to the same comparative degree as the circular, which were very powerful. Further, there was an increase in the fibrous tissue, and the submucous layer was larger and thicker than normal. The mucous membrane was healthy. The thickened pylorus ended abruptly at the duodenal side (cervix uteri-like appearance), but gradually tapered off into the stomach walls on the opposite side. On the outside it was constricted in the centre. In the stomach of one case all the layers were hypertrophied, but especially in the pyloric fourth, and the circular fibres were equal to the two others combined. In the others there was considerable hypertrophy of the stomach walls of the pyloric third or fourth. The submucosa was thicker than natural. The mucous membrane was natural.[3]

In regard to naked-eye appearances in this condition the stomach may or may not be dilated, and it is not necessarily dilated in even pronounced instances. On the other hand, it may be very large. Peristalsis may or may not be seen. This occurs in the undilated as well as in the dilated organs, and is best seen when the infant is marasmic, and it is a late, not an early, symptom.

Although symptoms in cases of hypertrophic stenosis often start from the birth, yet this is by no means invariably the case, and sometimes it is one, two, three, four, or more weeks before their onset. The infant then commences to vomit. If this be not checked other symptoms rapidly supervene and steady deterioration results. When vomiting occurs in grim earnest, constipation and scanty urine are its associates. Vomiting may be both irregular as to time and in quantity; the vomit may be small or consist of accumulated feeds. There may be nothing special about the act or the stomach contents may be pumped up violently on to the floor. In a well-marked case bile is absent from the vomit. The stools may be meconium-like, sage green, dark green, dark brown, or tarry. But even these may disappear and be followed temporarily by natural motions. In some cases the symptoms that attract most attention are constipation and marasmus with a dyspeptic background. Prior to all these symptoms, however, it often happens that the child has enjoyed good health and there has been no occasion to suspect any organic gastric malady. Perhaps the baby has been taken from the breast and put on the bottle, and then its troubles began. Although the infant in such cases has displayed no symptoms, I do not think that there is any reason to doubt that the thickened pylorus has been comfortably tucked away all the time. Granted that this be so, why does it suddenly become troublesome?

Cases with classical symptoms of stenosis of the pylorus have succumbed to the malady and post mortem the pylorus has been found normal. The explanation that has been given for cases such as these is that the patients were suffering from pyloric spasm. Granted that pyloric spasm can kill an infant with a healthy pylorus it can as readily accomplish the act with a hypertrophied pylorus. Graft the spasmodic affection on the organic and the explanation of the symptoms is at hand. Perhaps the over-powerful strongly acting pylorus causes congestion or œdema of the overlying mucous membrane with blocking of its lumen, or there may be other explanations for its local congestion, analogous to the congestion of the mucous membrane covering the urethral stricture of a Saturday night reveller. Judged by the irritability of the stomach displayed in these cases the speedy response by waves of gastric peristalsis of regular or irregular rhythm to even so little as the lightest tap over it, it is likely that the pylorus also is in an equally excitable condition. It may be that in such circumstances the mere mechanical irritation of the food tends to keep the pylorus in a constant state of reflex spasm, let alone any toxic action on the muscles or nerve centres that might be supposed to arise from the complex chemical products retained in the stomach. But whatever may be the explanation of the obstruction at the pylorus I have no doubt that the causes for it are as complex and multifarious as are the causes for gastric disturbances that occur in the dyspeptic infant, for it is the dyspepsia that is at the bottom of it, and which is the important factor in these cases. This is not based solely on hypothetical conditions, for have we not pathological evidence to support it? A suckling infant under the care of Bloch[4] was completely cured after having had four weeks' symptoms of congenital pyloric obstruction; he succumbed six months later to an attack of acute enteritis. The pylorus was found just as hypertrophied and just as constricted as in children who die from pyloric stenosis. A study of the vomited matters has thrown no special light on the condition. In some cases there has been no free hydrochloric acid, in others this has been present, in others the vomit has been "intensely acid and sour-smelling," and again in others mucus and lactic acid have been detected, but no free hydrochloric acid.

Dismissing the question of hypertrophic stenosis of the pylorus from the mind for the moment and turning to the infant with a normal pylorus we are daily faced by the problem of how to cater for infants with weak digestions. It is occasionally brought to our notice that the ideal infant food, the mother's milk, is not always the innocuous baby-growing material that it is supposed to be—quite the opposite. There are some infantile digestions that cannot tolerate mother's milk, be it that of the child's own mother or that supplied by foster-mothers—not one foster-mother but a succession of them. Such infants become sick and they was admitted to a hospital for the mentally unsound in 1890. Between the date of her admission and the day of her death, which was apparently caused by pulmonary tuberculosis, she had three profuse hæmorrhages from the bowels and occasional attacks of colicky pains in her abdomen. Careful examination of her abdomen for evidences of malignant disease revealed nothing. She was under observation for six months and symptoms referable to her gastro-intestinal tract were first observed five months before her death. The post-mortem examination brought to light, in the pyloric end of her stomach and in the duodenum, the following remarkable collection of foreign bodies: 51 pins; 16 needles (whole or part); three darning needles; 32 nails, varying in length from half an inch to three inches; two screws, one of them 2½ inches long; three pieces of iron, 3½ inches by ¼ inch; two pieces of wood; two rolls of hair; three pieces of cloth, 5 inches by 1 inch; and six hairpins. The metal pieces were very much corroded. My own case induces me to concur in Dr. Craig's remarks: "These substances are not often used with suicidal intent, but with a loss or *perversion* of the reasoning powers there is an inability to properly estimate the consequences of such an act." The italics are mine.

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[2] Monatschrift für Kinderheilkunde, Band v., S. 355, 1907.

[3] Reports of the Society for the Study of Disease in Children, vol. v., p. 242, 1905; vol. vi., pp. 27 and 30, 1906.

[4] Quoted by E. Rommo, Jahrbuch für Kinderheilkunde, 1907, vol. xv., p. 477.

Dr. Judson B. Andrews reports[2] the case of another woman, also insane, a morphine *habitué*, whose mental unsoundness was ascribed to menstrual disturbance. She was supposed to have swallowed eight packages of needles just prior to her admittance to the asylum. Three months later needles began to appear at the surface of her body and were removed. In all, during the woman's stay in the asylum, a period of seven months intervening between her admission and her death, the almost incredible number of 288 needles were removed from her body and three were passed from the rectum. A post-mortem exploration disclosed 11 more. They were all rusted. Their presence caused little irritation and did not produce death.

Dr. H. Charlton Bastian of London reported[3] the following interesting case. A woman, aged 55 years, was admitted to the Guisborough Workhouse in November, 1886. She was fairly intelligent but exceedingly capricious and with a disposition which, I should imagine, somewhat resembled that of my patient. She gave a normal menstrual history and had had four children. She had once been confined in an asylum for the insane. She had no morbid appetites. Attacks of epilepsy occurred daily and sometimes she had several convulsions in 24 hours. There was no post-epileptic automatic state. No history could be obtained of any needle-swallowing. In 1887 the appearance of the needles was first noticed, and from that date until the time of Dr. Bastian's paper (Dec. 11th, 1891) 86 needles and one pin were removed from her body after having worked their own way to the surface. One needle was coughed up. As many as 34 needles were removed from her in two months in the year 1891. None were passed from the rectum. At no time was there any suppuration, no extravasations of blood occurred, and she was never made ill enough to go to bed as a result of the presence of the needles. A remarkable fact it is that none of these needles were removed from the right side of her body. A careful examination revealed no anæsthesia on the left side of the body but demonstrated that the prick of a pin was not recognised *as such* on *either* side. She gave absolutely no information concerning the way in which the needles were introduced; such statements as she would make were contradictory and manifestly untruthful. She never complained of any pain and she never vomited any blood.

A case which illustrates the association of sexual perversion and the introduction of needles into the body is that recorded by Dr. George H. Monks.[4] A woman, single, 21 years of age, normal physically, but stupid, was admitted to the Boston City Hospital in 1899. She was very ill, with a high temperature, vomiting, and abdominal pain. She had formed the habit of masturbation and was accustomed to gratify herself by means of massage of the ovaries through the abdominal wall. This procedure finally failed to give her the satisfaction she craved and she perversely hit upon the expedient of inserting hat-pins into her abdomen. An x ray picture showed three of these objects just above the pubic symphysis, apparently driven in the general direction of the ovaries and one in the upper part of the right thigh. All four pins were headless. A minor surgical procedure was sufficient to remove these pins and the recovery of the patient followed. The foreign bodies did not penetrate the cavity of the abdomen.

A great number of cases have been reported in which pins or needles have been swallowed and have been safely passed from the rectum. I suppose every general practitioner has been called at least once to allay the fears and quiet the nerves of some agitated mother whose "baby has swallowed a pin." And sometimes the baby *has* actually swallowed a pin. Such foreign bodies usually pass from the rectum without doing any harm except to the feelings of the family. The only result is that the baby is accorded the same considerate treatment in the matter of handling that is given to an infernal machine. Sometimes, however, these little objects stray from the path of the gastro intestinal tract and give rise to puzzling conditions.

Dr. Sara A. Kime[5] reports the removal, by simple incision, of a needle two inches long, which caused a swelling upon the anterior aspect of a girl's arm. Careful inquiry into this young woman's history disclosed the fact that she had swallowed a needle some 12 years previously to the time she came to see Dr. Kime.

Dr. T. M. Winters[6] of Danville, Michigan, was consulted by a man, 62 years of age, who had an abscess in the groin. Dr. Winters opened this and brought to light a bit of steel two and a half inches long and half an inch in diameter. The patient had no recollection of having introduced this into his body in any way, but his mother vouchsafed the information that he had swallowed it at the tender age of one year.

Dr. J. P. Tuttle[7] reports that a little girl, aged five years, swallowed a bent pin. Ten days later, while voiding urine, the child complained of a sharp pain and upon examination the bent pin was found in the vessel. Dr. Tuttle believes that this pin came from the bladder but also points out the fact that it may have worked its way from the rectum into the vagina.

Dr. John Knott[8] removed a much eroded needle from a swelling on the inner surface of the thigh of a little girl, two years old. The mother said that the baby had swallowed this some nine months before, had immediately had a coughing and crying spell, and that it had caused no further trouble. Dr. Knott also reports two cases of the successful passage of pins in children, one three years old and the other 14 months, the former passing the pin in 16 days with blood-stained stools, while the latter passed the foreign body in eight days without symptoms.

Dr. Frank Hammond[9] of Philadelphia removed from the vagina of a woman, apparently suffering from metritis, a pin which she had swallowed seven months before. The metritis disappeared.

Dr. Arthur DeVoe[10] of Seattle varies the monotony by telling of the safe passage from the rectum in four days of an *open* safety-pin swallowed by a five-year old boy. It had produced no symptoms.

A rather circuitous route was taken by the pin mentioned by Dr. Allan I. Petyt.[11] A man who had had otorrhœa and deafness on both sides for some time was picking cerumen from his ear with an ordinary pin when it "slipped inside." A short time after he had a pricking sensation in his throat. Examination of his ear revealed only the old perforation and a probang passed into the œsophagus produced nothing. Two days later he had some pain in his stomach and three days later passed the pin from the rectum.

Major surgery has not had a particularly prominent part in the removal of such foreign bodies as pins and needles. Indeed, it seems that the protective forces of the body are capable of rising to almost any emergency.

Dr. George Woolsey[12] opened the abdomen of a woman for the removal of a right-sided pelvic mass. The patient had been referred to him as a case of ovarian cystoma. In an abscess, the walls of which were formed of matted intestines, Dr. Woolsey found a pin heavily incrusted with organic material. The inflamed appendix protruded into the abscess cavity, and it is through this organ that the surgeon believes that the pin found its way to the point at which it was accountable for these troubles. On the 6th the opium was discontinued (one and a half minims of tincture of digitalis being substituted). The infant then became brighter and cried more after its discontinuance. On the 7th I again saw the patient with Dr. Munro. Œdema was at that time a marked feature though less extensive than it had been. The erythema had disappeared. The urine contained two parts per 1000 of albumin but there were no casts; it was slightly alkaline when passed and deposited a slight precipitate of earthy phosphates. Dr. Munro subsequently examined the urine and came to the conclusion that there was no deficiency of chlorides. Dr. Munro reported on the 11th that the œdema had quite disappeared since omitting the laudanum. Magnesium sulphate, 0·5 per cent., was now used by him for lavage with the idea that the magnesium base would assist in the elimination of chlorides. Starting on June 8th the child was fed on "humanoid" milk, an Aylesbury dairy company product. He took it well but only in small quantities; 15 grains of cane sugar were added to each feed. He appeared to be more satisfied with the new diet, and he slept well, but the weight fell to 5 pounds 12½ ounces. It was on this date intended to wash out the stomach every 36 hours in place of every 24 hours, as was previously the case. On the 14th Dr. Munro reported that the patient was taking and digesting food well, but "only in small quantities, rarely more than two ounces per feed." He was still losing weight, having dropped to 5 pounds 7 ounces—less than ever. He was sick while being fed once, the first time for a week, there having been no sickness since the 7th. He was ordered a milk-and-water mixture—one part milk and two parts water—every two and a half hours, from two to three ounces at a feed, and to three of the bottles a teaspoonful of cream was added. On the 15th, as the mother was anxious for it, a wet nurse was obtained and mixed feeding was instituted. The infant was sick once on the 16th and three times on the 18th; on this latter occasion coffee-ground vomit occurred, which was thought to be due to cracked nipples. The wet nurse not being a success was discontinued. Lavage was discontinued on the 20th. The child was sick once on the 21st, but not again until the 28th, when he was sick once and then for the last time. During the first week of the milk-and-water diet he had lost 5½ ounces in weight; after that he commenced to forge ahead and gained on an average an ounce a day. He suffered a good deal with flatulence all through the illness, especially after food, and sometimes would cry nearly all day, as if in pain. (After wearing a woollen truss, which was applied in the middle of August, he cried ever so much less.) He perspired a good deal at night. On July 6th the patient was taken to the country.

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[2] American Journal of Insanity, July, 1872.

[3] Transactions of the Clinical Society of London, 1892, p. 52.

[4] Boston City Hospital Medical and Surgical Report, vol. xi., p. 143.

[5] Journal of the American Medical Association, 1893, vol. xii., p. 104.

[6] Physician and Surgeon, Ann Arbor, Michigan, 1899, vol. xi., p. 5.

[7] New York Medical Journal, 1891, vol. liv., p. 46.

[8] Medical Press and Circular, 1892, p. 535.

[9] American Medicine, Philadelphia, 1904, vol. vii., p. 502.

[10] Ibid., 1904, vol. viii., p. 914.

[11] Indian Medical Record, Calcutta, 1900, vol. xix., p. 92.

[12] Annals of Surgery, 1903, vol. xxxviii., p. 950.

The weight of the patient on June 14th, when milk-and-water feeding was started, was 5 pounds 7 ounces, and on July 8th it was 6 pounds 12 ounces. Day by day increasing quantities of milk-and-water were taken; on June 14th the amount was 18 ounces, while on July 6th it was 30 ounces. While on whey the bowels were opened once daily and the motions were green but after the child had been fed on milk and water for a week the stools became quite natural and there were from two to four motions in the 24 hours. Week by week the patient continued to gain ground and by July 27th, when the rectal injections of olive oil were discontinued, he weighed 8 pounds 1 ounce. On August 22nd, when brought back to London, he weighed 9 pounds 8 ounces, and on the 27th, when the nurse left, he weighed 10 pounds and was steadily gaining ground every day. In the middle of September he suffered from spongy tender gums for a week but since impressing the necessity for antiscorbutic foods upon the parents the patient had never looked back. In October he weighed over 16 pounds at seven and a half months and was a jolly, normal baby, and he still (January, 1908) continues to thrive.

A SUGGESTION FOR TREATMENT IN DELAYED CHLOROFORM POISONING.

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ALTHOUGH patients suffering from delayed chloroform poisoning may recover spontaneously the literature of the subject shows that the prognosis is bad, which is only another way of saying that the treatment, whether preventive or curative, is unsatisfactory. The clinical symptoms and post-mortem appearances are constant and well established, but their interpretation is still a matter of controversy. Nevertheless, for the purposes of treatment it is necessary to adopt some working hypothesis of the pathology of the condition.

The curative treatment most frequently adopted has apparently been the use of alkalies. This presupposes that an acute acid intoxication of the body is at least an important cause of the symptoms and fatal result. And we must consider whether this is likely to be true. There are many conditions known in which metabolism is so deranged that organic acids produced in the body escape oxidation and are excreted in abnormal quantities in the urine. This state of things is termed acidosis. The body has to provide bases in order to neutralise these acids, and for this purpose it uses either NH_3, the normal precursor of urea, or failing a sufficient supply of NH_3 the inorganic bases in the tissues. The organic acids, such as lactic, β oxybutyric, diacetic, &c., which are intermediate products of metabolism, are not in themselves poisonous; their power of doing the body harm is confined to their action as acids and as long as the body provides sufficient base to neutralise them their presence will not produce symptoms. In other words, acidosis is not a poisoning of the body by acids and it is only when the supply of base begins to fail that acidosis passes into acid intoxication. We know that a high degree of acidosis by the acetone bodies may exist for weeks and even for years, as in acute starvation and severe diabetes, without causing any symptoms of acid intoxication; in fact, we do not know any condition whose symptoms and fatal issue are probably due to an acute acid intoxication, with the single exception of diabetic coma. Even in such a severe disease of the liver as acute yellow atrophy, although an acidosis is certainly present, death supervenes far too rapidly for the symptoms to be due to the acidosis passing into an acid intoxication. This is still more obviously true of poisoning by phosphorus, in which the acidosis is less severe. It is further remarkable what severe and widespread changes may exist in the liver without causing acidosis. For instance, in poisoning by hydrazine, which induces changes in the liver similar to those of phosphorus, no acidosis is present; and the same is true of animals in which multiple necroses of the liver have followed the injections of hæmolytic sera. From these considerations we have to conclude that alkalies could not be of much value in the treatment of delayed chloroform poisoning and clinical experience confirms it.

The weight of evidence is in favour of the view that the poisoning by chloroform is the cause not only of the symptoms but also of the microscopical changes found in these cases. It is, however, manifestly necessary to believe that certain individuals are highly susceptible to the action of chloroform, and the cause of this state of things is equally unknown, no matter whether we call it idiosyncrasy or believe that the vitality of their protoplasm has received some previous injury which has made it unduly susceptible to the action of a general protoplasmic poison like chloroform. Numerous experiments on animals have shown that the action of chloroform on cells is similar to that of phosphorous, arsenic, and other general protoplasmic poisons. Although we do not know how any of these poisons injure cells it is necessary to form some working conception of what changes they induce in the metabolism of the body in addition to the changes caused by the concomitant starvation. The broad facts seem to be as follows. Nitrogenous metabolism is increased—that is to say, there is an increased breaking down of tissue proteid. But the metabolism of nitrogenous substances is also disturbed so that products of proteid catabolism leave the body no longer in a fully oxidised state; consequently the cells have lost to a corresponding degree the power of obtaining energy from proteid. The hepatic glycogen rapidly disappears and to a less extent that of the muscles and other cells; and further the total quantity of carbohydrate in the body is decreased. But in poisoning by chloroform the liver has not necessarily lost the power of forming glycogen, as can be shown by feeding the animals with dextrose. It is therefore clear that carbohydrate metabolism is increased greatly at first and that since the store of carbohydrate material in the body is relatively very small, this increased utilisation must soon come to an end. The facts in regard to the metabolism of fat are well established. Microscopically the cells of the liver, muscles, and kidneys appear to be loaded with fat. In the case of the kidney, however, there is no actual increase of fat; the appearance of the cells is due to a change in their protoplasm whereby fat in combination and thereby masked and invisible becomes obvious under the microscope. In the liver and muscles there is an actual increase of fat which has been transported in the blood from the normal sites of storage and has been taken up by the cells of these tissues. A similar active transference of fat from the depôts to the hungry cells takes place in starvation, but in this case the cells of the liver and muscles do not become loaded with fat; and this must be because they can metabolise it more rapidly. In poisoning by chloroform the cells are starving and call for fat which they take up more greedily than they can metabolise it; and hence, whilst the transference of fat about the body is increased, the metabolism of fat is decreased and we observe under the microscope a fatty infiltration of degenerated protoplasm.

These are the broad facts; and Rosenfeld's interpretation of them has been hinted at and may now be shortly stated. He believes that when cells are poisoned by chloroform their metabolism is so altered that whilst they can utilise carbohydrates well they can oxidise proteids but imperfectly and of magnesium was followed by an action in from five to ten minutes. Various solutions and drugs were tried and it was found that two drachms of olive oil was the most suitable. This acted perfectly and she was discharged on May 4th. I saw her about six months later and I have heard from her medical attendant quite recently. She continues perfectly well, the opening remains patent and gives her no trouble, and the oil still acts satisfactorily.

CASE 3.—The patient, a female, aged 66 years, was admitted to the infirmary in May, 1906, on account of mucous colitis and constipation. Her medical attendant was desirous that the operation of appendicostomy should be performed upon her. She was a well-nourished woman. She complained of pain in the abdomen chiefly affecting the left side, of constipation, and of the passage of mucus. The abdomen was not distended or tender. Per rectum and per vaginam examination did not reveal anything. A large quantity of mucus was passed with the motions.

An operation was performed on May 11th in the same way as in Case 1. The appendix was cut off level with the skin on the fourth day and irrigation was then commenced. The administration of five pints of saline solution followed by two pints of solution of silver nitrate (one grain to a pint) acted immediately and brought away a large quantity of mucus and fæces. This was continued daily. Three days later the opening into the appendix was found to have retracted below the skin to the level of the deep fascia, probably owing to the commencement of irrigation before it was sufficiently adherent. It was still quite easy for us to pass the catheter but it would have been difficult for the patient herself to have done so. On June 3rd (just over three weeks later) it was noticed for the first time that some of the fluid injected escaped by the side of the catheter. This amount increased daily and by the 7th practically all the fluid injected returned through the opening. This caused a suspicion of some obstruction lower down. On the 9th an incision was made in the left side to expose the sigmoid flexure. A malignant stricture was discovered and a colotomy was performed. The patient was discharged on the 21st. The medical attendant informs me that the patient lived about six months and that the appendicostomy opening closed up and did not give any trouble.

CASE 4.—The patient, a female, aged 31 years, was admitted to the infirmary in February, 1907, on account of obstinate constipation. She had had three attacks of pain in the right iliac region since September. Examination revealed some tenderness on deep pressure over the region of the cæcum. Nothing was discovered per vaginam or per rectum.

On Feb. 5th the appendix was exposed through the usual incision. It contained a small concretion and it was brought out and held in position by a pin through its mesentery. The wound was closed in layers, taking care not to strangulate the appendix or its mesentery. On the third day following the appendix with its contained concretion was cut off level with the skin. Irrigation was commenced on the day following. The patient was discharged on March 16th. She was much improved in health and could manage the irrigation quite easily. She has been seen several times since and she continues the irrigation which keeps her bowels regular and she feels quite well.

CASE 5.—The patient, a male, aged 50 years, was admitted to the infirmary in January, 1908. He had suffered for several years from mucous colitis.

An operation was performed on Jan. 8th. The appendix was exposed through the usual incision, three inches long, and the contents of the abdomen were explored with a negative result. The appendix was curved, necessitating partial division of its mesentery; it was fixed in the wound as in the previous case; it was cut off level with the skin on the 11th, and irrigation was commenced. Following this there was a considerable amount of suppuration in the wound necessitating an india-rubber catheter being kept in position. The effect of the irrigation was immediately satisfactory and all the bowel symptoms have disappeared.

In considering these five cases I think I can fairly claim that each of them derived benefit from the operation. In Case 3 it enabled us to diagnose the cause of the mucous colitis from which the patient had suffered and to perform a colotomy for its relief. The patient had been examined by several physicians without the condition being suspected and but for the appendicostomy it would have remained undiscovered until complete obstruction had occurred, when the risk of operation would have been far greater. The case indicates the importance of bearing in mind that mucous colitis may be only a symptom of organic disease. It is for this reason that I advocate intra-abdominal exploration at the time of operation. It has been suggested that the appendix can be dilated sufficiently to act in lieu of a colotomy. This would have been a suitable case for such a proceeding, but I was unable so to dilate it. From my experience I do not think that such a procedure is practicable in many cases.

The result of the treatment in the other four cases has been satisfactory so long as it has been continued. The mucus has disappeared within three weeks of irrigation. The fluid used consisted of two pints of saline solution followed by one pint of silver nitrate solution (one grain to the pint). At the end of three weeks the latter was omitted and a pint of saline solution only was used. In Case 2 it was found that two drachms of olive oil were sufficient to keep the bowels acting. I have seen this patient within the last month and find that this is still satisfactory.

Unfortunately many of these subjects are neurotic and it may be impossible to persuade them to continue the irrigation regularly. If they do not, the orifice is liable to contract; this is the more likely if there has been any wound infection at the time of operation. It is a difficult matter to dilate the orifice and when it is accomplished it will probably be allowed to contract again. The patient in Case 1 was an example of this class. In such cases a more radical procedure is indicated, but the preliminary performance of this operation does not materially add to the risk and gives patients a chance of relief by an operation with a lower mortality.

In none of the cases has there resulted the slightest discomfort. The orifice does not emit any discharge and is easily kept clean. The mucous colitis is easily controlled and the action of the bowels can be regulated with certainty.

Kidderminster.

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS AND ITS MEDICAL TREATMENT.[1]

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FOR some time I have been on the watch for a clinical example of pyloric obstruction in an infant which would convince me as to its undoubted hypertrophic nature and which would respond to medical treatment. The case which I presently shall relate satisfies those requirements. I have been well acquainted with dyspeptic troubles in infancy without pyloric hypertrophy which clinically give all the symptoms of that complaint except one important finding, and that is the pyloric tumour. Cases such as these I, too, have had my successes with medically. But if I were to enumerate all my experiences in that respect, then I also would be able to bring to your notice a magnificent array of cases of congenital hypertrophic stenosis of the pylorus in place of this solitary example of a successful case medically treated.

It is but the other day, figuratively speaking, that serious attention was drawn to this condition, and the great number of cases that have fallen to the share of, and have been recorded by, some observers must be due to the inclusion in their statistics of the functional with the organic variety, of the very common with the rare, for it cannot be allowed that hypertrophic stenosis is any other than a rare condition. On the other hand, infantile cases of functional gastric disturbance with symptoms suggesting pyloric stenosis are very common. Some such explanation must be held accountable for the high percentage of cases which have fallen to the share of some writers on this subject in so short a time. But I must confess that I did not think it possible to cure such examples of congenital hypertrophic stenosis of the pylorus as have come within my clinical experience without surgical aid. In the cases of that complaint which I have treated the pyloric tumour was hard like gristle, cut like the cartilage of the knee, was felt through the abdominal wall, the infants were operated upon, and they all died. In the case which I am about to relate the patient presented symptoms and physical signs precisely similar to, and identical with, those just enumerated. By reason of his wasted state and the poor condition of his vitality he was not fit to undergo surgical operation and would, I doubt not, have died if he had been operated upon.

It is remarkable how many recorded cases there are where no pyloric tumour was felt and where the typical appearance was found either at operation or in the post-mortem room. But notwithstanding these repeated failures to detect the tumour during life, I must confess that the diagnosis of congenital hypertrophic stenosis of the pylorus does not satisfy me unless the tumour be felt. Perhaps the failure to find it may in some cases have been due to want of experience of what to feel for, but I think that if greater care had been exercised in making the abdominal examinations the little tumours would not have so frequently remained undiscovered. Granted, however, that due care had been taken, I think I can offer another explanation for failure to feel the tumour. By the usual method of examination—that is, by palpation—the tumour is apt to recede from the fingers and to drop deep down into the abdominal cavity. Now, if in addition to the usual method of abdominal exploration the examiner grasps the abdominal parietes and the underlying parts with the

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[1] A paper read before the Society for the Study of Disease in Children on Jan. 17th, 1908.

Mr. T. W. Nunn[1] has maintained that the brawny arm results from the obstruction of the main axillary lymphatics by growth within them. This view is doubtless a part of the truth, but it fails to explain why no collateral lymphatic circulation is established to carry on the lymph circulation in the arm. The answer to this question is a corollary to the permeation theory of dissemination in carcinoma. I may be permitted to recall the main outlines of this view of dissemination, which was stated for the first time in my Hunterian lectures for 1905, and more fully in my recent work on breast-cancer.[2] The permeation theory has won such wide acceptance at home and abroad that it may be said to have almost supplanted the embolic theory of dissemination. Indeed, in breast-cancer, the only form of cancer which I have hitherto adequately worked out, the evidence for permeation is so strong that the word "theory" is entirely out of place. When a carcinoma originates, its cells for a time spread by pushing their way into the intercellular lymphatic spaces of the surrounding tissue. This process is known as infiltration. Soon, however, the cancer cells penetrate into the small lymphatic vessels which open out of the lymphatic spaces. Within those vessels the cancer cells find less resistance than in the tissue interspaces, and they commence to spread centrifugally in all directions from their point of origin by actually growing along, and filling up, the lymphatic plexus to which they have obtained access. This process of permeation may slowly spread in a circle any distance up to a maximum of about two feet from its point of origin. It is doubtful if the process of permeation can so completely obstruct the lymphatic vessels as to cause lymphatic œdema. But I have been able to show that a permeated lymphatic is ultimately doomed to destruction by a process which must be included among the reparative efforts of the body against carcinoma. This process may be called peri-lymphatic fibrosis and it takes place as follows. The plug of cancer cells within the lymphatic, continuing to proliferate, finally splits up the lymphatic. Around the microscopic trauma thus produced a vigorous round-celled infiltration occurs, to be replaced later by a capsule of newly formed fibrous tissue, which contracts upon, and ultimately strangles, the inclosed cylinder of cancer cells. The original lymphatic vessel is replaced by a solid, microscopic, fibrous cord, and the process of peri-lymphatic fibrosis is complete.

It thus became evident that *the permeative spread of a cancer is accompanied by an almost co-extensive destruction of the lymph-vascular system.* The recognition of this fact provided for the first time an adequate pathology for the swollen arm of breast-cancer. The circle of permeation, spreading from the breast in the plane of the deep fascial lymphatic plexus, sooner or later reaches the arm and begins to travel down it. After permeation has involved the whole circumference of the arm and has been in turn succeeded by the obliterative process of peri-lymphatic fibrosis, and if, as generally happens, the trunk lymphatics are obstructed by growth of embolic origin in the axillary glands, the arm is utterly cut off from the lymph-vascular system. No collateral circulation can be established, and the lymph can only return imperfectly by percolating the tissue interspaces. The swollen arm of breast-cancer is thus a direct consequence of the actual and complete severance of the lymph-vascular system of the limb from that of the trunk by the conversion of the connecting lymphatics, small and large, into solid cords of fibrous tissue. The change affects first and mainly the lymphatics of the deep fascial lymphatic plexus.

This conclusion appeared a hopeless one as regards the practical problem of relief, and for a long time I could see no solution. Obviously, the limb requires an entirely new set of lymphatics, and the maxim that correct pathology is the key to treatment seemed here to have no application. I believe, however, that I have found a way of providing an artificial lymphatic system for the limb, a system which though clumsy is nevertheless efficient. The details of the method are not yet fully settled and I propose here only to indicate its principles. It was necessary to provide permanent conduits to lead the lymph from the obstructed area into areas of normal lymphatic circulation. But any perforated drainage-tube buried in the tissues is certain to become blocked either by organisation or coagulation within its interior. Was it possible to drain the limb permanently by capillary attraction?

I have in my possession a section of a silk ligature, removed by my friend Mr. J. D. Malcolm, which had been imbedded in the tissues of the peritoneum for ten years. Though eroded at its surface, the main substance of the thread is intact. Moreover, leucocytes are evidently unable to penetrate between the fibrils of the silk, for the interior of the thread is entirely free from cellular elements. Nor is there any microscopic indication of the coagulation of the body-fluids in the interstices of the silk. It appeared therefore, that a stout silk thread, at any rate if not under tension, would remain unabsorbed for some years, and that the absence of organisation and coagulation in the interior would insure the retention of its capillary power. Acting upon these indications, I determined to introduce into the subcutaneous tissue of the swollen arm a number of buried silk threads, running longitudinally upwards from the wrist to terminate in the loose and healthy areolar tissue in or beyond the axilla, and spaced out at convenient intervals around the limb. The operation is closely analogous to the drainage of a marshy field by lines of buried pipes. The success of this plan, though its ultimate result awaits the verdict of time, has exceeded my hopes. The operation required is so slight that even if the relief be but temporary it is worth the cost. But for the reasons above stated I believe the silk will maintain its action for some years.

In a later communication I propose to describe the method fully, to state its results, and to discuss its application to other forms of lymphatic œdema. I am sanguine enough to believe that it will largely replace amputation and arterial ligature in the treatment of elephantiasis, and that it will be successful in relieving women who are chronic invalids from "white leg." Since the operation appears to involve a new principle of wide application it will be convenient to give it a distinctive name. The word "lymphangioplasty" suggests itself as a natural descriptive term for the operation, not as implying any theory of its mode of action but as indicating its practical results. I will conclude by a brief description of my first case, operated upon on Feb. 1st of this year.

The patient, a woman, aged 56 years, was admitted into the cancer wards of the Middlesex Hospital on Jan. 18th last under my senior colleague, Mr. J. Bland-Sutton, who kindly transferred her to me for treatment. In 1894 a portion of the right breast was removed for carcinoma at Chichester Hospital. In 1896 recurrences in the breast and axilla were removed at St. Mary's Hospital. In 1903 two or three small recurrent growths were removed from the axilla. In 1905 the right arm became swollen; it slowly became paralysed, and has been the seat, during the past three years, of excruciating pain which frequently kept her awake at night. On admission there was no evidence of cancer in the body in the form of palpable tumours. The right nipple still remained intact and was not indrawn, and there was no lump in what remained of the right breast, nor was there any axillary mass of growth. The chest and abdomen were free from deposits. The growth was evidently an atrophic scirrhus, which had undergone an almost complete process of natural cure. The right arm and hand below the deltoid insertion were greatly swollen. The œdema pitted slightly on pressure, though it approached the solid variety. There was complete paralysis of the limb, save that the third and fourth fingers could be moved slightly. Sensation was lost in the thumb and first finger, but not in the second, third, and fourth. The hand was warm and of natural colour. Flexion of the elbow was only possible through 15° or rather less.

On Feb. 1st, under chloroform, a number of silk threads, each running upwards from the wrist to the loose tissue upon the chest wall, just below the axilla, were buried in the subcutaneous tissue. The operation produced no general disturbance of note. On the next day it was obvious that the bandages were loose and the strapping upon her fingers was in the same condition and had to be frequently replaced. On the 6th it was noted that the arm and hand were quite flabby and much reduced in size. The skin was much wrinkled and hung awkwardly on the fingers in folds. On the 7th the patient remarked that she "saw her knuckles for the first time for years." The movements of the fingers were beginning to return and she was able to grasp very feebly. The arm was still quite paralysed. On the 10th the forearm and hand began to present an almost normal appearance, but much swelling of the upper arm remained. On the 19th the swelling about the elbow, which as the patient lay was the lowest point of the limb, had somewhat increased, and the limb was ordered to be put upon an waste and would die, and yet they straight away make progress on a preparation of cow's milk that one would not have advocated on theoretical grounds. There can be no question that some milks are toxic in their action, be they breast milk or cow's milk, and feeding with them brings about reflex muscular action and all the symptoms of congenital hypertrophic stenosis of the pylorus.

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[1] Cancer, by T. W. Nunn, F.R.C.S. Eng., p. 23. Glaisher, 1899.

[2] Cancer of the Breast and its Operative Treatment, by W. Sampson Handley. Murray, 1906.

Dyspepsia in infants is a thing to be avoided, and such dyspepsia is often manufactured by the ignorance and stupidity of those in charge of infants.

If the feeding of the normal infant is a problem in some cases, it becomes additionally so if there happens to be hypertrophic stenosis in the background. In the cases which we are treating daily without this deformity, we are prepared to struggle on and do our best to relieve symptoms. There is no reason therefore why despondency should set in when treating cases of hypertrophic stenosis of the pylorus because they do not quickly answer to treatment. They must be looked upon as difficult medical cases from the outset and dealt with accordingly.

The records of the surgical treatment of this complaint show that the infant does not readily tolerate plastic operations on the abdominal viscera, even at the most skilful and the most expeditious hands. Nor has the medical treatment hitherto been anything to make a boast about. Nevertheless we must for the future, I think, look upon surgery as a *dernier ressort* and not as the sheet anchor of treatment. It is hard upon the surgeons, I admit it, to ask them to galvanise into life a moribund athrepsic infant, and failing in that to take a share in the responsibilities and in the obsequies, but I think in the interest of the patient the surgeon must be thought of late in the case. But once let the physician realise that these cases are not untreatable medically, and there will in the future be more medical successes and fewer surgical failures. What the future will have in store for the cases of hypertrophic stenosis that have been cured medically remains to be seen. In regard to this point, however, it is not uninteresting to learn that Seefisch found that in three cases that responded to this treatment operation became necessary before the children reached the age of 12 years.

Surgery as a mode of treatment for pyloric spasm is neither necessary nor advisable. To operate on such a case would be on a par with performing tracheotomy for the cure of laryngismus stridulus. It is for the purpose of preventing unnecessary operations as well as from the desire to diagnose the case correctly that I attach very great importance to the discovery of the pyloric tumour, and had more attention in the past been paid to its detection there would have been fewer cases on record of congenital hypertrophic stenosis.

Finally, what should be the treatment? It must be conducted on the broad, general principles that experience has taught us to be of value in the uncomplicated complaint. Muscular and nervous hyper-excitability of the organ may be fought by antispasmodics, such as cocaine, opium, chloral, bromide, antipyrin, belladonna, camphor, and sulphocarbolates. I have no special partiality for any of these drugs and I have no supreme faith in their performances. The secret of success in all medical treatment of dyspepsia in infants lies not so much in its drug treatment as in the discovery of the milk best suited to the child. When bottle-feeding is compulsory the selection of just the right form and the right dilution of cow's milk requires careful study, but above all things it must be *clean*. A baby's stomach will deal efficiently enough with a poor milk, but it will immediately resent the stale and the dirty article. And not only should it be clean, but it should be undoctored. The food that is selected should be one that leaves a small residue—one that the gastric juice can readily dissolve. Large lumps of curd in the stomach are fatal to progress.

Regular meals are no less important than restricted meals, and not only are meals that are too bulky to be carefully avoided but the meal must be administered slowly. The dyspeptic infant becomes an inveterate food-bolter, and a meal that is dumped down into the infant's stomach is bound to disagree. The man who is in a hurry to change the dietary because the infant's stomach does not immediately respond to his treatment will never succeed. Success can only be compelled by shaping a course and intelligently sticking to it. It will be found on inquiry that those who claim that they have tried everything have really tried nothing. Ringing the changes on a variety of foods invites dyspepsia, it does not cure it, and such panic-bred dietaries must be avoided.

Abdominal massage in the direction of the pyloric outlet has proved efficacious in at least one case. But in regard to topical treatment gastric lavage has a well-merited reputation. Thorough stomach washing with warm normal saline solution should be used twice a day until the complaint shows decided signs of improvement, when it may be tried once a day. That the remedies are working satisfactorily can be seen by the improved condition of the stools. And there are two other precautions that must be taken—viz., to keep the infant's stomach warm and not to upset his digestion by starchy foods.

But when is the surgeon to be called in? In the present state of knowledge, to assert that the surgeon should never be called in is perhaps not warranted by the facts, but nevertheless I think the advice should be hardly ever, and that the physician will best serve his patient by not being in too great a hurry to shift his responsibility on to his surgical colleague.

On May 22nd, 1907, I saw a male infant, aged two months, in consultation with Dr. D. J. Munro, of Brixton. The history given was typical of the condition of pyloric stenosis. The patient would keep down two or three feeds and then would vomit what appeared to be the whole amount previously taken. He was constipated, had gradually lost ground from the first week of birth, and in spite of being fed on a variety of foods "vomited everything." Various proprietary foods were tried as well as milk and water and peptonised milk, but all with the same result: persistent vomiting followed, accompanied by constipation and the passage of scanty concentrated urine. At a week old the child was breast-fed, took food well, weighed about 7 pounds, and did not vomit, but owing to the mother suffering from a slight attack of rheumatic fever he had to be artificially reared, with the result just related. He was very emaciated when I saw him and seemed so ill that it did not appear that he would survive the night. The pulse was slow and feeble, the respirations were very shallow, the anterior fontanelle was depressed, and the temperature was subnormal. The child was too weak to cry; he opened his mouth as though to cry but no sound came from the lips. He weighed 5 pounds 13 ounces. The vomiting was very persistent and violently expulsive and the bowels were almost absolutely confined.

An abdominal examination left no doubt in my mind as to the nature of the complaint. There was an indurated pylorus of the most typical feel. The lump was located above and to the left (examiner's) of the umbilicus; it was deep down in the abdominal cavity, could be grasped between the fingers and thumb on deep manipulation, was as large as an almond-nut, and felt as hard as gristle. Further, there was on abdominal manipulation obvious gastric peristalsis terminating in the direction of the lump aforesaid. Otherwise there were no physical signs, but there was a right inguinal hernia which had appeared a week after birth. The physical condition of the child was so weakened that it appeared to us that to submit him to surgical operation was tantamount to signing his death warrant. It was therefore decided, with the parents' consent, he should be medically treated, that the diet should be whey, and that the stomach should be washed out daily. On the night of my visit Dr. Munro washed out the stomach with a 0·5 per cent. solution of common salt; this was followed by a four-ounce feed of whey, and subsequently two-ounce feeds every two hours were administered. On the day following and on subsequent occasions the wash was made of sodium sulphate, 0·5 per cent., and sodium bicarbonate, 0·2 per cent., which had the immediate effect of causing regular actions of the bowel. Four-hourly drop doses of laudanum were also ordered. There then had been no sickness for 24 hours and 14 ounces of whey had been retained. Inunctions of cod-liver oil were also instituted twice daily. On May 24th, the second day of treatment, the infant was sick twice following cod-liver oil by the mouth, but 15 ounces of whey were retained. He also passed two dark green offensive motions, the first for four days. On the next day he was ordered teaspoonful doses of olive oil by the rectum, and in place of the drop doses of tincture of opium (which were making him much too somnolent) half-drop doses were substituted, combined with drop doses of tincture of belladonna. The injections of olive oil were mostly all absorbed, but sometimes they were returned with a loose green stool and often undigested. The bowels were opened about once daily and the motions were mostly small, green, and constipated. From May 23rd to June 2nd the infant retained daily the following quantities of whey—viz., 14½, 20¼, 19, 15, 18, 19, 17, 16, 15¼, and 17½ ounces. On the fourth day after commencing treatment he had lost two ounces in weight, but his subsequent gain in weight amounted to 7 ounces—6 ounces during the last five days. The child was sick twice on May 25th, three times on the 26th, twice on the 27th, twice on the 28th, once on the 29th, once on the 30th, and then not again for eight days, when on June 7th he vomited twice. He was fattening visibly. Such was the condition of the patient on June 7th but for several days he had suffered from erythema and œdema and the possibility of this cutaneous disturbance being due to the olive oil injections occurring to Dr. Munro they were discontinued. But the rash still continued to appear for three or four days, so the rectal injections were recommenced but then given once daily only. According to the nurse's description the rash "seemed to appear just after the olive oil injections." The lips became swollen, red patches appeared over the face, rather like port wine stains, and the hands and feet were red and swollen. Besides the swelling of the hands and feet swelling was noticed on the right side of the scrotum; it was, quoting the nurse's words, "quite dropsical," and about two days later it spread over the body. The infant increased in weight, an increase which was thought to be only owing to the swelling just mentioned. By June 8th there was a good deal of dropsy of the neck. He coughed a lot over his feeds and there seemed great difficulty in swallowing and also in breathing. The child was propped up with pillows and often had to be held up by the feet as he choked and "went black in the face" while being fed. The œdema appeared to be obstruction, since hæmatemesis from rupture of greatly distended gastric and œsophageal veins with no alternative channel of venous communication between the portal and caval systems must always be more serious than where one or two alternative paths exist and the total vein bed is divided up to a corresponding extent.

Brighton.

NOTE ON A CASE OF COMPOUND DEPRESSED FRACTURE OF THE VAULT OF THE SKULL; OPERATION AND RECOVERY.

By HANWAY R. BEALE, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond.,
SURGEON TO THE RETFORD HOSPITAL.

The following case presents some features of interest especially in view of the age of the patient and the amount of damage done to the brain tissue.

On May 19th, 1907, a boy was throwing a piece of iron rod into the air to make it spin and whilst it was up in the air the patient ran out of a house and passed underneath it so that the rod fell endways on to his head. The rod was removed from the head by the patient's father, who said that it had penetrated for a distance of half an inch and blood and brain matter were found on it for that distance. The rod was 17¾ inches long by ⅜ inch square and it weighed 11 ounces. The patient did not lose consciousness. He was taken to the Retford Hospital at once.

On admission the patient was found to be a rather stunted child, six years of age. Although conscious he was decidedly dull and unresponsive to questions. The preliminary examination of the wound did not cause as much crying as might have been expected. Externally all that was seen was a small scalp wound with ragged edges from which some blood was oozing. It was decided to operate at once. The boy was anæsthetised with chloroform and after the usual shaving and cleaning a horseshoe-shaped flap was turned down over the anterior half of the left side of the scalp. This being done, a hole of about the size of a florin was found in the cranium half an inch in front of the parietal suture and half way between the temporal and sagittal sutures. Brain matter was exuding from it. By means of a probe a portion of the bone was discovered buried in the brain half an inch deep and quite detached. This was extracted with forceps and was found to be of irregular shape about half an inch square with jagged edges. On passing the finger round the edges of the hole in the skull it was found that the bone was turned in at the lower and posterior margins of the hole; these portions were raised by means of an elevator and "hinged" into position. The posterior piece broke off in the process and its posterior margin was found to be the coronal edge of the frontal bone; it was half an inch square. The lower piece was of the same area and remained in position. Some trouble was experienced from bleeding from the anterior branch of the meningeal artery but this was stopped by means of a gauze plug. Another spicule of bone three-quarters of an inch long was elevated and removed from the upper margin of the wound. Much blood-clot and hair were removed from the wound and the dura mater was drawn as far as possible across, but as a large portion had been torn away the brain could not be completely covered. The detached pieces of bone were not placed *in situ*. The scalp was sutured up, a small gauze drain being left in the wound. The patient was dressed on the following day. On the plug being removed a small quantity of turbid fluid exuded. He complained of headache, otherwise he was well. On May 23rd suppuration commenced but free drainage was allowed. On June 4th the scalp was suppurating and there was slight hernia cerebri; this was painted every four hours, when dressed, with absolute alcohol. The temperature varied from 98° in the morning to 100° F. at night. Healing was very slow, but the wound gradually granulated over and the hernia disappeared. Finally the skin grew over the wound and recovery was complete. At no period during the time the boy was under observation was there any paralysis or other symptom of nerve lesion. He was discharged on Oct. 5th with the wound completely healed.

The boy was seen in February of this year and he was then well and apparently none the worse for the accident. His school-teacher says that he is rather dull but not more so than before and not more than one would expect of a boy brought up in his poor surroundings.

Remarks.—The vault was involved as is usual in punctured fractures. The amount of damage done to the skull was in excess of that apparent by external examination and the damage to the internal table was more than to the outer. The boy was fortunate in the position of the injury because he just missed having the motor centres damaged. Having regard to the cause of the injury asepsis was almost impossible to attain, and because of this and the detached and buried portion of bone the prognosis was very grave. In many of these cases suppuration ensues and there are formed a cerebral abscess and a localised encephalitis which gradually spreads and death results. Here the suppuration occurred, but there was always a free drainage and thus the risk of subdural or extradural spreading was minimised; apparently it did not occur but remained localised to the area of the wound. It is interesting to note the effect of the absolute alcohol upon the hernia; the granulations were gradually hardened and the hernia shrank in size until flush with the cranium. This method is strongly recommended by some surgeons but others deprecate it; in this case it was certainly of service. The case illustrates the value of the cardinal rule in punctured fractures of the skull in children always to operate as the amount of damage was far in excess of that apparent on external examination.

Retford.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Bang's Method of Glucose Estimation.—Parasites of Malaria.—Œsophagostoma Inflatum.

A meeting of this section was held on March 3rd at the Royal Army Medical College, London, Lieutenant-Colonel W. B. Leishman, R.A.M.C., being in the chair.

Lieutenant-Colonel C. Birt, R.A.M.C., gave a demonstration of Bang's Method of Glucose Estimation as published in the *Berliner Klinische Wochenschrift* of Feb. 25th, 1907. Bang's copper solution was prepared by taking potassium carbonate pure, 250 grammes; potassium sulphocyanide, 200 grammes; potassium bicarbonate, 50 grammes; dissolved in distilled water to 600 cubic centimetres with the aid of heat to 60° C., cooling to 30° C., and adding copper sulphate pure, 12·5 grammes, dissolved in 75 cubic centimetres of distilled water, adding water up to 1000 cubic centimetres. 50 cubic centimetres of this was rendered colourless by 60 milligrammes of glucose. It would be possible to titrate with diabetic urine until the disappearance of the blue colour; but it was more exact to keep the unreduced copper in excess and to measure this excess. This was done with hydroxylamine sulphate 3·275 grammes, potassium sulphocyanide 100 grammes, and distilled water to 1000 cubic centimetres. 50 cubic centimetres of this discharged the blue colour in exactly 50 cubic centimetres of the copper solution. The test was thus performed. 10 cubic centimetres of urine (if much glucose was contained in it a measured smaller quantity was diluted to 10 cubic centimetres with water) and 50 cubic centimetres of the copper solution were placed in a flask and boiled for three minutes exactly. The flask was cooled under a water-tap and the hydroxylamine solution dropped in until the last trace of blue colour vanished. On referring to the table the amount of glucose in milligrammes corresponding with the number of cubic centimetres of hydroxylamine solution was seen. The table was necessary since 1 cubic centimetre of the hydroxylamine did not denote a constant quantity of glucose. The reduction of the copper was a function of the time of boiling, of the alkalinity, and of the quantities of copper and glucose present.

The advantages of this process were: the accuracy of the end-point, the stability of the solutions, and the little tendency to reoxidation. The reaction occurred, moreover, in the presence of albumin. Lieutenant-Colonel Birt had employed Gerrard's cyano-cupric method in over 300 estimations and considered it the best adapted for clinical purposes fats even less well. Consequently as soon as the cells have used up their meagre store of carbohydrate, their hungry condition causes a breaking down of tissue proteid and a transference of fat to them; but since neither of these foodstuffs, and especially the fat, is properly utilised, the cells remain in a condition of severe starvation which may rapidly lead to their death through lack of energy. He and other observers have shown that if the poisoned animal is fed with dextrose the transport of fat is prevented because it is no longer necessary; and further, that recovery is much more likely to take place than when the animal is starved. Feeding with carbohydrates, of course, does not prevent the poison from damaging the cells, and it has been found to be useless when protoplasm has been too severely damaged, as in acute poisoning by phosphorus, but carbohydrates do provide the cells with the source of energy which they can most easily utilise, and may therefore prevent their dying from acute inanition and so give them time in which to recover.

If Rosenfeld's theory is accepted as the best working hypothesis of the changes in metabolism induced by chloroform the application of it to man is obvious. It would seem worth while to try feeding such patients with dextrose either by the mouth, or failing this by enemata or continuous rectal infusion of a 10 to 20 per cent. solution, or even by infusing intravenously a 6 per cent. solution. Since these cases are rare and since there is at present no means of knowing which patients will show a great susceptibility to chloroform, it is not likely that it will be possible to decide in man whether feeding with dextrose before the anæsthesia is of any value, but it might be advisable to try it in rickety and ill-nourished children. And, further, it might be possible by inquiry to find out whether an abnormal susceptibility to chloroform is associated with an absence before the operation of such food as will keep up the store of glycogen in the body and whether conditions which reduce this store increase the susceptibility. For it seems clear from experiments upon animals that every chloroform anæsthesia must induce some change in the metabolism and yet the vast majority of patients do not exhibit the serious symptoms of delayed chloroform poisoning.

Seymour-street, W.

A CASE OF CYSTIC DISEASE OF THE MAXILLARY ANTRUM.

By RICHARD LAKE, F.R.C.S. ENG.,
SURGEON TO THE ROYAL EAR HOSPITAL, DEAN-STREET, SOHO, LONDON, W.

THE case about to be described is one that had been under my care at intervals during the last six years and was brought to me by Mr. E. T. M. Tunnicliffe of Finchley.

The patient, a female, aged 18 years, had had five years previously a nasal polypus removed by another surgeon. On Jan. 27th, 1902, when she was first seen by me, the history was that right nasal obstruction had been observed for about a year. On the right hand side a choanal polypus was seen in the post-rhinoscopic mirror and another portion was also visible by anterior rhinoscopy. This was removed by a snare with the patient under anæsthesia and it turned out to be a long thin bilobed choanal (antral) polypus. From this time the patient felt no discomfort in the nose until April, 1905, when she returned with a further obstruction of the right nostril and marked insomnia. On examination nothing was visible at the anterior nares, but a large and extremely translucent polypus was observed occupying the same situation as the former one, though of somewhat greater bulk. A short time afterwards the patient was admitted into a home to have this polypus removed, but during the previous night she had been startled by a tremendous rush of clear fluid from her nose, with complete relief of all the symptoms. Under the anæsthetic, however, a thin, empty cyst-wall was found and removed. The polypus in this case had obviously been cystic. Early in 1906 a second cystic choanal polypus had formed. This was also removed, followed by a considerable flow of fluid. Six months later—that is to say, in July, 1906—a further small cystic polypus was removed under cocaine, obviously coming from the antrum, although there had been no doubt that all the previous polypi had sprung from this situation. About this time the patient began to exhibit signs pointing to pulmonary tuberculosis—that is to say, she lost flesh and suffered somewhat from night sweats and also had a certain amount of cough, but no bacilli were found in the sputum. Although the idea of clearing out the right maxillary antrum was mooted it was postponed, trusting that the tendency to cyst formation might have ceased. As, however, twice during 1907 cystic antral polypi were removed, on Nov. 5th, 1907, the antrum was opened through the canine fossa and the mucous membrane as far as possible was ablated. One large portion, occupying the floor and part of the anterior wall, was removed intact and was found to be closely studded with small cysts containing a straw-coloured fluid, the cyst-walls being extremely thin. The antrum was very roomy. An uninterrupted recovery followed.

The latest paper which I can find on the subject is by Bichaton [1] who gives a *précis* of the literature on the subject. The chief difficulty has arisen from the want of accurate pathological details. Alexander (1897) has had, or seems to have had, the opportunity of examining and reporting upon cases which come under the same category as the present case, for he describes a triple origin for cyst of the antrum, dilatation (*a*) of lymphatic canals, (*b*) of blood-vessels, and (*c*) hypertrophy of the connective tissue. Later Hajeck (1899) proceeded to show that mucocele was a cystic formation proceeding from the mucosa of the sinus. This condition was described in a thesis by Geraldès in 1851. Amongst the various affections which have been grouped together as cystic disease of the antrum according to Jacques and Berteimes (1901) are: (1) development of posterior dental cysts; (2) prolonged and complete occlusion of the ostium (mucocele), the contents sometimes serous, sometimes hæmorrhagic; and (3) cysts arising from the mucosa, fluid viscid and gelatinous.

In the case here reported the cysts were formed from dilated lymphatics. The fluid was *serous*, either pale straw coloured or colourless. The ostium was very patent. The points of chief interest were the connexion between polypus formation and cyst formation and the development of the pseudo-tubercular state, the latter being a not uncommon condition in polypoid degeneration of the nasal mucosa, and according to Waggett [2] in antral suppuration.

Harley-street, W.

LYMPHANGIOPLASTY:

A NEW METHOD FOR THE RELIEF OF THE BRAWNY ARM OF BREAST-CANCER AND FOR SIMILAR CONDITIONS OF LYMPHATIC ŒDEMA.

By W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,
HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND; ASSISTANT SURGEON TO THE MIDDLESEX HOSPITAL; SURGEON TO THE BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.

(*Preliminary Note.*)

AMONG the complications of breast-cancer none is more terrible than the brawny swelling of the arm which frequently comes on in the later stages of the disease. The pain to which it gives rise is so excruciating that amputation has been suggested and frequently carried out for its relief. Incisions into the swollen limb have been employed with temporary benefit. No other remedy except the use of narcotics has been suggested. Apart from actual pain and consequent insomnia the discomfort and misery produced by the constant leaden drag of the paralysed, inflexible, and bolster-like limb are important factors in the sum total of misery produced by the disease.

The brawny arm occurs in about one case out of every six of breast-cancer. It was formerly considered to be due to the pressure of a mass of growth upon the axillary veins and this view is still stated with approval in some current textbooks. There are certain facts which go to show that this theory is untenable. During the operation for breast-cancer ligature or excision of the axillary vein has *frequently* been done without the subsequent production of any œdema of the arm. Moreover, the brawny arm often occurs in cases which present no mass of axillary growth, but is rather associated with atrophic forms of the disease. Lastly, the teaching of pathology is that solid forms of œdema are not produced by simple venous obstruction acting alone.

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[1] Revue de Laryngologie, 1906, vol. i., p. 71.

[2] Diseases of the Nose, 1907.

obstruction, since hæmatemesis from rupture of greatly distended gastric and œsophageal veins with no alternative channel of venous communication between the portal and caval systems must always be more serious than where one or two alternative paths exist and the total vein bed is divided up to a corresponding extent.

Brighton.

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On admission the patient was found to be a rather stunted child, six years of age. Although conscious he was decidedly dull and unresponsive to questions. The preliminary examination of the wound did not cause as much crying as might have been expected. Externally all that was seen was a small scalp wound with ragged edges from which some blood was oozing. It was decided to operate at once. The boy was anæsthetised with chloroform and after the usual shaving and cleaning a horseshoe-shaped flap was turned down over the anterior half of the left side of the scalp. This being done, a hole of about the size of a florin was found in the cranium half an inch in front of the parietal suture and half way between the temporal and sagittal sutures. Brain matter was exuding from it. By means of a probe a portion of the bone was discovered buried in the brain half an inch deep and quite detached. This was extracted with forceps and was found to be of irregular shape about half an inch square with jagged edges. On passing the finger round the edges of the hole in the skull it was found that the bone was turned in at the lower and posterior margins of the hole; these portions were raised by means of an elevator and "hinged" into position. The posterior piece broke off in the process and its posterior margin was found to be the coronal edge of the frontal bone; it was half an inch square. The lower piece was of the same area and remained in position. Some trouble was experienced from bleeding from the anterior branch of the meningeal artery but this was stopped by means of a gauze plug. Another spicule of bone three-quarters of an inch long was elevated and removed from the upper margin of the wound. Much blood-clot and hair were removed from the wound and the dura mater was drawn as far as possible across, but as a large portion had been torn away the brain could not be completely covered. The detached pieces of bone were not placed *in situ*. The scalp was sutured up, a small gauze drain being left in the wound. The patient was dressed on the following day. On the plug being removed a small quantity of turbid fluid exuded. He complained of headache, otherwise he was well. On May 23rd suppuration commenced but free drainage was allowed. On June 4th the scalp was suppurating and there was slight hernia cerebri; this was painted every four hours, when dressed, with absolute alcohol. The temperature varied from 98° in the morning to 100° F. at night. Healing was very slow, but the wound gradually granulated over and the hernia disappeared. Finally the skin grew over the wound and the recovery was complete. At no period during the time the boy was under observation was there any paralysis or other symptom of nerve lesion. He was discharged on Oct. 5th with the wound completely healed.

The boy was seen in February of this year and he was then well and apparently none the worse for the accident. His school-teacher says that he is rather dull but not more so than before and not more than one would expect of a boy brought up in his poor surroundings.

Remarks.—The vault was involved as is usual in punctured fractures. The amount of damage done to the skull was in excess of that apparent by external examination and the damage to the internal table was more than to the outer. The boy was fortunate in the position of the injury because he just missed having the motor centres damaged. Having regard to the cause of the injury asepsis was almost impossible to attain, and because of this and the detached and buried portion of bone the prognosis was very grave. In many of these cases suppuration ensues and there are formed a cerebral abscess and a localised encephalitis which gradually spreads and death results. Here the suppuration occurred, but there was always a free drainage and thus the risk of subdural or extradural spreading was minimised; apparently it did not occur but remained localised to the area of the wound. It is interesting to note the effect of the absolute alcohol upon the hernia; the granulations were gradually hardened and the hernia shrank in size until flush with the cranium. This method is strongly recommended by some surgeons but others deprecate it; in this case it was certainly of service. The case illustrates the value of the cardinal rule in punctured fractures of the skull in children always to operate as the amount of damage was far in excess of that apparent on external examination.

Retford.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

Bang's Method of Glucose Estimation.—Parasites of Malaria.—Œsophagostoma Inflatum.

A meeting of this section was held on March 3rd at the Royal Army Medical College, London, Lieutenant-Colonel W. B. Leishman, R.A.M.C., being in the chair.

Lieutenant-Colonel C. Birt, R.A.M.C., gave a demonstration of Bang's Method of Glucose Estimation as published in the *Berliner Klinische Wochenschrift* of Feb. 25th, 1907. Bang's copper solution was prepared by taking potassium carbonate pure, 250 grammes; potassium sulphocyanide, 200 grammes; potassium bicarbonate, 50 grammes; dissolved in distilled water to 600 cubic centimetres with the aid of heat to 60° C., cooling to 30° C., and adding copper sulphate pure, 12·5 grammes, dissolved in 75 cubic centimetres of distilled water, adding water up to 1000 cubic centimetres. 50 cubic centimetres of this was rendered colourless by 60 milligrammes of glucose. It would be possible to titrate with diabetic urine until the disappearance of the blue colour; but it was more exact to keep the unreduced copper in excess and to measure this excess. This was done with hydroxylamine sulphate 3·275 grammes, potassium sulphocyanide 100 grammes, and distilled water to 1000 cubic centimetres. 50 cubic centimetres of this discharged the blue colour in exactly 50 cubic centimetres of the copper solution. The test was thus performed. 10 cubic centimetres of urine (if much glucose was contained in it a measured smaller quantity was diluted to 10 cubic centimetres with water) and 50 cubic centimetres of the copper solution were placed in a flask and boiled for three minutes exactly. The flask was cooled under a water-tap and the hydroxylamine solution dropped in until the last trace of blue colour vanished. On referring to the table the amount of glucose in milligrammes corresponding with the number of cubic centimetres of hydroxylamine solution was seen. The table was necessary since 1 cubic centimetre of the hydroxylamine did not denote a constant quantity of glucose. The reduction of the copper was a function of the time of boiling, of the alkalinity, and of the quantities of copper and glucose present.

The advantages of this process were: the accuracy of the end-point, the stability of the solutions, and the little tendency to reoxidation. The reaction occurred, moreover, in the presence of albumin. Lieutenant-Colonel Birt had employed Gerrard's cyano-cupric method in over 300 estimations and considered it the best adapted for clinical purposes inclined plane in an extended position and to be bandaged during the night. On the 24th the limb was continuing to diminish *in size though less rapidly than at first.* Unfortunately, measurements of the limb previously to operation were omitted, so that no accurate record remains of its very rapid and marked subsidence in the earliest days after operation. Its slower subsequent subsidence is recorded in the following table:—

—	Feb. 6th.	Feb. 13th.	Feb. 16th.	Feb. 19th.	Feb. 21st.	Feb. 24th.
Circumference of arm—	ins.	ins.	ins.	ins.	ins.	ins.
At wrist	7¼	6⅞	6⅞	6¾	6½	6⅜
4½ ins. above wrist	8½	8¼	8½	8	7¾	7⅝
Just below the elbow	10¼	9¼	10½*	10¼	9¾	9⅝
3½ ins. below the acromion...	11	9⅞	10½*	10⅜	9¼	9¼

* Temporary return of swelling owing to dependent position of elbow.

Note.—The operation was performed on Feb. 1st.

In conclusion, it may be stated that the patient has lost her pain and that she is very grateful for the operation. Flexion of the elbow is now possible through about 110°, as compared with about 15° or less before the operation. The movements of the hand continue to improve, so that the patient can hold a pin ~~between~~ the finger and thumb. It will be interesting to see whether the muscles of the arm recover their power, but at present there is no sign of this.

My second case was operated upon as recently as Feb. 22nd and it will serve no useful purpose to record it in detail at present. This case, like the former, exhibited within a day or two a remarkable diminution of the tension of the arm and commencing subsidence of the swelling. The patient is already entirely free from nocturnal pain and insomnia.

In conclusion, I may be pardoned for pointing out that the operation of lymphangioplasty is no lucky chance experiment but the definite result of some years of laboratory work in the Cancer Research Laboratories of the Middlesex Hospital. For the opportunities which were afforded me my thanks are due to the Cancer Research Committee of the hospital. Fortunately, the value of lymphangioplasty is capable of immediate proof. If a similar immediate demonstration were possible of the value of the rational method for extirpating breast-cancer in its earlier stages, which I have described and continue to advocate, a method which is also based throughout upon pathology, I believe that a marked improvement in the general results of the radical operation for breast-cancer would be secured and that the field for palliatives such as lymphangioplasty would be correspondingly and fortunately narrowed.

Wimpole-street, W.

PORTAL OBSTRUCTION WITHOUT EXTERNAL EVIDENCES OF PORTAL CAVAL ANASTOMOSIS; ITS PROGNOSTIC SIGNIFICANCE.

BY G. H. CHARLES LUMSDEN, M.B. ABERD.

THE following case of hypertrophic cirrhosis raises certain points of interest in regard to prognosis which seem to justify publication.

The patient, a man, aged 46 years, had for a number of years been addicted to alcoholic excess. During the last five months he had been abstemious, as, to use his own words, "he felt played out." Nothing of any interest could be elicited regarding his previous history and it is noteworthy that he had never suffered from hæmatemesis, but for the past two or three months he had been subject to pyrexial attacks specially at night, though this information was only obtained in response to leading questions. Loss of appetite and occasional morning sickness were also complained of. With these preliminary remarks I arrive at the onset of the present urgent symptom, the hæmatemesis, which ultimately terminated in death. Late in the afternoon of Feb. 25th last I was summoned by the brother of the deceased, who informed me that the latter was suddenly taken very bad with vomiting blood, with the graphic qualification that "the house looked as if it had been converted into a slaughter-house." Picking up my saline infusion paraphernalia and losing as little time as possible I found my patient amid the most horrifying surroundings. It was impossible accurately to estimate the amount of blood lost; one large and one medium-sized basin had been filled, pools of blood had collected in several parts of the room and a great part of the wearing apparel and bedclothes were soaked in blood. In addition a chamber half filled with a watery motion as black as tar was produced for my inspection. These evacuations had occurred within a few minutes of each other, although the patient had not been feeling well for some hours previously and had taken to bed. The pulse at this time was 110, feeble, and easily compressible and the complexion blanched and icteric. The only complaints made by the patient were that he felt faint and could not see. On examination of the abdomen a huge liver presented extending to within one and a half inches of the iliac crest. The lower edge could be readily palpated by all the orthodox methods, felt sharp, and moved freely with respiration. That there was no hepatoptosis was apparent from the upper limit of the liver dulness which extended as high as the third interspace in the mammary line. No distinct enlargement of the gall-bladder could be ascertained and the spleen appeared to preserve its normal size and relationships. There was also an absence of ascites. The lungs were normal, except for slight bronchitis; there were no evidences of aneurysm or organic cardiac disease, though the heart sounds were feeble and short.

The indications for a saline infusion being clear I decided in favour of the intravenous method, choosing the median basilic vein, and with moderate rapidity ran in about three pints of normal saline solution to which five drops of 1 in 1000 solution of adrenalin chloride had been added. The immediate results were extremely gratifying. The patient rallied rapidly, the pulse improved, the sight returned to normal, and the ominous yawning in which he had been vigorously indulging at short intervals ceased. I prescribed absolute rest, the official lead and opium pill as an astringent (?) every two hours, with exclusive rectal alimentation, and left the house with a very fair degree of confidence born of the comforting assurance that death in hepatic cirrhosis was only very rarely due to hæmatemesis.

I called on the patient the next morning, when from all appearances the improvement appeared to be sustained and no faintness was complained of. At a subsequent visit the morning following the only noticeable change was an increase in the jaundice and the patient complained of slight occasional faintness. I anticipated a recurrence of the hæmorrhage and left instructions to be sent for if the faintness increased. The expected summons came the same afternoon when I was informed that the feeling of faintness had increased and that the yawning and dimness of vision had returned. I again injected about two pints of normal saline solution with adrenalin chloride into the median basilic vein of the opposite side with the same hopeful results, though to a lesser degree, and the patient again felt fairly comfortable. Hardly had I left the house, however, when a frightful attack of vomiting occurred. The patient sitting up in bed quite a column of black fluid and clotted blood was projected, I am informed, a distance of about two feet. Several pints must have come up on this occasion. The bowels were again moved at the same time and an identical motion to that of the first day was passed, though in even larger quantity. Subsequently two other large and very offensive motions were passed of a similar nature, death following at a short interval. The urine on examination was found to contain a fair proportion of bile.

It is worthy of note in this case that there were no signs of portal caval anastomosis manifest in the external venous system such as the caput medusæ or even hæmorrhoids. The channel of least resistance to the establishment of a collateral circulation was probably through the azygos and œsophageal veins alone and it is probable that it is from the necessary magnitude which these veins must have attained and the want of any alternative channel that the fatal result was due. The presence or absence of evidences of a collateral circulation through the more superficial venous system and the degree of development of such anastomosis may thus be of very considerable value in prognosis both prior to (supposing there is reason to believe that hæmatemesis is impending) and after hæmatemesis occurring in association with portal this connexion he alluded to the difficulty that often arose in interpreting skiagrams. The line of a fracture might be very indistinctly indicated and very easily overlooked. The normal epiphyseal junctions might be mistaken for fractures, and a little want of care in taking a skiagram might readily distort the shadow and present an appearance of displacement which did not really exist. In reference to treatment he pleaded for a much more frequent use of anæsthesia to aid in the reduction of displacement, he urged the importance of immediate reduction, and he insisted that splints should never be employed for the reduction of a fracture but only for the maintenance of the fragments in their corrected position. The important debateable point, he thought, was connected with the necessity for the exact and perfect adjustment of fragments in all cases of fracture. Pointing out the peculiar construction of long bones and the perfect adaptation of the arrangement of the bony lamellæ for the transmission and distribution of pressure and resistance to the pull of muscles, the question arose whether a perfect restoration of function after a fracture of a bone could be expected unless the replacement of the fragments was so exact as not to cause any interruption in the mechanical adaptation of the bone to its special purpose in the skeleton. It was not easy to give a definite answer to this question, for while a study of the mechanics of the skeleton suggested that the structure of the bones was most closely connected with their function, experience of fractures showed that even considerable alterations in the shape of a bone might, in some circumstances, not be very harmful. He referred, for instance, to the result obtained in fracture of the middle of the clavicle and in Colles's fracture. In the weight-bearing bones of the lower limbs he held that serious deformity of the bone was attended with distinct functional imperfection. Upon the answer given to the question depended the real value of the operative treatment of simple fractures. He thought it should be stated that these operations were not easy, that they were attended with rather more than the ordinary risks of modern surgical operations, that in some cases the mechanical difficulties were very great indeed, and that the use of screws, wires, staples, and plates, while undoubtedly of value, was also attended with disadvantage, for they added to the local injury and lessened the rapidity with which the final repair of the bone was effected. He therefore suggested that when employed the procedure should be of the simplest kind, provided that it was also efficient for its purpose. For example, a wire ligature surrounding fragments would often hold them in place, and, if so, was preferable to anything introduced into the bone. He referred to the value of massage and in reference to movements insisted on the much greater usefulness of active movements than of passive movements, and in conclusion spoke of the great improvement that could be obtained in fractures near, and into, joints by patient and gentle manipulations, and use of the part, when violent movements and rough handling only perpetuated the mischief. He thought there was evidence of a power of compensation for deformity caused by fractures, for some patients who at first were lame after a time lost all lameness and disability; it was an important point to ascertain how far this compensation for deformity could go.

Mr. A. E. J. BARKER said that he was in harmony with the views expressed by Mr. Pearce Gould. The attention of the younger members of the profession should be directed to the possibility of treating fractures without recourse to operation; they should be reminded also that there were other means of diagnosing fractures than by the use of radiography. There seemed to be an idea among the younger members of the profession that a fracture could not be diagnosed without an x ray photograph and that without a radiographer a surgeon was hopeless. In regard to the operative treatment of fractures there were, of course, exceptional cases in which it was justifiable. He himself always wired a patella in the case of a fracture of that bone. The treatment by massage must be recognised, and concerning active and passive movements he considered that active movements should be commenced earlier than was usually done and carried out more vigorously.

Mr. ROBERT JONES (Liverpool) urged that stress ought to be laid on the fact that the perfect results of treatment of fractures of long bones talked of in past times could not in reality be expected. He thought that the public needed education in regard to the fallacies of radiography. The public also ought to be taught that bones might be in a bad position with a good functional result from treatment after fracture, and that it was possible after treatment of a fracture to have the bone in good position and yet with a bad functional result. He agreed with Mr. Pearce Gould in regard to treatment by active movement.

Mr. W. ARBUTHNOT LANE said that he was unable to agree with the views expressed by the speakers who had preceded him as he considered it was the business of surgeons to do their work thoroughly in the treatment of fractures. The x rays and the law courts would in the future make surgeons more thorough in their treatment of fractures. That was a condition of things that of necessity would have to come to pass. Mr. Lane then proceeded to place before the society skiagrams of about 30 cases of fracture, in each case showing the condition before and the condition after treatment by operation. The first few cases exemplified the operative treatment of simple fractures and the remainder demonstrated instances of failure in the treatment of fractures by splints, massage, and passive and active movements whereby the necessity had arisen for operative interference. He exhibited the skiagram of a bad ununited fracture of the femur which he termed the barometer of the surgery of the present day, for the patient was informed by most leading surgeons that operation was impossible.

Mr. W. G. SPENCER said that in fractures of the long bones callus was largely formed from the periosteum and in cases where operative treatment was resorted to it had been shown that atrophy took place in the bone within the grasp of an encircling wire or along screws or plates. By reason of the callus in the long bones in the case of a fracture being so largely periosteal in its origin there was not the necessity for extremely exact and precise apposition of the fragments. Unless in exceptional cases, he could not agree that recent fractures in the shaft of long bones ought to be treated by operation, for why should a foreign body be inserted into the bone if the two ends of the bone could be placed in apposition and kept there.

Mr. C. R. B. KEETLEY referred to a paper which he had read before the society on the prevention of shortening and other forms of malunion after fracture by the use of metal pins.

Mr. J. LYNN THOMAS commented on cases of fracture in which he had seen disastrous results occur from operative treatment. He did not consider that anyone should operate on any case of fracture unless there was a certainty that non-operative treatment would not be satisfactory.

After Dr. J. SILLONVILLE had remarked that the attention of the meeting had not been called to the question of extension in the treatment of fracture of the femur, Mr. PEARCE GOULD replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Mendelism and Disease.—Exhibition of Specimens.

A MEETING of this society was held on March 6th, Dr. J. ALLAN being in the chair.

Mr. A. S. F. GRÜNBAUM read a paper entitled "Mendelism and Disease." After giving a short account of the life of Mendel and the principal experimental and other facts already ascertained concerning his laws of heredity he proceeded to put forward hypotheses to explain, along the lines of Mendel's theory, immunity and susceptibility and to account for the formation and characteristics of new growths. Where immunity depended on two factors—amboceptor and complement—such immunity would be absent unless each factor were present and in this way an immune individual might arise from two susceptible units. Apart from this, there was no justification for regarding a negative quality like susceptibility as a Mendelian characteristic. Assuming that new growths originated from the conjugation of an epithelial cell with a leucocyte or some similar combination, the offspring might be either a sarcoma or a carcinoma according to the dominant factor, or might remain a benign growth. He emphasised the necessity for complete records of both normal and abnormal members of families if their cases were to be made available for investigation along Mendelian lines.

Mr. R. LAWFORD KNAGGS and Dr. O. C. GRUNER gave a lantern demonstration on a case of Sarcoma of the Femur.

TABLE.

Hydroxylamine solution.		Glucose.	Hydroxylamine solution.		Glucose.
44 c.c.	=	4 9 mgm.	22 c.c.	=	22·7 mgm.
43 ,,	=	5·8 ,,	21 ,,	=	29·0 ,,
42 ,,	=	6·7 ,,	20 ,,	=	30·2 ,,
41 ,,	=	7·6 ,,	19 ,,	=	31·4 ,,
40 ,,	=	8·5 ,,	18 ,,	=	32·6 ,,
39 ,,	=	9·4 ,,	17 ,,	=	33·9 ,,
38 ,,	=	10·4 ,,	16 ,,	=	35·1 ,,
37 ,,	=	11·4 ,,	15 ,,	=	36·4 ,,
36 ,,	=	12·4 ,,	14 ,,	=	37·7 ,,
35 ,,	=	13·4 ,,	13 ,,	=	39·0 ,,
34 ,,	=	14·4 ,,	12 ,,	=	40·4 ,,
33 ,,	=	15·4 ,,	11 ,,	=	41·8 ,,
32 ,,	=	16·5 ,,	10 ,,	=	43·3 ,,
31 ,,	=	17·5 ,,	9 ,,	=	44·7 ,,
30 ,,	=	18·6 ,,	8 ,,	=	46·3 ,,
29 ,,	=	19·6 ,,	7 ,,	=	48·0 ,,
28 ,,	=	20·7 ,,	6 ,,	=	49·8 ,,
27 ,,	=	21·8 ,,	5 ,,	=	51·6 ,,
26 ,,	=	23·0 ,,	4 ,,	=	53·4 ,,
25 ,,	=	24·1 ,,	3 ,,	=	55 0 ,,
24 ,,	=	25·2 ,,	2 ,,	=	57·3 ,,
23 ,,	=	26·5 ,,	1 ,,	=	59·4 ,,

until the introduction of Bang's, which he now preferred as more trustworthy.

Lieutenant-Colonel **LEISHMAN** showed a series of microscopical specimens illustrating some points in connexion with the Parasites of Malaria. The majority of these specimens were taken from the blood or internal organs of fatal cases of malignant tertian and demonstrated the intensity of the infection in such cases. In the comatose form of this disease it was remarkable that the parasites found in the infected cells in the capillaries of the brain were, almost without exception, segmenting forms; crescents were hardly ever seen. A similar condition was seen in the kidneys, of which a section was also shown. After describing the specimens he pointed out the morphological differences which he had noticed in parasites of this form of malaria received from various parts of the tropics, and said that these appeared to him to support the views of those who considered that there was more than one species of malignant tertian parasite. Specimens of benign tertian and quartan parasites were demonstrated, as well as a case of mixed infection with all three forms. The possibility of the occurrence of parthenogenesis in benign tertian was then discussed; Lieutenant-Colonel Leishman had never encountered forms such as those described by Schaudinn under the name of "gameto-schizonts" but he showed an example of a cell apparently infected by two parasites, one a rosette and the other a gamete, which appeared to him to afford a possible explanation of the forms figured by Schaudinn. Lieutenant-Colonel Leishman further demonstrated living specimens of the flagellated forms of the parasite of kala-azar from a culture on Novy and McNeal's medium which he had received from M. Nicolle of the Pasteur Institute, Tunis.

Captain J. O. **KENNEDY**. R.A.M.C., read a paper entitled an Encysted Nematode (Œsophagostoma Inflatum) occurring in the Intestines of Monkeys (Macacus Rhesus) and causing Septic Peritonitis, and illustrated it with specimens and photographs of the infected parts and of the nematode, its embryo and eggs. The disease was characterised by the presence of cysts containing a sexually developed worm, which had a constant relationship to the longitudinal muscular bands of the cæcum and colon. He explained the origin and the various positions, of the cysts thus: the embryo gaining admission to the blood stream lodges in the longitudinal muscular band and causes a slight hæmorrhage which can be seen through the peritoneum as a thin streak in the long axis of the muscle. Here the cyst is developed and as it grows becomes too large to be contained in the muscle; it is therefore squeezed inwards to lie in the submucosa or outwards to become surrounded by peritoneum. Lying in the peritoneal cavity it becomes adherent to adjacent structures such as the omentum. Finally, the worm ruptures the cyst and a local abscess or a general septic peritonitis is produced. He had not been able to find that such a condition had been previously described.

OTOLOGICAL SECTION.

Clinical Cases.—Exhibition of Specimens.

A MEETING of this section was held on March 7th, Dr. PETER MCBRIDE being in the chair.

Mr. H. H. B. **CUNNINGHAM** showed two cases of Deafness resulting from Epidemic Cerebro-spinal Meningitis.—In the opinion of the meeting nothing could be done for these cases but as a prophylactic measure lumbar puncture was suggested.

Dr. **ADOLPH BRONNER** read notes of a case of Purulent Otitis Media with Deep Ulceration of the External Meatus occurring in Secondary Syphilis and laid stress on the fact that purulent otitis media is very rare in such conditions. Under anti-syphilitic and local treatment the symptoms soon cleared up.

Dr. D. R. **PATERSON** described an interesting case of Crossed Abducens Paralysis occurring in the course of a Cerebellar Abscess. As a result of operation the patient made an uninterrupted recovery. No opinion was expressed with regard to the causation of the ocular paralysis.

Mr. C. H. **FAGGE** read notes of a case of a Branchial Sinus leading from the Neck into the External Auditory Meatus. The sinus was excised by operation with complete success.

Dr. W. **MILLIGAN** described a case of Epithelioma of the Middle-ear of possible Traumatic Origin the result of a blow received nine months previously. The mastoid was opened on account of the severe pain. The patient afterwards died and a large intracranial abscess involving the temporo-sphenoidal lobe was discovered at the post-mortem examination.

Mr. P. **MACLEOD YEARSLEY** showed a case of Labyrinthine Suppuration in a boy, aged eight years, the result of measles when one year old. The condition was discovered whilst performing the complete mastoid operation, there being no previous symptoms pointing to labyrinthine disease. The vestibule was laid open by removal of bone below the fenestra ovalis. There was an uneventful recovery.

Dr. **ALBERT GRAY** exhibited specimens and photographs of pathological conditions found in the labyrinth, and Mr. **SYDNEY SCOTT** histological preparations of the human labyrinth.—These preparations were greatly appreciated and admired by members of the section.

An instructive and interesting paper was communicated by Mr. C. E. **WEST** and Mr. **SCOTT** on the Operative Surgery of Labyrinthitis based upon an experience of 30 cases, of which 26 cases were operated upon. The paper was illustrated by specimens of the temporal bone prepared by Mr. West.—A useful discussion resulted in which members expressed varying opinions with regard to the indications for, and methods of, operating on the labyrinth.

MEDICAL SOCIETY OF LONDON.

Discussion on the Diagnosis and Treatment of Fractures of Long Bones.

A MEETING of this society was held on March 9th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Mr. A. **PEARCE GOULD**, in opening a discussion on the Diagnosis and Treatment of Fractures of Long Bones, stated that his intention was to suggest certain points on which professional opinion was not yet decided, with the hope that many surgeons would express their opinions on these points. The well-recognised and classical signs of fracture—suddenly produced deformity, localised pain and tenderness, and oftentimes mobility in the length of the bone, with crepitus—were sufficient to lead to the recognition of the great majority of fractures, and the introduction of other means, particularly skiagraphy, should not lessen the thoroughness of the investigation of these older symptoms of fracture. He emphasised the great value of anæsthesia, both in arriving at a correct diagnosis and in applying proper treatment to a recent fracture. By the use of the x rays a fracture could be demonstrated when by other means it would only be suspected and in some cases where even the surgeon had not even previously suspected it. But in such cases it was possible to take the position that the recognition of the fracture had little or no bearing upon the prognosis of the case or upon the treatment. He referred, for instance, to fractures of the carpal bones, to incomplete fissures in long bones, and simple fissured fractures of the vault of the skull. He laid more stress upon the value of the x rays in showing the exact condition of a fracture and referred to the fact that even serious displacement in fractures of long bones might be concealed by the supervening swelling. He submitted that the importance of obtaining really accurate and complete knowledge of the details of a fracture by skiagraphy was one of the questions upon which professional opinion was not yet formed, and in

The symptoms improved and the patient lived for two months, ultimately dying from inability to take food, for which he had a total dislike from the date of admission. The specimens exhibited showed an immense blood clot in the right pleural sac. The lung itself did not appear to be affected by any tuberculous formation. The upper surface of the liver and the lower surface of the diaphragm were affected by tuberculous disease and the peritoneum was also the seat of diffuse tuberculous trouble.

Professor A. H. White exhibited a specimen of Gangrene of the Lung obtained about six years ago. The patient was a child suffering from diphtheria. The gangrenous mass was in the right lung; the destruction was quite localised and there was a considerable amount of fibrinous pleurisy. Corresponding to the centre of the gangrenous area and directly facing it was a puncture and outside, between two ribs, the puncture mark was seen surrounded by a dark blue zone. The child had apparently been inoculated with antitoxin at that point directly into the lung and this seemed to be the cause of the gangrene. The gangrenous area was found on examination to contain diphtheria bacilli, amongst other organisms, and efforts to cultivate the organism from other parts of the lung failed. Pure cultures of diphtheria bacilli were also got from the spleen. It was possible, though improbable, that the diphtheria bacilli got there by means of the serum.—Dr. John M. Day said that the patient was a boy, aged five years, who came into hospital in January, 1902. He had ordinary diphtheria and was injected with 4000 units before admission. About two days after admission he presented symptoms of pneumonia, which, however, disappeared. He then developed great fœtor of the breath and the case was diagnosed as gangrene.

Mr. K. E. L. G. Gunn exhibited five specimens of Acquired Diverticula of the Urinary Bladder. He said that congenital diverticula might occur in a very young bladder but he had never seen a congenital case. Acquired diverticula commonly occurred in the aged and were due to (1) increased *pressure*; (2) chronic inflammation of the bladder wall; *or* (3) diminished blood-supply occurring from arterial sclerosis. These diverticula went through three stages; in the *first* place some obstruction took place and the bladder became hypertrophied in order to drive the urine out. With the increase in the thickness of the muscle covering the bladder wall, fasciculation in the inner wall occurred, *followed* by a certain amount of atrophy of the muscle. The bladder then commenced to dilate and to thin out in places. Then a bulging occurred between the inner muscular fibres and the mucous membrane protruded, and so a diverticulum was formed.

Liverpool Medical Institution.—A meeting of the Pathological Section of this society was held on March 5th.—Dr. H. Leith Murray read a note on a Method of Standardising Vaccines. He uses the Thoma-Zeiss hæmocytometer, the diluting fluid being 5 per cent. Giemsa stain in 0·1 per cent. saline solution. This is filtered twice, sterilised, and 4 per cent. of formalin is added. The low specific gravity allows the organisms to sink to the bottom, the trace of salt permits of better staining, and the formalin rapidly arrests movement. The cell is covered in by a thin cover-slip chosen in the following way. A series of slips is cleaned, dried, and applied successively to the cleaned and dried plate-glass slip provided with the apparatus after breathing on the opposing face of each. Pressure is applied to make them adhere and the slips which show Newton's rings well distributed over the surface are selected for use. Counting with $\frac{1}{12}$th oil immersion is begun half an hour after placing the drop. Excess of oil is laid on and the condenser is lightly depressed. The lightly stained organisms are found lying practically motionless at the bottom, but it is advisable to focus throughout the depth of each square to detect any stragglers still floating. Three or four sets of 16 squares can be counted easily in from 15 to 20 minutes. The totals of each set of 16 show a conformity which would indicate that the lack of mathematical flatness, the cover-slip, and the possibility of slight cupping from surface tension are negligible quantities. Controls have amply confirmed the method. Using a red corpuscle pipette and taking vaccine up to the second cross-marking (i.e., a dilution of 1 in 500) the average per small square is only five organisms in a vaccine containing 10,000,000 per cubic millimetre. By using the full dilution of 1 in 1000 it would be possible to bring within range a vaccine containing 200,000,000 per cubic millimetre.—Dr. W. B. Warrington showed: (1) A specimen *considered* to be Acute Primary Infective Laryngitis occurring in a man, aged 53 years, a tailor's assistant. Death resulted from gangrenous bronchopneumonia. No etiology *or source* of infection could be traced. 2. A specimen of Thrombosis of the Aorta and Iliac Arteries *from* a *man* suffering from Septic Endocarditis. The cause of the thrombosis was considered to be infective endarteritis.—Mr. R. W. Murray showed a section of Columnar-Celled Carcinoma removed from the parietal bone of a lady, aged 60 years. The tumour had been mistaken for a sebaceous cyst. It was regarded as a secondary deposit, although careful examination had failed to show evidence of a primary growth.—Dr. R. G. Wills (for Dr. Nathan Raw) showed: 1. Lungs Infiltrated with Minute Metastatic Growths secondary to *carcinoma* of the stomach from a man, aged 32 years. The patient had been in good health until *two* months before his death and had no subjective symptoms of a stomach lesion. 2. Lung showing Secondary Sarcomatous Deposits from a female, aged 22 years. Amputation through the hip-joint for sarcoma had been performed ten months previously.—Mr. W. *Thelwall Thomas* and Dr. J. S. Rowlands exhibited: (1) Section of a *Rodent* Ulcer of the Scrotum from a man, aged *36 years*; *(2)* Carcinoma of Transverse Colon excised from a woman, aged 34 years; and (3) Hypernephroma removed from a man, aged 57 years. In this case hæmaturia was absent.—Dr. R. E. Kelly showed a case of Congenital Cleft in the Sternum in a woman, aged 28 years. The cleft involved the manubrium and first part of the meso-sternum. The cleft was V-shaped and about two inches wide above. Her only child had a perfectly normal sternum.—Dr. J. H. Stansfield showed an Omphalositic Monster, the head and upper limbs being absent and the lower limbs ended in fin-like processes. Along with the monster was born a weakly but living child with a supernumerary digit on the left hand. This was the woman's sixth pregnancy but only the eldest child had survived.—Dr. E. E. Glynn read a note on Rapid Section Cutting as an Aid to Diagnosis. The method employed was that of Dr. Louis Wilson, of St. Mary's Hospital, Rochester, Minn., U.S.A. Pieces of tissue without any preliminary fixation were frozen with ether, cut on a Cathcart microtome, floated out in 1 per cent. salt solution, stained in polychrome methylene blue, washed, and mounted in Brun's glucose medium. The epithelial and sarcomatous cells stained blue and connective tissue pink. An opinion could be given within five minutes of receiving the specimen. The method had been used in ten instances. In none had the opinion formed regarding the malignancy of the tumour been misleading.—The notes and specimens were discussed by Dr. Glynn, Dr. Warrington, Dr. J. Lloyd Roberts, Dr. F. H. Barendt, Dr. J. Hay, Mr. Thelwall Thomas, Mr. D. Douglas-Crawford, and Mr. Murray.

Hunterian Society.—A meeting of this society was held on Feb. 26th, Mr. F. Rowland Humphreys, the President, being in the chair.—Dr. A. Butler Harris read a paper on Treatment by Bacterial Vaccines. He defined a bacterial vaccine as a standardised emulsion of the dead micro-organisms in saline solution, in contra-distinction to the antitoxic sera. He referred to Wright's views on sera and the method of obtaining them. The parallels of artificial and self-induced immunisation were discussed, with special reference to the use of minimal doses of specific bacterial vaccines when inoculation was exploited. The necessity for employing vaccines obtained from cultures of the particular organism infecting the individual was emphasised. In the case of pneumococcus infection of the lung, and coli infections of the bladder and other organs, this procedure was particularly insisted on. Dr. Harris alluded to four cases of pneumonia under his care in which bacterial inoculation had undoubtedly produced an artificial crisis with recovery. A case of endocardial infection by the streptococcus which was characterised by periodic attacks with a corresponding variation of the opsonic curve was described. In this case the streptococcus was isolated from the blood and a vaccine was made and successfully employed. Dr. Harris pointed out the clinical conditions which favoured *or* hindered improvement under bacterial inoculation. He stated that one of the chief factors in retarding recovery was tissue destruction combined with the laying down of fibrous *tissue*. These conditions militated against the flooding of the infected areas with blood rich in antibacterial substances. He instanced these phenomena by comparing the conditions *in tuberculous* with those in pneumococcic infection of the lung. The congestion and non-destruction of tissue in pneumonia were favourable to a rapid immunisa*tion*. Following the argument he instanced

TABLE.

Hydroxylamine solution.		Glucose.	Hydroxylamine solution.		Glucose.
44 c.c.	=	4·9 mgm.	22 c.c.	=	22·7 mgm.
43 „	=	5·8 „	21 „	=	29·0 „
42 „	=	6·7 „	20 „	=	30·2 „
41 „	=	7·6 „	19 „	=	31·4 „
40 „	=	8·5 „	18 „	=	32·6 „
39 „	=	9·4 „	17 „	=	33·9 „
38 „	=	10·4 „	16 „	=	35·1 „
37 „	=	11·4 „	15 „	=	36·4 „
36 „	=	12·4 „	14 „	=	37·7 „
35 „	=	13·4 „	13 „	=	39·0 „
34 „	=	14·4 „	12 „	=	40·4 „
33 „	=	15·4 „	11 „	=	41·8 „
32 „	=	16·5 „	10 „	=	43·3 „
31 „	=	17·5 „	9 „	=	44·7 „
30 „	=	18·6 „	8 „	=	46·3 „
29 „	=	19·6 „	7 „	=	48·0 „
28 „	=	20·7 „	6 „	=	49·8 „
27 „	=	21·8 „	5 „	=	51·6 „
26 „	=	23·0 „	4 „	=	53·4 „
25 „	=	24·1 „	3 „	=	55·0 „
24 „	=	25·2 „	2 „	=	67·3 „
23 „	=	25·5 „	1 „	=	59·4 „

until the introduction of Bang's, which he now preferred as more trustworthy.

Lieutenant-Colonel **LEISHMAN** showed a series of microscopical specimens illustrating some points in connexion with the Parasites of Malaria. The majority of these specimens were taken from the blood or internal organs of fatal cases of malignant tertian and demonstrated the intensity of the infection in such cases. In the comatose form of this disease it was remarkable that the parasites found in the infected cells in the capillaries of the brain were, almost without exception, segmenting forms; crescents were hardly ever seen. A similar condition was seen in the kidneys, of which a section was also shown. After describing the specimens he pointed out the morphological differences which he had noticed in parasites of this form of malaria received from various parts of the tropics, and said that these appeared to him to support the views of those who considered that there was more than one species of malignant tertian parasite. Specimens of benign tertian and quartan parasites were demonstrated, as well as a case of mixed infection with all three forms. The possibility of the occurrence of parthenogenesis in benign tertian was then discussed; Lieutenant-Colonel Leishman had never encountered forms such as those described by Schaudinn under the name of "gameto-schizonts" but he showed an example of a cell apparently infected by two parasites, one a rosette and the other a gamete, which appeared to him to afford a possible explanation of the forms figured by Schaudinn. Lieutenant-Colonel Leishman further demonstrated living specimens of the flagellated forms of the parasite of kala-azar from a culture on Novy and McNeal's medium which he had received from M. Nicolle of the Pasteur Institute, Tunis.

Captain J. C. **KENNEDY**, R.A.M.C., read a paper entitled an Encysted Nematode (Œsophagostoma Inflatum) occurring in the Intestines of Monkeys (Macacus Rhesus) and causing Septic Peritonitis, and illustrated it with specimens and photographs of the infected parts and of the nematode, its embryo and eggs. The disease was characterised by the presence of cysts containing a sexually developed worm, which had a constant relationship to the longitudinal muscular bands of the cæcum and colon. He explained the origin and the various positions, of the cysts thus: the embryo gaining admission to the blood stream lodges in the longitudinal muscular band and causes a slight hæmorrhage which can be seen through the peritoneum as a thin streak in the long axis of the muscle. Here the cyst is developed and as it grows becomes too large to be contained in the muscle; it is therefore squeezed inwards to lie in the submucosa or outwards to become surrounded by peritoneum. Lying in the peritoneal cavity it becomes adherent to adjacent structures such as the omentum. Finally, the worm ruptures the cyst and a local abscess or a general septic peritonitis is produced. He had not been able to find that such a condition had been previously described.

OTOLOGICAL SECTION.

Clinical Cases.—Exhibition of Specimens.

A MEETING of this section was held on March 7th, Dr. PETER McBRIDE being in the chair.

Mr. H. H. B. **CUNNINGHAM** showed two cases of Deafness resulting from Epidemic Cerebro-spinal Meningitis.—In the opinion of the meeting nothing could be done for these cases but as a prophylactic measure lumbar puncture was suggested.

Dr. **ADOLPH BRONNER** read notes of a case of Purulent Otitis Media with Deep Ulceration of the External Meatus occurring in Secondary Syphilis and laid stress on the fact that purulent otitis media is very rare in such conditions. Under anti-syphilitic and local treatment the symptoms soon cleared up.

Dr. D. R. **PATERSON** described an interesting case of Crossed Abducens Paralysis occurring in the course of a Cerebellar Abscess. As a result of operation the patient made an uninterrupted recovery. No opinion was expressed with regard to the causation of the ocular paralysis.

Mr. C. H. **FAGGE** read notes of a case of a Branchial Sinus leading from the Neck into the External Auditory Meatus. The sinus was excised by operation with complete success.

Dr. W. **MILLIGAN** described a case of Epithelioma of the Middle-ear of possible Traumatic Origin the result of a blow received nine months previously. The mastoid was opened on account of the severe pain. The patient afterwards died and a large intracranial abscess involving the temporo-sphenoidal lobe was discovered at the post-mortem examination.

Mr. P. **MACLEOD YEARSLEY** showed a case of Labyrinthine Suppuration in a boy, aged eight years, the result of measles when one year old. The condition was discovered whilst performing the complete mastoid operation, there being no previous symptoms pointing to labyrinthine disease. The vestibule was laid open by removal of bone below the fenestra ovalis. There was an uneventful recovery.

Dr. **ALBERT GRAY** exhibited specimens and photographs of pathological conditions found in the labyrinth, and Mr. **SYDNEY SCOTT** histological preparations of the human labyrinth.—These preparations were greatly appreciated and admired by members of the section.

An instructive and interesting paper was communicated by Mr. C. E. **WEST** and Mr. **SCOTT** on the Operative Surgery of Labyrinthitis based upon an experience of 30 cases, of which 26 cases were operated upon. The paper was illustrated by specimens of the temporal bone prepared by Mr. West.—A useful discussion resulted in which members expressed varying opinions with regard to the indications for, and methods of, operating on the labyrinth.

MEDICAL SOCIETY OF LONDON.

Discussion on the Diagnosis and Treatment of Fractures of Long Bones.

A MEETING of this society was held on March 9th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Mr. A. **PEARCE GOULD**, in opening a discussion on the Diagnosis and Treatment of Fractures of Long Bones, stated that his intention was to suggest certain points on which professional opinion was not yet decided, with the hope that many surgeons would express their opinions on these points. The well-recognised and classical signs of fracture—suddenly produced deformity, localised pain and tenderness, and oftentimes mobility in the length of the bone, with crepitus—were sufficient to lead to the recognition of the great majority of fractures, and the introduction of other means, particularly skiagraphy, should not lessen the thoroughness of the investigation of these older symptoms of fracture. He emphasised the great value of anæsthesia, both in arriving at a correct diagnosis and in applying proper treatment to a recent fracture. By the use of the x rays a fracture could be demonstrated when by other means it would only be suspected and in some cases where even the surgeon had not even previously suspected it. But in such cases it was possible to take the position that the recognition of the fracture had little or no bearing upon the prognosis of the case or upon the treatment. He referred, for instance, to fractures of the carpal bones, to incomplete fissures in long bones, and simple fissured fractures of the vault of the skull. He laid more stress upon the value of the x rays in showing the exact condition of a fracture and referred to the fact that even serious displacement in fractures of long bones might be concealed by the supervening swelling. He submitted that the importance of obtaining really accurate and complete knowledge of the details of a fracture by skiagraphy was one of the questions upon which professional opinion was not yet formed, and in had been working as an ordinary labourer for some time.—Dr. W. J. Maurice (Reading) read a paper entitled "A Few Notes to Illustrate the Dangers of Delay in Performing Operations." After remarking that every practical surgeon knew that his failures were mostly due to delay, either on his own part or on that of those who had been attending the case before him, or to the unwillingness of his patient to submit to operation in good time, Dr. Maurice said that he could always recall plenty of cases in which success could be attributable to little else than a prompt recognition of the needs of the case and immediate and appropriate action. The older and the more modern ways of dealing with strangulated hernia were contrasted and a case was cited showing that the old methods of vigorous taxis coupled with a certain amount of expectancy had not yet entirely died out. Dr. Maurice next related some cases in which the dangers involved in delaying operation were very manifest—a case of pyloric obstruction being the first example given. Three cases of twisted ovarian pedicle were next detailed; all were successful but in each instance it was evident that delay in operating would have proved fatal. A case was next related of a patient with a pelvic abscess who lost her life solely owing to the postponement of operation, the abscess which originally burst into the vagina filling again and rupturing into the peritoneum. A fatal case of strangulated bowel was also recorded in which it was conceivable that an early operation might have saved the patient. Delay in operating also appeared to be responsible for the death of a patient with ruptured intestine. Dr. Maurice concluded his paper with a few remarks on acute appendicitis which were listened to with great interest. He was of opinion that suppuration was more frequent and occurred earlier than was the case a few years ago. He said that he was in the habit of operating immediately upon any acute case that was not decidedly better at the end of 48 hours; if the pulse were quick and the symptoms generally active he would operate still earlier—as soon as the chance presented. If pus were present it could be evacuated; if not, the appendix could be removed and the patient saved further trouble. Finally, after remarking that he had often had occasion to regret the postponement of operation, Dr. Maurice said that he could not recall a single instance in which he regretted having operated.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 7th, Mr. Richard Lake, the President, being in the chair. The following specimens, amongst others, were shown.—Mr. Cecil H. Leaf: (1) Two specimens of Fibroid of the Uterus removed by Supravaginal Hysterectomy; (2) Multiple Cystic Tumour of the Thyroid removed by Operation; and (3) Carcinoma of the Rectum removed by Kraske's Method.—Mr. W. McAdam Eccles: Specimens illustrating some of the Less Common Diseases of the Testis.—Mr. J. G. Pardoe: Two specimens of Malignant Hypernephroma, and microscopical slides.—Dr. D. Arthur: X-ray Diographs.—Mr. Donald J. Armour: Goitre (Exophthalmic).—Dr. A. E. Russell: Congenital Narrowing of the Subclavian Artery, simulating Aneurysm, associated with Angina Pectoris.—Mr. F. Swinford Edwards: Enlarged Prostates.—Dr. G. P. Low: Pathological specimens—Tumour of Liver; Spine showing Erosion by Aneurysm; Intestine showing Dysenteric Ulceration; Pachymengitis Hæmorrhagica; and Aneurysm of Transverse Arch Bursting into Œsophagus.—Dr. H. Macnaughton-Jones: (1) Two specimens illustrating the Difference between Ovarian and Tubo-ovarian Blood Cysts; (2) a series illustrative of Malignant Disease of the Ovaries; (3) a series illustrative of Sclerosis and Cirrhosis of the Ovaries; (4) three specimens of Primary Tuberculosis of the Fallopian Tube; (5) four coloured plaques of the Female Pelvis (showing all the organs); (6) a skiagraph of Calculus of the Kidney with the removed Calculus; and (7) a skiagraph of the Ankle-joint showing Ankylosis (after bullet wound).—Mr. Aslett Baldwin: Horseshoe Kidney; Knee-joint showing Osteo-arthritis; section of Anthrax of Cheek due to a Flybite; and other microscopic specimens.—Mr. Ernest H. Shaw: (1) Tuberculous Tumours in the Brain of a Child; (2) Mixed Tumour of Submaxillary Salivary Gland; (3) Fibroids of Uterus, one calcified; and (4) Cystic Hæmorrhagic Carcinoma of the Breast.—Mr. C. R. B. Keetley: Malignant Growth of the Intestines.—Dr. J. H. Dauber: Uterine Fibroids.—Mr. A. C. D. Firth: Sarcoma of the Intestine.—Dr. Phineas S. Abraham: Photographs of Skin Diseases.

Reviews and Notices of Books.

Judicial Statistics, England and Wales, 1906. Part I., Criminal Statistics. London: Wyman and Sons. 1908. Pp. 203. Price 2*s.* 3*d.*

THE fourteenth volume of the new series of criminal statistics contains the usual information relating to crime and criminal proceedings during the year 1906. The figures are arranged in the same tabular form which has been followed since the revision of the statistics by the departmental committee appointed by Mr. Asquith in 1892. This year, however, the comparative tables have been carried back to 1857, the year in which the judicial statistics were first published, so that they afford a comprehensive view of the movement of crime during the past half century.

Considering first the figures for 1906, we find that the amount of serious crime during the year was lower than in 1905 and was also below the average for the period 1902-06. This decline is shown, though in somewhat different degree, by all the available measures—number of crimes reported to the police, and number of persons tried for, and number of persons convicted of, indictable offences. Of these criteria the number of persons tried for indictable crimes is usually regarded as the most trustworthy. In 1906 this number was 59,079, while in 1905 it was 61,463, and during the period 1902–06 it averaged 59,203. The decline indicated by these figures, though slight in degree, is noteworthy because it shows an arrest in the upward tendency which characterised the movement of serious crime during the seven years 1899–1905.

As has often been pointed out the statistics of crime taken as a whole are indicative simply of the amount of crimes of acquisitiveness, which constitute about four-fifths of the total delinquency in this country. They, therefore, afford no guidance as to the tendency in crimes of violence and of lust, which may, and in fact very frequently do, move in an opposite direction. This was the case in 1906, the fall in offences of acquisitiveness being accompanied by a rise in the amount of homicidal and of sexual crime. Crimes of violence increased by 8·5 per cent. and crimes of lust by 7·5 per cent. as compared with the figures for 1905. These oscillations in the several categories of delinquency in 1906 coincided with, and may presumably to some extent be attributed to, the economic conditions which prevailed during the year. Wages in 1906 showed a net increase for the first time since 1900. The percentage of unemployed amongst members of trade unions was the lowest recorded since 1901. The general level of wholesale prices was higher than for the preceding 16 years, while there was at the same time a perceptible decline in the prices of food and drink. The total of imports and exports and the total sum dealt with at the London Clearing House showed considerable increase. There was a slight decline in pauperism. The year, therefore, was emphatically one of general prosperity, and it is, of course, the rule that in such years thefts diminish while crimes of violence and of lust and drunkenness increase.

While 1906 conformed fully to this rule as regards the several varieties of serious crime, it is remarkable that despite the increase in homicidal and sexual offences there was a fall in the number of assaults tried summarily and in the number of prosecutions for drunkenness, the decrease under each head amounting to about 3 per cent. on the figures for the preceding year. The explanation of this fact is probably to be sought rather in a slackening of police activity than in any change in popular manners calculated to sever the regular association of good times with increased drunkenness. Several points which appear on a closer scrutiny of the

Dr. Gruner showed microscopical preparations from cases of Gastritis Hyperplastica Chronica in which the wall of the stomach was widely, and in some cases universally, thickened. There was absolutely no evidence of malignant disease, but histologically the tissues were densely infiltrated by inflammatory cells of all kinds and more especially plasma cells. The causation of the condition was not known, though the clinical features resembled those of chronic dyspepsia. There was almost complete absence of the gastric glands. So far six cases had been met with during five years at the Leeds General Infirmary. A specimen was shown illustrating the presence of peculiar "islands" (very similar to those of the pancreas) in the adrenal medulla. They were found with some frequency in 150 consecutive post-mortem examinations and only after childhood. The condition seemed so far to have passed unnoticed.

Mr. Alexander Sharp showed a specimen of Exostosis of the External Auditory Meatus in a patient aged 30 years. The left ear had been almost completely deaf for seven years and during the same period there had been intense neuralgic pain involving the left side of the face and head. On examining the ear there was seen a pale pink bony growth, with smooth surface, which completely filled the meatus; it was excessively tender and there was a history of repeated attacks of inflammation. The growth was found to be attached to the antero-superior meatal wall and was removed with hammer and gouge by way of the meatus. Since the operation the headaches had disappeared and the hearing had become quite normal.

Mr. B. G. A. Moynihan showed a specimen of Acute Phlegmonous Gastritis. The condition was diagnosed at an exploratory laparotomy. Death occurred on the next day. The stomach was removed through the operation wound. After removal a pure culture of bacillus coli was obtained from the cut surface. The submucous coat was distended with a grey sloughy material from the cardia to the pylorus, consisting chiefly of leucocytes. The mucosa was normal. The muscular coat was somewhat infiltrated with leucocytes. Microscopically diplococci and short wide bacilli, probably sporing organisms, were found.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of State Medicine.

Alcohol and Mental Disease.

A meeting of this section was held on Feb. 14th, Dr. W. R. Dawson, the President, being in the chair.

The President said that his paper was intended merely as a contribution to a general discussion on alcohol. Apart from personal predilections, the uncertainty existing with reference to the effects of that drug was largely due to deficient appreciation of the influence of individual diathesis and of the varying effects of different doses. With normal individuals, in appropriate circumstances, small doses properly diluted, taken with food and not too frequently, were physiologically beneficial. With larger doses the matter was otherwise. A drunken bout was not only a microcosm of insanity but indicated the probable course of chronic alcoholism in the same individual. Different persons showed different symptoms. When alcohol was taken more continuously, though in small doses, the same order of degradation was observed, the "high level" moral and other late-acquired qualities being first affected, then the motor and sensory functions, and, lastly, those of mere nutrition. A complete estimate of the relation of mental disease to alcohol was impossible. Of asylum cases the prevailing opinion seemed to be that from 15 to 20 per cent. were due to alcohol, but this estimate was almost certainly too high. The regional distribution of insanity did not correspond with that of either alcoholism or drunkenness, and it seemed probable that not more than 10 per cent. of the asylum cases were genuinely attributable to alcohol. The cases in which alcohol was merely contributory must be numerous, owing to the susceptibility to alcohol of persons with any hereditary or acquired brain weakness. Though there was the strongest evidence of the evil effects of parental alcoholism upon the offspring, the question had really nothing to do with the transmissibility or otherwise of acquired characters, the phenomena being sufficiently explained by the deleterious action of the drug upon the germs of the future individual. Chronic alcoholism produced worse effects than occasional drunkenness, and bad spirits produced worse effects than pure ethyl-alcohol. As regards the forms of insanity due to alcohol, certain symptoms were suggestive of this cause—namely, impulsiveness, suspiciousness, confusion with hallucinations, loss of memory for recent events, and fabrication of imaginary occurrences. The most purely alcoholic forms were delirium tremens, Korsakoff's psychosis, hallucinatory-confusional insanity, and alcoholic dementia. Pathologically the changes in the more chronic forms were found round the fissure of Rolando affecting chiefly the large pyramids. If alcohol be cut off, the mental improvement is usually rapid, but for the habit itself compulsory prolonged total abstinence is the only cure.

The MacDermot said that he had during the past seven years as inspector of prisons visited one of the Irish prisons almost every week and had tried to make himself familiar, so far as possible, with the penal and family records of the prisoners. He had, in addition, superintended the work of the State Inebriate Reformatory at Ennis during the past four or five years. He entirely disagreed with the neo-Darwinian theory that a great number of the human species had an original taste for alcohol, a taste which, being natural, was not acquired. On the contrary, the theory of Lamarck that a taste for alcohol was an acquired habit and that acquired tastes were transmissible would give great confidence in all temperance movements.

Dr. Walter G. Smith said that their chief knowledge of the scientific effects of alcohol was a quite recent growth and he thought that the turning point was reached by Schmiedeberg who, with unanswerable arguments, demolished the view still held by many that alcohol belonged to the class of stimulants. Alcohol was an essential member of the narcotic group of substances. Most medical men were much more cautious now than in his student days about the administration of alcohol, especially in acute disease. They had learned that most diseases got on better without alcohol. To a person in health on a sufficient diet alcohol was absolutely unnecessary and possibly injurious to some people, but it was idle to deny its possible value as a food in some cases. The points which related to the public in regard to alcohol were: (1) its effects in producing visceral disease; (2) its leading to all sorts of crime; and (3) its influence on the nervous tissue. The last was a very complicated question but there could be no doubt as to the deleterious effects of long-continued doses of alcohol on the brain.

Dr. Thomas Donnelly said that a great responsibility rested with the medical profession and a great deal of good was now being done through the agency of the profession in putting before the people the physiological action of alcohol and the deleterious effects of over-indulgence. It was exceedingly unwise of physicians to permit alcohol as a beverage without marked restrictions as to its discontinuance after a time. It should not be prescribed in any respect except as a drug and in his opinion should never be given to mothers who were suckling their infants.

Mr. O'Connell J. Delahoyde, who confessed himself a lifelong total abstainer, having never tasted any liquor that was brewed or distilled, said that statistics did not fully represent the amount of insanity which was directly traceable to alcohol. He on occasions prescribed alcohol, but always under strict conditions.

Dr. Ninian Falkiner, Mr. G. R. S. Stritch, Dr. Henry T. Bewley, and Dr. William A. Winter also took part in the discussion.

Section of Pathology.

Exhibition of Specimens.

A meeting of this section was held on Feb. 21st, Dr. A. R. Parsons the President, being in the chair.

Dr James Little, in describing an Exceptional Case of Tuberculosis, said that the patient, a man about 42 years of age, was admitted to a hospital in November, 1907, looking very emaciated. He had only a cough, with a little pain in the right side of his chest. A few days after admission a friction sound was noticed low down on the right side of the chest. His sputum did not give any tubercle bacilli. He complained of abdominal pain; he was always constipated and his temperature was hectic, though not highly so, up to his death on Feb. 8th. About a fortnight after admission it became plain that there was fluid in the right thoracic cavity and after some time 20 ounces of exceedingly bloody fluid were drawn off.

in alphabetical order, an innovation which certainly has much to commend it. As comparison with the well-known and valuable Medical Directory published by Messrs. J. and A. Churchill is inevitable, we may say at once that we do not consider that either work will interfere with the other. Nisbet's Directory is compiled on an original plan and if its future issues are kept up to the present standard success may be safely anticipated for it. It does not take the place of Churchill's Directory, giving deliberately so much less information, but it is an extremely useful alphabetical list of the profession.

The Romance of Medicine. By RONALD CAMPBELL MACFIE, M.A., M.B., C.M. Aberd. London: Cassell and Co. 1907. Pp. 312. Price 6*s.* net.

THE author of this book has evidently been at some pains in its writing and we can fully credit his claim to have consulted 300 volumes in the process. The result is a *pot-pourri* of popular science and of medical history, presented with a certain smartness which at times gets a little out of hand. Thus: "Hitherto man had dared to consider himself a little lower than the angels, now he might venture to consider himself a little higher than the amœbæ. Now might he say to the worm, 'Thou art my brother and my sister,' and to the tubercle bacillus, 'Thou art my brother Cain.'" And again: "We read in the first chapter of Genesis how, when God made Eve from one of Adam's ribs, He anæsthetised Adam before the operation"; and we could extend our illustrations of the point. On the other hand, he can turn a phrase prettily and pointedly, as thus: "Lister succeeded because his surgical methods were the fruit at once of science and of art." Again, he sometimes writes loosely in his desire for effect. "The civilised consumptive has merely to cough to kill," which is a somewhat mischievous statement; and "At the time when appendicitis was in fashion most fashionable people had their appendices removed." We think that Dr. Macfie's view of Aristotle is somewhat unfair, and on p. 43 he uses the word "dogma" as if it meant "*unsound* opinion" instead of merely "opinion." However, here he is in accord with one school of modern "educationists." All this is a pity, because Dr. Macfie has very evident appreciation of his subject, the inherent romance of the progress of medical knowledge and its beneficent results to the human race, and in some measure he has succeeded in showing it forth. Thus the chapters in which he describes such discoveries as those of the circulation of the blood, the pathogenic rôle of anopheles and stegomyia, and the anæsthetic properties of nitrous oxide, ether, and chloroform must needs compel in their readers an added respect for the science of medicine. The history of anæsthesia is especially well narrated, as is the deathless story of Pasteur's victory over hydrophobia. In telling this Dr. Macfie has drawn freely upon Vallery-Radot's enthralling biography of his revered master, and the inclusion of the beautiful story of Pasteur's dealings with his little Alsatian patient Meister in these pages may perchance turn the heart of some bigot who persistently denies the bare possibility of any humane feelings in an apostle of pathological research. These chapters, which show the substance of true romance, will probably have much more value for the general reader than those in which he is told of serums, opsonins, side-chains, and the like, of which he could gain only the faintest conception from these pages. Still less to our taste is the last chapter, with its summary of the more sensational aspect of modern surgery, its text-book description of a case of myxœdema, and other matters which we regret that the author has addressed to the general public. There is much matter, however, in the volume to interest most people legitimately and medical men who have scant leisure for the study of the archives of their mystery will find a good store of delightful knowledge in its pages. Of this we may further instance the author's accounts of the well-nigh Sybilline prevision of many of the greatest discoveries in medicine, which has not seldom been possessed by men living even centuries before the advent of the master who should reveal them fully, as witness the writings of Cesalpinus, Bassi, and Place, who each in his day respectively foreshadowed the great work of Harvey, Pasteur, and Lister. And Dr. Macfie provides other food for deep reflection in his pages. We thank him especially for his spirited version of the story of Simpson's chloroform party.

Diseases of the Stomach. By Dr. I. BOAS, Specialist in Gastro-Enteric Diseases in Berlin. The sole authorised English-American edition from the latest German edition. By ALBERT BERNHEIM, M.D. Freiburg, Assistant to the late Dr. D. D. Stewart at the Polyclinic Hospital and Post-Graduate School as Instructor in the Department of Diseases of the Stomach, &c. Philadelphia: F. A. Davis Company. 1907. Pp. 730. Price $7 net.

THE first part of this work, after a voluminous series of prefaces, is devoted to an account of methods of examination and to a general review of the therapeutic procedures which are applicable to diseases of the stomach. The second part deals with gastric disorders *seriatim*, both organic and functional. The account given is very full and explicit; indeed, Dr. Boas's reputation is sufficient guarantee that the matter of the book is satisfactory. The translator from time to time adds notes derived from his own experience and that of other American writers, which are incorporated in the text. In one place no less than ten pages are quoted verbatim from Dr. Hemmeter's book on Diseases of the Stomach. The translation possesses about the degree of merit commonly found in American translations. It would have been expected that in a population in which so large a German element was present it would be easy to find translators having a competent knowledge of both English and German. Yet it is quite the exception to find a translated work in which it is possible for a minute to forget that we are not studying an original production. We may quote such sentences as the following, the italics being in every case our own: "Other *forms* of artificial feeding have not been *naturalised* in the treatment of gastric ulcer"; "a source of mistaken diagnosis *rests* in the fact ......"; (cancer) "begins gradually to *slide from old age to the strongest middle life*"; "an *aspirable* object"; (œdema) "is, therefore, if present at all, likewise but a *sustaining* symptom"; and the "*rash* occurrence of cancer." We venture to doubt whether such expressions can be justified even as characteristic of the American dialect; they cannot be called English. Fortunately, *as a rule*, the text of the book is intelligible, if not elegant, and the translation may be of use to those who desire to study Dr. Boas's valuable writings but who cannot master the original German.

LIBRARY TABLE.

Diagnostik der Bewegungsstörungen der Augen. (Diagnosis of the Disorders of Mobility of the Eyes.) By Dr. Med. E. LANDOLT, of Paris. With one plate and 23 figures in the text. Leipsic: W. Engelmann. 1907. Pp. 94. Price 3 marks 60 pfennigs.—Dr. Landolt must find it an easy and a congenial task to write an elementary introduction to the study of the ocular muscles. He has already written the articles on this subject in the now almost obsolete French treatise of de Wecker and Landolt and in the new edition of the great German treatise of Graefe and Saemisch. The present brochure contains nothing new and is purely elementary in its scope. It is characterised by the lucidity which we are accustomed to expect from French writers in general and from Dr. Landolt in particular. After dealing very briefly with the anatomy and physiology of the ocular the help von Bier's method had proved in inducing a better supply of blood to the infected areas. He urged the adoption of free surgical interference in chronic abscesses and sinuses, followed or even preceded by the employment of an appropriate bacterial vaccine. The signal results obtained by the use of minimal doses of tuberculin in the early glandular infections of young children were alluded to. After illustrating the effect of bacterial inoculation in various staphylococcic infections of the skin by cases which had come under his own observation, he remarked that he considered the employment of vaccines was but a link in the chain of general treatment, of which medicine was at one end and surgery was at the other.—Mr. James MacMunn read a paper on the Modern Treatment of Diseases of the Lower Urinary Tract. He said that radical cure of stricture of the urethra would more often follow internal and external urethrotomy if the anatomy of stricture were borne in mind and the after-treatment were somewhat different. In internal urethrotomy the stricture should not only be well divided but the edges of the wound should be kept apart and artificially varnished till covered by epithelium, irritation being avoided. In external urethrotomy failure often arose from the agglomeration of the cellulo-cutaneous cicatrix with that in the urethra, forming a larger contractile mass. In some cases making the superficial cut to one side of the middle line was therefore advocated. Dilatation was usually much more efficient if followed by the pressure of a bottle of hot water to the perineum. It could be done when the patient retired. In urethritis avoidance of hyperæmia was the first indication. He suggested that the bulb of the urethra was a pouch for semen before the latter was finally expelled and that it might be styled the ampulla urethralis seminis.—Dr. A. W. Wakefield gave a demonstration on the Employment of Bier's Method of Congestion for cases of sepsis, mastitis, tubercle, gout, gonorrhœal arthritis, &c. The bandage method with modifications for the shoulder and digits was shown. Then the suction apparatus was explained and its many modifications, including the simple means by which an ordinary douche glass, a piece of rubber sheeting, a Sprengel pump, and some rubber tubing might be fixed up to form an efficient suction apparatus at the cost of a few shillings only. Emphasis was laid on the simple and almost the only rule of Professor Bier, that congestion must relieve and not cause pain. Bier was also of opinion, and in this was supported by nearly all authorities on the subject, that in the case of tubercle congestion should not be maintained for more than an hour daily. Brief allusion was made to the extraordinary results achieved in many cases by this treatment.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 6th, Dr. W. Langdon Brown, the President, being in the chair.—Dr. T. Grainger Stewart read a paper on Vascular Lesions of the Nervous System. He described the pathogenesis of the various forms of vascular lesion and the pathological changes which result from (1) a partial cutting off of the blood-supply without softening; (2) complete occlusion of a cerebral vessel; and (3) rupture of a cerebral vessel. After referring to the effects of such lesions occurring in early life and the clinical manifestations to which they gave rise, he passed on to the consideration of these lesions when occurring in the adult. Speaking of the relative frequency of thrombosis, embolism, and hæmorrhage, he pointed out that thrombotic softening was the most common lesion despite the greater frequency of hæmorrhage, as noticed in the post-mortem records of general hospitals, and that in special hospitals and in workhouse infirmaries the relative frequency was reversed. The chief vascular diseases giving rise to the production of thrombotic occlusion were (1) syphilitic endarteritis which was the common cause of thrombosis in early middle life and such cases often occurred within two or three years after the primary infection, in some cases within 12 months; and (2) atheroma which was the chief factor in cases occurring in later middle life and old age. Embolic softening was comparatively rare and usually took place during an attack of malignant endocarditis or pyæmic affection. Cerebral hæmorrhage was dependent upon two factors, the weakening of the vessel wall and a blood pressure sufficient to cause rupture of the weakened vessel. In cases of pure cerebral hæmorrhage the association of vascular disease, chronic renal disease, and hypertrophy of the left ventricle was striking, and also the fact that in these cases a sudden increase in blood pressure due to emotion or physical strain was the usual exciting cause of the stroke. In other cases, in addition to the vascular changes, weakening of the supporting perivascular tissue from previous thrombotic softening still further favoured the occurrence of hæmorrhage without any sudden increase in the blood pressure. In the records of 22 cases of cerebral hæmorrhage in 13 there was evidence of previous thrombotic lesions. After describing the clinical distinctions between the onset of thrombotic, embolic, and hæmorrhagic apoplexy he referred to the prognosis. In syphilitic thrombosis the outlook was favourable both as regards the stroke and the subsequent duration of life; in atheromatous cases the duration of life seldom exceeded three years but might be prolonged for five years, but in both forms the presence of renal disease and cardiac hypertrophy rendered the prognosis very unfavourable. In ventricular hæmorrhage death as a rule resulted within 14 hours. When the hæmorrhage was confined to the brain substance the prognosis was not so favourable as in thrombosis and the subsequent duration of life was rarely over 18 months. In meningeal hæmorrhage intradural and basal hæmorrhages were rapidly fatal, but ingravescent cases and post-traumatic cases might, if recognised early, result in complete recovery as the result of operative measures. The treatment consisted of rest and quiet and the early use of iodide of mercury in the syphilitic cases. In thrombosis the patient's vitality must not be lowered and where there was any hypertrophy of the heart cardiac stimulation must be rigorously avoided. The state of the blood pressure must be the guide in all cases, an endeavour being made to keep it at a suitable and constant level.—The President showed several organs of a man who had died from Melanotic Sarcoma which had in the first instance affected the right eye. Practically the whole of the left lung was converted into a mass of melanotic sarcoma and there were growths in the pericardium, diaphragm, pancreas, and intestines.—Dr. B. G. Morison showed a woman, aged 50 years, with extreme Chronic Rheumatoid Arthritis of both Hands and Feet.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 4th, Mr. J. Mackie being in the chair.—Dr. A. B. Dunne showed a boy, aged 11 years, from whom he had removed a Darning-needle over three inches in length, which had become imbedded in the gluteal muscles and probably penetrated the great sacrosciatic ligament.—Mr. W. Morley Willis showed a girl, aged 14 years, from whom he had removed the Breast and Axillary Contents a fortnight before for a tumour of doubtful nature (? adeno-sarcoma), microscopic sections of which were also shown.—Mr. Willis also showed a woman, aged 41 years, both of whose Breasts contained hard nodules, probably due to chronic mastitis of four years' duration, with glandular enlargement on one side.—The cases were discussed by Dr. W. Tibbles, Dr. J. Watson, Dr. A. M. Webber, Dr. J. A. O. Briggs, Mr. A. R. Tweedie, Mr. K. Black, and Dr. W. Hunter, and Mr. Willis replied.—Mr. Willis read a paper on Some Common Causes of Urinary Obstruction and their Treatment. The causes included in the male phimosis, urethral foreign bodies and calculus, urethritis, stricture, prostatic hypertrophy, and prostatic hæmorrhage, which might even distend the bladder. In the female the causes alluded to were imperforate hymen and retained menses, urethral papilloma, uterine fibroids, retroverted gravid uterus, and calculus.—The paper was discussed by Mr. Mackie, Dr. J. H. Thompson, Dr. Hunter, Dr. J. A. Waring, Dr. A. J. Sharp, Dr. A. C. Reid, Dr. Briggs, Dr. Dunne, Mr. Tweedie, and Dr. J. W. Scott, and Mr. Willis replied.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Feb. 25th, Mr. W. A. U. Thomson (Maidenhead), the President, being in the chair.—Dr. F. J. Hathaway (Windsor) exhibited a case of Charcot's Disease of the Knee-joint. The case was one of some years' standing and there was great deformity.—Dr. S. G. Tippett (Staines) showed a man suffering from some Obscure Nervous Symptoms thought to be due to Commencing General Paralysis.—Dr. A. O'Neill (Windsor) showed a case of Aneurysmal Varix of the Hand and Arm which had existed since childhood.—Dr. E. S. Norris (Eton) showed a woman, aged 43 years, with a large Inoperable Carcinoma of the Breast.—Dr. C. R. Elgood showed a man aged 22 years, whose heart had undergone perfect Compensation after most Extensive Valvular Lesions. The patient appeared to be in excellent health and short periods of rest or of submaximal stimulation. 2. S. Jean Meiklejohn, M.B., Ch.B., Carnegie Scholar, On the Development of the Plexiform Nerve Mechanism of the Alimentary Canal. Dr. Meiklejohn employs staining methods and his results show that the visceral (Auerbach's) plexus is formed later than, and probably as an outgrowth from, the synaptic system, and not as an independent system, afterwards forming a secondary connexion with the central nervous system. 3. T. G. Brodie, M.D. Lond., F.R.S., and Winifred C. Cullis, the Analysis of Oxygen and Carbonic Acid contained in Small Volumes of Saline Solutions. 4. H. C. Bazett, Wadham College, Oxford, Observations on the Refractory Period of the Sartorius of the Frog. 5. E. W. S. Carmichael, M.B. Edin., F.R.C.S. Edin., and F. H. A. Marshall, D.Sc., on the Occurrence of Compensatory Hypertrophy in the Ovary. The experiments of the authors of the article show that hypertrophy of the one ovary does occur after removal of the opposite one. 6. P. C. Varrier-Jones, B.A., Effect of Strychnine on Muscular Work. 7. Edward Mellanby, B.A., Creatin and Creatinin. 8. J. Theodore Cash, On the Physiological Action of the Seeds of Garcia Nutans Omphalea Megacarpa and Omphalea Triandra from Trinidad. All these seeds possess a purgative action due to the oil which they contain. They all also produce diuresis. This number contains the Proceedings of the Physiological Society on Nov. 23rd, 1907, and on Jan. 25th, 1908.

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The Dublin Journal of Medical Science.—In the February number is published a short paper by Sir William Smyly on the Future Teaching of Practical Midwifery. He points out the reasons for the course recently adopted by the General Medical Council and draws attention to the much greater facilities for the study of practical midwifery existing in Ireland than in England. He suggests the practical examination of a certain number of students, selected by ballot on each occasion, concerning patients suffering from gynæcological troubles as a mode of stimulating the interest of students in this branch of medical science. An abstract of a thesis by Dr. H. B. Leech on Acetonæmia does not add much to our knowledge of this condition; a similar abstract of a thesis on the Treatment of Epilepsy, by Mr. E. T. Jameson, records some unsatisfactory experiences with organic extracts and concludes with the opinion that the bromides must remain the sheet-anchor of treatment. Dr. C. G. Cumston of Boston narrates a case of Pulmonary Embolism and comments on the pathology of this affection.

The Scottish Medical and Surgical Journal.—In the March issue of this magazine is published an interesting lecture by Captain W. F. Harvey, I.M.S., and Captain Anderson G. McKendrick, I.M.S., on Immunity, in which, among other things, there is pointed out the difficulty of explaining the ingestion of bacteria in opsonic investigations on the ground merely of the activity of the leucocytes, sluggish bodies which are yet found to swallow a large number of organisms in a few minutes. The possibility of an attraction of the germs to the cells is suggested. Dr. F. Gardiner continues his account of his experiences with x rays and high-frequency treatment, the diseases treated ranging from warts and dyspepsia to locomotor ataxy and cancer. Dr. T. C. Mackenzie writes on the recognition and early treatment of Incipient Insanity and supports the idea of admitting these cases to the general hospitals.

St. Thomas's Hospital Gazette.—The February issue is chiefly occupied with a very entertaining paper on Dreams, Normal and Morbid, by Dr. G. H. Savage. The author is clearly an exceptionally favoured individual in the matter of his dream-consciousness and he tells many of his experiences in amusing style. Needless to say, he is no believer in prophetic dreams, though he admits the possibility, even the frequency, of dreams which point out where a missing article is situated, these being due to revival of an unconscious impression formed at the moment of its loss.

St. George's Hospital Gazette.—Serious medical matter is represented in the February number of this magazine only by a portion of an unsigned paper on Ancient Medicine, the text of the discourse being the work of Bartholomeus Anglicus "De Proprietatibus Rerum." Many anecdotes are quoted showing the ignorance and credulity of the time, and an account then is given of the ravages of leprosy and of the strange remedies sometimes employed for the relief of these sufferers.

Guy's Hospital Gazette.—In the issue of Feb. 22nd appears the final portion of Dr. H. C. C. Mann's paper on Arterial Blood-pressure in Health and Disease. We here get the conclusions to be derived from the whole number of observations, on which the author is much to be congratulated. Some Notes from a Clinical Lecture, by Mr. F. J. Steward, deal with the surgical aspects of tonsillitis, the opening of tonsillar abscesses and tonsillectomy, and a discussion at the Pupils' Physical Society on Constipation contains interesting matter.

London Hospital Gazette.—The number for February opens with a short but suggestive paper on Private Practice which may be commended to those recently qualified. Clearly there are more things in heaven and earth than are dreamt of by candidates for the final examination. A short note, by Mr. Frank M. Farmer, deals with the extraction of individual teeth, and Mr. Hugh Lett records a case of precocious development in a boy, aged four years, and mentions the theory that connects such a condition with affections of the suprarenal bodies. The clinical supplement is devoted to an abstract of some remarks by Dr. C. H. Miller on aortic disease. In lighter vein is an amusing account of a Chinese dinner and theatrical entertainment given in a letter from a naval surgeon.

FALMOUTH INFIRMARY.—At the annual meeting of the subscribers to the Falmouth Infirmary held on Feb. 24th it was decided that all members of the medical profession practising in Falmouth should after two years' residence be eligible for appointment as members of the honorary medical staff.

figures would support this view. Thus, coincident with the decrease in prosecutions for drunkenness, several other offences against the Licensing Acts showed a falling off which is far too large to be attributed solely to progress in temperance and in respect for law. Offences against the closing regulations, for instance, fell to half the number recorded in 1905, and the offences in connexion with the sale of drink to children and to habitual drunkards were also far fewer in number. These changes suggest that the zeal displayed by the police during the period immediately following the liquor legislation of 1901 and 1902 has abated, and it is probable that the apparent decrease in drunkenness is similarly to be regarded, at least in part, as merely an expression of a more tolerant attitude towards the convivial offender. This would at the same time account for the diminution in the number of assaults in 1906, since this diminution was almost entirely in the category of assaults on constables which, of course, in a large proportion of cases are incidental to the arrest of drunken persons.

The decided increase in crimes of lust in 1906 is interesting as showing an exaggeration of the upward tendency observable for several years past in this variety of delinquency. This tendency was manifest in nearly all the subclasses of sexual crime and was even more pronounced in homosexual offences than in assaults on women. The special frequency of sexual crimes in 1906 is referred by the editor of the statistics to the meteorological conditions of the year. The summer was unusually fine, the mean temperature of the year and of the summer months was above the average, and the number of hours of sunshine was about one-fourth more than the normal. As a large number of the offences of this class are perpetrated in the open air these conditions would obviously have increased the opportunities for their commission. A curious feature of the returns, and one the explanation of which is not very clear, is that rape and indecent assault were very much more frequent in August than in either July or September. As a general rule, these offences are pretty equally distributed over the three months mentioned and when there is any decided predominance it is usually shown in July. This is also the case ordinarily with other impulsive crimes, such as homicidal offences and attempts to commit suicide, and in the year under review these two classes of crime followed the usual course and reached their maximum in July. The exceptional prevalence of sexual crimes in August is the more singular as that month in 1906 contained fewer Sundays than July or September, and must therefore have been less influenced by week-end carousing.

Non-indictable offences, both those of a criminal and those of a merely quasi-criminal character, decreased during 1906, the total number for the year being 700,973, as against 729,727 in 1905. The decrease was spread over a great number of headings but was most marked in drunkenness, assaults, prostitution, and vagrancy offences. It is perhaps significant, in connexion with the increase in sexual crime, that the non-indictable offence of indecent exposure showed an increase of 5 per cent. on the figure for 1905.

From the tables relative to coroners' inquests it appears that the total number of such inquiries held during the year was 36,570 (or 69 per 1000 deaths), which is not far from the average for the last five years. Out of the total number of deaths which were the subject of inquest 14,293 were found to be due to natural causes or old age, 14,805 were accidental, 223 were still-births, and in 2132 cases open verdicts were returned. Excluding three cases of justifiable homicide and eight judicial executions there remain only 5105 deaths ascribed to criminal violence or culpable neglect. Of these, 3131 were cases of suicide, this number being 2 per cent. lower than the figure for 1905. This slight decrease can hardly be taken as evidence of any real check to the upward movement of suicide which has been a striking fact in English vital statistics for a good many years past. It may be noted that attempts to commit suicide did not show any similar decrease, the number reported to the police during the year amounting to 2497—the highest figure yet recorded. Of the other cases of violent death 155 were attributed to wilful murder and 110 to manslaughter. 21 persons against whom verdicts of wilful murder were returned committed suicide at the time of the murder. The number of criminal lunatics received into asylums during the year was 241, of whom 76 were found insane by verdict of jury, three were certified insane before trial, and 162 were certified insane after conviction. The total number of criminal lunatics under detention at the end of the year was 955, of whom no less than 425 had committed murder.

The comparative tables of crimes and offences since 1857 are supplemented by an interesting series of diagrams illustrating the movement in the different varieties of crime in the last 50 years. During that period the total number of indictable offences (i.e., mainly crimes of acquisitiveness) has oscillated between the extremes of 48,453 (in 1860) and 63,268 (in 1882). The absolute number of such offences in 1906 was very nearly the same as in 1857 which, in view of the growth of population in the interval, is equivalent to saying that theft has decreased by about 40 per cent. During the same period there has been a slight absolute and therefore a very considerable relative decrease in homicidal crime, while sexual offences on the contrary have tended to increase. It is suggested by the editor that the increase in the figures for the latter class may be due largely to the creation of new offences, but against this view we may put the fact that the relatively stable group of homosexual crimes shows the same change, the number of such crimes in 1906 being no less than 66 per cent. higher than in 1857.

Nisbet's Medical Directory, 1908. In two parts. Part I., Directory of Medical Practitioners; Part II., The Local Directory. London: James Nisbet and Co., Limited. *Pp. 799. Price 7s.*

THE editor in his preface states that "Nisbet's Medical Directory" has been compiled for the purpose of supplying a handy, accurate, and inexpensive list of medical men conveniently and concisely arranged in alphabetical order. There is no doubt as to the handiness of the book, and its extreme lightness is somewhat surprising when it is considered that the book comprises nearly 800 pages. With regard to its accuracy, so far as we have tested the correctness of the entries it can be fairly stated that the directory is able to stand with success a close and critical examination. The publishing price of 7*s.* is moderate in an age of competition. The arrangement of the names in a single list in alphabetical order presents great convenience; indeed, we fear that medical men may have to complain that the new directory affords a far too convenient means for the issue of circulars and samples by numerous mercantile firms. The way in which medical men are entered and described has been dictated by the intention to economise space. After the name and address follow the telephone number and the year of qualification with the various diplomas, degrees, and distinctions set forth in a concise and approved manner; the place of education is next stated, after which comes one present or past appointment, and the record concludes with the name of one publication or literary work. It was doubtless anticipated that the return of the schedules from the members of the medical profession would not be absolutely complete and accordingly we find the editor explaining in his preface that in the case of those who have not made a return the name, address, and medical titles have been adopted from the official record of their registration under the Medical Act. A local list forms the second part of the volume and this again is arranged short periods of rest or of submaximal stimulation. 2. S. Joan Meiklejohn, M.B., Ch.B., Carnegie Scholar, On the Development of the Plexiform Nerve Mechanism of the Alimentary Canal. Dr. Meiklejohn employs staining methods and his results show that the visceral (Auerbach's) plexus is formed later than, and probably as an outgrowth from, the synaptic system, and not as an independent system, afterwards forming a secondary connexion with the central nervous system. 3. T. G. Brodie, M.D. Lond., F.R.S., and Winifred C. Cullis, the Analysis of Oxygen and Carbonic Acid contained in Small Volumes of Saline Solutions. 4. H. C. Bazett, Wadham College, Oxford, Observations on the Refractory Period of the Sartorius of the Frog. 5. E. W. S. Carmichael, M.B. Edin., F.R.C.S. Edin., and F. H. A. Marshall, D.Sc., on the Occurrence of Compensatory Hypertrophy in the Ovary. The experiments of the authors of the article show that hypertrophy of the one ovary does occur after removal of the opposite one. 6. P. C. Varrier-Jones, B.A., Effect of Strychnine on Muscular Work. 7. Edward Mellanby, B.A., Creatin and Creatinin. 8. J. Theodore Cash, On the Physiological Action of the Seeds of Garcia Nutans Omphalea Megacarpa and Omphalea Triandra from Trinidad. All these seeds possess a purgative action due to the oil which they contain. They all also produce diuresis. This number contains the Proceedings of the Physiological Society on Nov. 23rd, 1907, and on Jan. 25th, 1908.

The Medical Chronicle.—The November and December numbers (1907) are designed as a memorial to the late Professor Julius Dreschfeld. A short memoir of his life and a bibliography of his published works precede the original articles which fill the rest of the two numbers; of these we have only space to record the titles. Professor A. H. Young and Professor Arthur Robinson write on Malformations of the Human Heart, Mr. G. A. Wright on Some Less Familiar Joint Affections, Dr. Robert B. Wild on the Supervention of Epithelioma on Lupus Vulgaris, Dr. W. Milligan on Labyrinthine Suppuration, Dr. Ernest S. Reynolds on Intermittent Limp, Mr. E. H. Westmacott and Professor F. A. Southam on Hyperplasia of the Superior Maxilla, and Dr. Siegmund Moritz on Oral, Laryngeal, and Nasal Symptoms of Myxœdema. Mr. William Thorburn writes on the Symptoms due to Cervical Ribs, Dr. Archibald Donald on Malignant Disease of the Body of the Uterus, and Dr. F. Craven Moore on the Chemical, Physical, and Biological Relations of Cholesterine.

The Edinburgh Medical Journal.—The March number opens with some remarks on Empyema, based on 100 consecutive cases, by Dr. Albert E. Morison. He advises operating under local anæsthesia in adults and deprecates unnecessary removal of rib. Dr. Lewis C. Bruce continues his contribution on Acute Mania which he believes to be a toxæmia invariably due to bacterial infection. A case of Tumour of the Cauda Equina in which recovery followed operative removal of the growth is recorded by Mr. R. C. Elsworth.

The Dublin Journal of Medical Science.—In the February number is published a short paper by Sir William Smyly on the Future Teaching of Practical Midwifery. He points out the reasons for the course recently adopted by the General Medical Council and draws attention to the much greater facilities for the study of practical midwifery existing in Ireland than in England. He suggests the practical examination of a certain number of students, selected by ballot on each occasion, concerning patients suffering from gynæcological troubles as a mode of stimulating the interest of students in this branch of medical science. An abstract of a thesis by Dr. H. B. Leech on Acetonæmia does not add much to our knowledge of this condition; a similar abstract of a thesis on the Treatment of Epilepsy, by Mr. E. T. Jameson, records some unsatisfactory experiences with organic extracts and concludes with the opinion that the bromides must remain the sheet-anchor of treatment. Dr. C. G. Cumston of Boston narrates a case of Pulmonary Embolism and comments on the pathology of this affection.

The Scottish Medical and Surgical Journal.—In the March issue of this magazine is published an interesting lecture by Captain W. F. Harvey, I.M.S., and Captain Anderson G. McKendrick, I.M.S., on Immunity, in which, among other things, there is pointed out the difficulty of explaining the ingestion of bacteria in opsonic investigations on the ground merely of the activity of the leucocytes, sluggish bodies which are yet found to swallow a large number of organisms in a few minutes. The possibility of an attraction of the germs to the cells is suggested. Dr. F. Gardiner continues his account of his experiences with x rays and high-frequency treatment, the diseases treated ranging from warts and dyspepsia to locomotor ataxy and cancer. Dr. T. C. Mackenzie writes on the recognition and early treatment of Incipient Insanity and supports the idea of admitting these cases to the general hospitals.

St. Thomas's Hospital Gazette.—The February issue is chiefly occupied with a very entertaining paper on Dreams, Normal and Morbid, by Dr. G. H. Savage. The author is clearly an exceptionally favoured individual in the matter of his dream-consciousness and he tells many of his experiences in amusing style. Needless to say, he is no believer in prophetic dreams, though he admits the possibility, even the frequency, of dreams which point out where a missing article is situated, these being due to revival of an unconscious impression formed at the moment of its loss.

St. George's Hospital Gazette.—Serious medical matter is represented in the February number of this magazine only by a portion of an unsigned paper on Ancient Medicine, the text of the discourse being the work of Bartholomeus Anglicus "De Proprietatibus Rerum." Many anecdotes are quoted showing the ignorance and credulity of the time, and an account then is given of the ravages of leprosy and of the strange remedies sometimes employed for the relief of these sufferers.

Guy's Hospital Gazette.—In the issue of Feb. 22nd appears the final portion of Dr. H. C. C. Mann's paper on Arterial Blood-pressure in Health and Disease. We here get the conclusions to be derived from the whole number of observations, on which the author is much to be congratulated. Some Notes from a Clinical Lecture, by Mr. F. J. Steward, deal with the surgical aspects of tonsillitis, the opening of tonsillar abscesses and tonsillectomy, and a discussion at the Pupils' Physical Society on Constipation contains interesting matter.

London Hospital Gazette.—The number for February opens with a short but suggestive paper on Private Practice which may be commended to those recently qualified. Clearly there are more things in heaven and earth than are dreamt of by candidates for the final examination. A short note, by Mr. Frank M. Farmer, deals with the extraction of individual teeth, and Mr. Hugh Lett records a case of precocious development in a boy, aged four years, and mentions the theory that connects such a condition with affections of the suprarenal bodies. The clinical supplement is devoted to an abstract of some remarks by Dr. C. H. Miller on aortic disease. In lighter vein is an amusing account of a Chinese dinner and theatrical entertainment given in a letter from a naval surgeon.

FALMOUTH INFIRMARY.—At the annual meeting of the subscribers to the Falmouth Infirmary held on Feb. 24th it was decided that all members of the medical profession practising in Falmouth should after two years' residence be eligible for appointment as members of the honorary medical staff.

muscles the fundamental optical principles are reviewed, including the prismatic action of spherical glasses. We note that the author adheres to the nomenclature κ for the angle usually measured as the angle γ; since it is the angle κ which is always measured we hope that other writers may be induced to follow his example. Disorders of the muscle movements are discussed under paralytic squint, concomitant squint, nystagmus, and so on. There is a table of the effects of paralysis of the individual muscles, including the diplopia induced, and numerous charts showing the fields of fixation are given. A section follows on the site and causes of the defective movements, treating briefly of isolated paralysis of individual muscles and unilateral and bilateral ophthalmoplegias. The pamphlet, for it is little more, is beautifully printed and illustrated and is a pleasure to read. It can be safely recommended to the student who reads German as a simple, clear, concise, and trustworthy introduction to the subject.

The Preservation of Infant Life. A Guide for Health Visitors. Six Lectures to the Voluntary Health Visitors in the Borough of St. Pancras. By EMILIA KANTHACK. London: H. K. Lewis. 1907. Pp. 92. Price 1s.—We turned to these lectures with a double interest: firstly, because they are concerned with a movement which may become of national importance; and, secondly, because they were delivered by the sister of a distinguished and lamented member of the purely scientific ranks of our profession, the late professor of pathology at Cambridge. The book is well worthy of the name which it bears and we can heartily endorse the recommendation from the medical officer of health of St. Pancras which constitutes its preface. Miss Kanthack is a certified midwife and she wisely distinguishes the line of duty between the members of her calling and the health visitors who volunteer to look after their cases when the puerperium has run its ten days. The first chapter deals with the problem of infant mortality and its alleviation by the health visiting system, and it contains much shrewd ethical advice. The scope of the remaining lectures is well indicated by their titles: "The Hygiene of Pregnancy," "Washing and Dressing the Baby" (Miss Kanthack's pupils had the opportunity of seeing this demonstrated on a life-sized jointed doll), "Infant Nutrition," "The First Year of Life and Minor Ailments," and "The Common Diseases of Infants and their Recognition." The teaching throughout is good and not the least of the book's attraction is the bright and breezy manner of its writing. We recommend it to all who are interested in a growing and important movement in national hygiene. Many "educated" mothers might profit greatly by reading it for themselves; at any rate, their babies would if their mothers followed the advice which they found in it.

Annual Report of the Imperial Bacteriologist of India for the Year 1906–1907. Calcutta: Office of the Superintendent of Government Printing, India. 1907. Pp. 27.—This report, as has always been the case, shows an immense amount of work accomplished by Dr. A. Lingard at the Imperial Laboratory at Muktesar. His labours have consisted in the preparation of the different sera and other prophylactics which occupied the attention of himself and his subordinates throughout the year. In addition experiments were conducted with a view to test the potency of hæmorrhagic septicæmic serum and also the efficacy of atoxyl in destroying the trypanosomata of surra and dourine. Experiments with the object of determining whether Indian elephants are susceptible to the trypanosoma Evansi from an equine source were carried out and observations were continued with regard to trypanosomiasis in camels. Further, four Australian horses were immunised and hyper-immunised for the preparation of tetanus antitoxin. Apart from that investigation officers of the Civil Veterinary and of the Army Veterinary Corps attended the theoretical and practical classes, whilst 49 veterinary assistants were trained at Muktesar and Bareilly. Amongst the results obtained from the above investigations the Indian elephant was proved to be insusceptible to rinderpest; spirochætosis was met with during the year under review in hill and plain cattle affected with rinderpest (this form of disease had not previously been recognised in this country); and another interesting section gives the effect of different doses of atoxyl in equines the subject of spontaneous equine trypanosomiasis. Unfortunately for India this is the last report that will be submitted by Dr. Lingard, for this hardworking and able officer has now retired from the Civil Veterinary Department after 17 years of unremitting toil. It is at least satisfactory to note that the Government of India desires to place on record its appreciation of the valuable services rendered by him to veterinary science during the period in which he has held the office of Imperial bacteriologist.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. I. No. 4.—Perhaps the most important communication in the present number is the paper on the Pathology and Treatment of Chronic Constipation read before the Medical Section by Dr. A. F. Hertz. His ingenious applications of the "bismuth meal" and the radiographic record of its progress through the alimentary tract are worthy of most careful study in connexion with constipation. Amongst the cases recorded in the Clinical Section those of Multiple Telangiectases and Angiomata, by Dr. Sidney P. Phillips and Dr. F. Parkes Weber, are striking. In the Electro-therapeutic Section a remarkable case of Gonorrhœal Warts which was successfully treated by x rays is figured and described by Mr. A. D. Reid. The Epidemiological Section is devoted to an important discussion on Rubella, founded on papers by Dr. E. W. Goodall and Mr. H. E. Corbin, which will take a useful place in the literature of German measles. The old question as to the existence or not of a "fourth disease" arose again in the course of the debate. Mr. W. H. Battle and Mr. S. G. Shattock contribute an elaborate and interesting paper to the Pathological Section on a remarkable case of Diffuse Cancellous Osteomata of the Femur following a Fracture, in which similar growths afterwards developed in connexion with other bones. A noteworthy feature of this paper is that it is prefaced by a neat little summary of its contents in Latin for the benefit, we suppose, of "foreign colleagues." Many will rejoice that its authors were faithful to the old *lingua franca* of science and were not tempted to fulfil their purpose in Esperanto. The Laryngological and Dermatological Sections are largely devoted to accounts of cases many of which have appeared in these columns, and the Obstetrical and Gynæcological Section is occupied with a case in which enucleation of a uterine fibroma was undertaken by Dr. Herbert Williamson in the seventh month of pregnancy. In the Therapeutical and Pharmacological Section Dr. W. E. Dixon writes on Arterio-sclerosis and Dr. A. R. Cushny on Nutmeg Poisoning.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S., with numerous coadjutors. Vol. XXXVI., No. 6. London: C. F. Clay. Feb. 28th, 1908. Price 8s.—The contents of this number are: 1. C. T. Symonds, B.A. Oxon., Wave-like Variations in Muscular Fatigue Curves. Mr. Symonds shows that when certain frog's as well as other muscles, both amphibian and mammalian, are fatigued under constant conditions with maximal break induction shocks, temporary wave-like variations can be produced in the summit line during the later stages of fatigue by any alteration in (*a*) load, (*b*) rate of stimulation, and (*c*) temperature; and also by introducing

THE LANCET.

LONDON: SATURDAY, MARCH 14, 1908.

Pure Chemistry and Medicine.

IT is hardly possible to foreshadow what bearing recent chemical discoveries may have upon medical progress but it is obvious that as our views in regard to the constitution of matter widen so is it probable that some advantage will be given to medical science. As our knowledge of chemical constitution advances so will the application of that knowledge be less empirical. It is interesting to reflect that the study of medicine in early history served as a foundation to the study of the chemical elements and of chemical interactions, and it is hardly an exaggeration to say that the present important position of chemical science is due in no small measure to the labours and researches of medical men. Even now it is not difficult to find instances of medicine indirectly stimulating the work of chemical investigation and some of the notable advances of the present time are the outcome of work pursued in the laboratories of our medical schools. Apart from this, the study of medicine necessarily involves a certain amount of chemical research. Medicine indicates to the research student useful fields for exploration, points out to him missing links in the chain of knowledge, and asks him for an explanation of the chemical changes concerned in the processes of the human laboratory which are inseparable from function.

The relationship existing between physiological chemistry and medicine is clear enough but it is not so easy to anticipate whether there is any importance likely to be connected with such discoveries as, say, the solidification of helion, the apparent transmutation of metals, and so forth. The discovery of radium was at all events a chemical triumph which has already found medical application. Looking backwards we remember how interesting a discovery was that of Priestley and Scheele when they prepared independently of each other oxygen for the first time—a purely chemical discovery which ultimately, however, gave us an insight into the nature of the respiratory process and of tissue change. Davy, similarly, when he isolated potassium and sodium in the metallic state probably regarded his discovery as of chemical importance only but we now know how this classic experiment has become of medical importance. There are indications that the elements after all are but products in different shapes, so to speak, of the same original material. Certain elements at any rate evince some properties in common, as is seen in the law of periodicity so ingeniously elaborated by Mendeléef. Amongst definite compounds there are instances of substances showing the same composition, containing, that is, the same number and kind of elements, yet which are very different in regard to their chemical and physiological behaviour. At one moment, it may be, the compound appears as a poisonous substance, at another as a quite innocuous one, and yet the composition of both is the same. If elements should after all prove to be a group of sub-entities or electrons, what wonder that indications have been obtained of a given element disappearing only to reappear as another element exhibiting totally different properties. Ramsay at all events appears to have obtained evidence that under the powerful influence of the radium emanation copper has in part degenerated into lithium, or its components have been so rearranged that the new substance is lithium. The shape which a so-called element takes would therefore seem to depend upon the stability of that element, as to whether it can be made to resolve itself into one lower in the atomic scale under the influence of the powerful agencies known to us.

The triumph of the chemist appears in short to be only a matter of experimental facilities and here we may opportunely refer to an important announcement which was made last week in regard to the solidification of helion Not very many years ago it was thought that the solidification of hydrogen was beyond the capabilities of physical apparatus and of human power. By a species, however, of what may be called fractional processes—that is to say, by taking consecutively gases of gradually diminishing freezing points—a temperature was at last reached which forced even hydrogen to assume the solid state and at length solid hydrogen was obtained as an ice-like mass at a temperature of 257° below the zero of the Centigrade scale. A few degrees lower, namely, 14, is the absolute zero −273°. The critical temperature of helion lay within one degree of this point and as no change of state could be expected above the critical point, the solidification of this element was looked upon as improbable, if not impossible. Nevertheless, the announcement has been made that helion has been solidified and, more than that, it appears to have passed directly from the gaseous to the solid state without any indication of going through the intermediate state of a liquid. The discovery is attributed to Professor K. Ohnes of Leyden and was announced, it is stated, at a recent meeting of the Academy of Sciences of the Hague. Further particulars will be awaited with interest, especially in regard to the methods employed by which the excessively low temperatures were obtained which forced the helion to solidify. As we have indicated, this temperature must have been very close to the absolute zero, an attainment alone which is of the utmost scientific interest. It is not probable that this brilliant achievement will have any direct practical value any more than the similar discovery in regard to hydrogen has had, but the theoretical importance of it is immense. The research may throw light upon the question as to whether the element is metallic or non-metallic. If the former proves to be the case then we should have in future to write helium, if the latter then we should adhere to the termination "on." As so far there has been no convincing evidence of its metallic nature we have hitherto adopted helion as the correct name.

Even remote as these low temperature experiments would appear to be from any medical application, yet we cannot forget their importance in regard to one great question—that of vitality. Professor Dewar's brilliant achievements in this field of work have brought out one remarkable fact in biological science, and that is the extraordinary resistance even to excessive cold of a vital combination. Thus, although chemical action tends to cease at

New Inventions.

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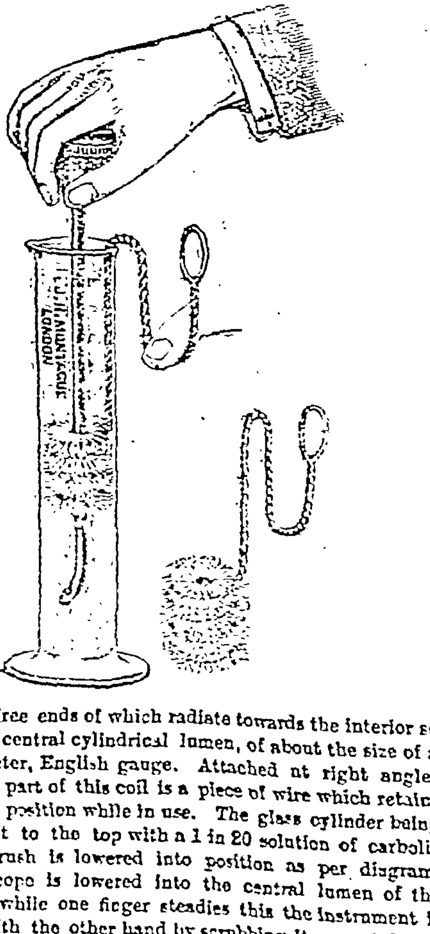

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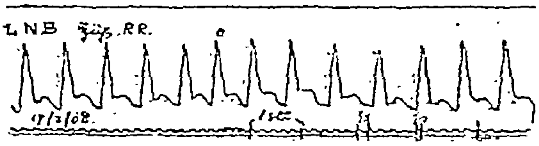

Messrs. G. Horstmann and Sons, 13, Union-street, Bath, made these timemarkers for me and the price is about 35*s.* I inclose a specimen of a tracing.

L. N. Hesketh Biggs, M.D. Edin.

Frampton-on-Severn, Glos.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 13th, 1830.

MEDICAL ARRANGEMENTS FOR THE NEW POLICE.

To the Editor of The Lancet.

Sir,—Perhaps you are not aware that the Commissioners of Police, (of course with the sanction of Mr. Peel) have determined to send their sick men to the dispensaries and hospitals, for medical assistance, instead of appointing district-surgeons, as was at first contemplated.

This information was communicated to me by a surgeon of great respectability, who had an interview with one of the commissioners a short time since.

Can anything so flagrant and unjust be permitted to pass, without the censure which it merits? Can the sacred name of charity be thus perverted? What will the dispensary system next bring upon the profession?

I suppose Mr. Peel will, ere long, for two guineas per annum, supply his family and servants with medical attendance and medicines, as I believe the physicians and surgeons from these establishments attend patients at their own houses.

Without your continued and powerful exertions to repress these growing evils, and a determination on the part of the general practitioners, to unite and assist you in *your* laudable endeavours, I predict that this industrious and meritorious class of men, will soon be deprived of more of the emoluments which they have hitherto received, and to which they are justly entitled.

I am, Sir, your well-wisher,

London, Feb. 20th, 1830. A Surgical Reformer.

Idiosyncrasies.

WE are assured by the Declaration of Independence that all men are born equal, yet even if it be so in matters political it is certainly not true of their physical natures. We are so accustomed to generalisation in physiology and medicine that we are prone to lose sight of the fact that the individual deviations from that which we are disposed to call the normal are many and great. In disease it is not sufficiently recognised that predisposition is often of equal importance with the exciting cause and sometimes it is of even greater importance. In his recent address in Paris delivered before the Faculty of Medicine Sir DYCE DUCKWORTH emphasised the fact that many of our great predecessors in medicine appreciated more exactly than most of us do at the present time the immense importance of the personal factor in disease. They may have carried the idea to excess but it was based on truth and every practical clinician knows that there must be predisposing factors in the body to lead to the production of a disease. The germ may be present but it cannot grow if the soil is not fitted for it. Against some human bodies germs seem to make assaults in vain, though they may attack with ease the bodies of others. Within the last few years we have learned a little of the conditions underlying this immunity. We know that there exist in the fluids and solids of the body substances which can destroy or neutralise the toxins of the attacking microbes, and the more we investigate the matter the more our astonishment increases at the complexity of the methods by which the body endeavours to shield itself against the assaults of its microbic foes. Even more surprising, however, are the differences existing between two individuals in their means of defence, and the vulnerability of some is especially noteworthy. These differences, however, can be to some extent explained by the possibility that so complex a mode of defence may readily fail owing to an inadequacy in some small part. When, however, we turn from diseases produced by micro-organisms to the morbid states arising from drugs we meet with conditions even more surprising. Though as a rule drugs are fairly uniform in their action, yet exceptional symptoms are by no means rare. The iodides and bromides can be taken by most people in fairly large doses but in a few severe symptoms may develop even after minute quantities. Opium has been known to give rise to convulsions and many other instances could be mentioned where drugs have caused unusual symptoms when given in ordinary doses or where they have caused severe symptoms when administered in minute quantities.

Closely allied to these anomalous effects of drugs are the results sometimes caused by articles of food. There is hardly any food which at some time or other has not produced strange symptoms, and this quite apart from any decomposition in the food itself. The patient is peculiarly susceptible to that particular article of diet and is affected by it whenever he partakes of it, though others may on the same occasions eat it with impunity. From some unknown change in the constitution of the patient's body the should-be harmless food acts as a violent poison and in some cases life itself may be threatened. Eggs are pre-eminently responsible for such toxic manifestations and in THE LANCET of March 7th (p. 716) appeared an account by Dr. A. T. SCHOFIELD of a boy 13 years old who could not eat eggs in any form. If he partook of an egg the saliva would flow, the lips burned, there was nausea, an urticarial rash broke out, the face became puffy, and some dyspnœa arose. On one occasion he suffered after eating a bun which had been glazed with white of egg. The effect was probably not produced through the nervous system, as a raw egg applied to the surface of the skin gave rise to a blister. In cases like this the result is not due to dislike or to "suggestion," for the harmful effect is produced even when the patient is unconscious that any egg is present in the food. Dr. SCHOFIELD suggested that the egg albumin acted in some way on the serum albumin so as to cause transudation, but Dr. R. HINGSTON FOX in a letter in the present issue of THE LANCET offers the theory that eggs contain a powerful decalcifying substance which precipitates the calcium salts in the blood and thus diminishes the coagulability and leads to the transudation of lymph. Cases of egg poisoning are not rare. Rice is another food which is liable to give rise to toxic symptoms and the attacks are generally asthmatic in nature. In one susceptible case some soup had been thickened with ground rice and it gave rise to a severe attack of dyspnœa. In another instance the difficulty of breathing arose after the patient had had some bottled beer to which some grains of rice had been added in order to excite fresh fermentation. A case has been recorded in which honey always produced swelling of the tongue, frothing of the mouth, and blueness of the fingers, and these signs were especially well marked if the honey had been eaten in the comb. It has long been known that if the bees feed on certain flowers the honey which they make may cause various symptoms. It will be remembered that XENOPHON describes in the "Anabasis" headache as being caused by the eating of the honey of a district through which the Ten Thousand passed. It is certain that different honeys differ greatly in their flavouring constituents and "heather" honey, produced by bees which feed on the moors, is readily recognisable. A case has been described in which the eating of figs produced itching of the palate and fauces. Dr. G. F. STILL in a recent lecture at the Hospital for Sick Children related a case of a boy aged about 14 years who could not take porridge as it made his face swell. As Dr. STILL felt a little sceptical the boy was given some porridge in Dr. STILL'S presence and before the boy had finished his meal the face began to swell and within 20 minutes it was so swollen that he could not see out of one eye. Strawberries also are liable to give rise to troublesome symptoms in susceptible subjects.

In all these cases the regular repetition of the symptoms whenever the supposed cause is taken excludes the possibility of the effect being due to some decomposition or impurity. One of the most remarkable facts connected with this curious subject is that the result may be caused by quantities extremely small. As to the truth of these poisonings there can be no doubt and in time we may discover the mode of action. Curiously very little has been done to attempt to remedy these troublesome idiosyncrasies, and they may prove very troublesome; for instance, if a child can never take egg in any form his dietary is distinctly limited, as egg enters a good deal directly

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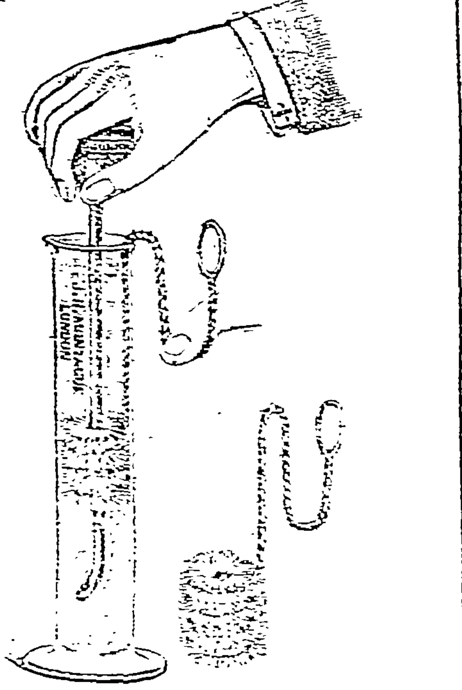

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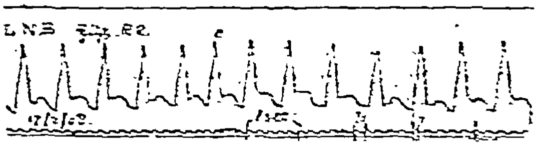
THE apparatus consists of a clockwork box measuring 1¼ inches × 1 inch × ⅝ inch, to which is attached a lever with writing style that records the time on the smoked paper in tenths of a second. The clockwork being quite separate from that driving the smoked paper any alteration in the rate of travel of the paper is correctly recorded. Since the paper rarely travels steadily and is very liable to catch momentarily, while the driving mechanism is not proportionately checked, any timemarker driven by the same machinery that drives the paper is untrustworthy. The whole apparatus is simply and quickly attached by withdrawing the two top corner screws of the sphygmograph and then using them to screw the timemarker on to the top of the machine. Thus no alteration at all is needed and it can be fitted immediately to any "Dudgeon." When ordering, the breadth of the smoked paper should be mentioned. The timemarker is sold in a box which will carry the sphygmograph with the timemarker attached. The great advantage of this apparatus is that it gives a rectangular tracing, each complete movement being one-fifth of a second, but each half movement, as represented by each horizontal line, gives one-tenth of a second.



Messrs. G. Horstmann and Sons, 13, Union-street, Bath, made these timemarkers for me and the price is about 35s. I inclose a specimen of a tracing.

L. N. HESKETH BIGGS, M.D. Edin.
Frampton-on-Severn, Glos.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 13th, 1830.

MEDICAL ARRANGEMENTS FOR THE NEW POLICE.

To the Editor of THE LANCET.

SIR,—Perhaps you are not aware that the Commissioners of Police, (of course with the sanction of Mr. Peel) have determined to send their sick men to the dispensaries and hospitals, for medical assistance, instead of appointing district surgeons, as was at first contemplated.

This information was communicated to me by a surgeon of great respectability, who had an interview with one of the commissioners a short time since.

Can anything so flagrant and unjust be permitted to pass, without the censure which it merits? Can the sacred name of charity be thus perverted? What will the dispensary system next bring upon the profession?

I suppose Mr. Peel will, ere long, for two guineas per annum, supply his family and servants with medical attendance and medicines, as I believe the physicians and surgeons from these establishments attend patients at their own houses.

Without your continued and powerful exertions to repress these growing evils, and a determination on the part of the general practitioners, to unite and assist you in your laudable endeavours, I predict that this industrious and meritorious class of men, will soon be deprived of more of the emoluments which they have hitherto received, and to which they are justly entitled.

I am, Sir, your well-wisher,
London, Feb. [illegible], 1830. A SURGICAL REFORMER.

have some latent focus of tuberculosis in them (as has been asserted) it would not follow that the people who die on whom no necropsy is performed are affected in the same ratio. We can appreciate the urgency that exists for the prevention of tuberculosis and for the securing of a good milk-supply to our communities without the addition of such picturesque arguments; we are sure that Mr. Douglas accepted this one on trust with the best of faith, and as it is not the first time that we have heard it, it seems well to raise a protest.

THE HEALTH OF MR. CHAMBERLAIN.

WE gather from a correspondent at Cannes that Mr. Chamberlain's condition is one of steady improvement and progress towards recovery. He soon got over the slight fatigue of his journey from England and is in good general health and spirits, while he is leading less and less an invalid life. He enjoys walking in the garden of his beautifully situated villa, commanding fine views of the neighbouring coast and mountains, sees his friends daily, and takes a keen interest in public affairs.

THE VARIETIES OF TUBERCULIN.

THE number of preparations made from tubercle bacilli and administered under the name of tuberculin, with or without certain descriptive letters, has increased to such an extent that considerable confusion exists in the literature of the subject. It is of the utmost importance that the practitioner should know which form he is giving and the general nature of the particular processes by which it has been obtained. The preparations which are best known in this country are, first, Koch's old tuberculin which is sometimes referred to as tuberculinum Kochi; secondly, Koch's new tuberculin, or tuberculin T.R.; thirdly, Bacillen-emulsion or emulsion of bacilli; fourthly, pulverised tubercle bacilli; and, lastly, the recently introduced Calmette's tuberculin-ophthalmic reagent. The old tuberculin is prepared from four- to six-weeks old glycerine broth cultures of tubercle bacilli boiled for an hour, evaporated down to one-tenth, and then filtered so as to remove the bacilli themselves. The new tuberculin, tuberculin T.R., is prepared by drying living virulent cultures *in vacuo*, grinding them up into a very fine dust, and after extracting certain soluble constituents with saline solution the residue is rubbed up with water to form an emulsion. "Bacillen-emulsion" is prepared from pulverised bacilli, without previous extraction with water, equal parts of glycerine being added, so that one cubic centimetre contains five milligrammes of bacillary substance. Pulverised tubercle bacilli are used for making emulsions for opsonic and other tests. Calmette's reagent is a solution in sterilised water of the precipitate obtained from old tuberculin by alcohol, so as to obtain a solution free from glycerine. Other preparations which have been tried comprise Klebs's tuberculocidin and antiphthisin, Hirschfelder's oxy-tuberculin, Hahn's tuberculoplasmin, Beraneck's tuberculin, Landmann's tuberculol, Maragliano's water extract, and Denys's tuberculin B.F. (bouillon filtré), while Spengler writes favourably of a filtered bouillon from bovine bacilli described as P.T.O. (Perlsucht-tuberculin-original). We have received a copy of a small pamphlet published by Messrs. Meister, Lucius, and Brüning, of Hoechst o.M. and London, entitled "New Tubercle Bacilli Preparations," in which some valuable information is given in regard to the nature and use of many of the more important preparations, including some of comparatively recent introduction. Among these may be mentioned T.O.A. (tuberculin-original-alt), which appears to correspond to Denys's bouillon filtré; P.T.O., a similar preparation from bovine bacilli to which reference has already been made; vacuum tuberculin and bovine vacuum tuberculin, which differ from the old tuberculin in the avoidance of high temperatures in their preparation. All of these substances are prepared by filtration and are thus free from bacilli. A form of tuberculin adapted for the Calmette ophthalmo-reaction is also described under the name of "Tuberculosis-diagnostic Hoechst." This is 0·1 per cent. solution of a glycerine-free desiccated tuberculin and is thus only one-tenth of the strength of that originally employed by Calmette. Tuberculin T.R., Bacillen-emulsion, new bovine tuberculin (tuberculin P.T.R.), and bovine tubercle bacilli emulsion are also referred to, while the preparations of dilutions and the dosage and methods of administration are described. It may here be said that the doses recommended are in most cases larger than are usually recommended in this country, especially since the work of Wright and Bulloch upon the administration of tuberculin controlled by determination of the opsonic index. The pamphlet is likely to be useful in indicating the nature of some of the forms of tuberculin at present on the market, though in this respect it would be improved by further details in regard to the preparation of some of them, and by an indication that smaller doses, calculated to produce an effect upon the protective mechanisms of the body without producing disturbance of the body temperature, are recommended by some authorities. It cannot be too strongly urged that in using tuberculin of any form, either as a diagnostic or as a therapeutic measure, the practitioner should be quite clear in his mind as to the exact action of the preparation which he decides to employ and as to the indications for its administration. Tuberculin is in many forms very potent and is obviously not to be administered indiscriminately to cases of tuberculous disease, at any rate until our knowledge of its effects is much greater than at present.

THE FUMES OF THE MATCH.

THE evolution of the lucifer match is interesting. The present match is scarcely yet 100 years old, for in 1820 the tinder-box was the exclusive means of initiating a light, a comparatively modern survival of the archaic flint and steel. To this day the tinder-box may be found in some houses but it is kept more as a relic than as a practical appliance. Whatever may be said of the inconveniences or offensiveness of the old tinder-boxes, the modern match can hardly claim to be above criticism in regard to hygienic considerations, although its extreme convenience must be admitted. Indeed, the lucifer match has become an absolute *sine quâ non* of existence. It is a pity, however, that, like the modern explosives used in firearms, it cannot be made smokeless, or better still to give off products of combustion which hygienically speaking may be disregarded. Everyone knows how pungent and offensive are the fumes of the modern match and when the composition of modern matches in general is considered this is not surprising. Amongst the ingredients used, either on the match itself or on the rubber on the box, are phosphorus, sulphur, sulphide of antimony, red lead, sulphide of mercury, and lead chromate. The ignition and combustion of the match therefore result, according to the combustible materials entering into its composition, in the copious evolution of sulphurous and phosphoric acids or fumes containing lead, antimony, or mercury, all of which are decidedly poisonous. The amounts in each individual match-head may be small but there are occasions when the number of matches so used is great or when the space in which they are ignited is limited. It would not be surprising to find, for example, that in the atmosphere of the smoking-room or of the smoking concert hall or of the railway carriage the presence of excessively low temperatures the vitality of seeds is unaffected when they are exposed to a temperature *not far off absolute zero.* Lastly, as showing how the discoveries of more or less pure chemistry may after all possess some significance for medicine should be mentioned the application of low temperatures for obtaining cell juices. Moulds, yeast, and bacteria have been reduced to a brittle state, have been crushed, and their respective cell juices have been obtained for examination. In this way the typhoid organism has been crushed, and within itself a toxin has been found. We are thus brought to distinguish between a toxin within the cell and a toxin which is extra-cellular. Truly the question of what practical use is this or that discovery to us, often betrays a scornful impatience unworthy of scientific men.

The Supply of Midwives.

WITH a view of throwing some light on this question MRS. HEYWOOD JOHNSTONE has collected statistics from all the counties of England and Wales showing the number of trained and *bonâ-fide* midwives available at present, the total number of births per annum in the corresponding county areas, and the deficiency in the number of midwives which will exist in 1910 when the full provisions of the Midwives Act will come into force. To obtain the latter figures she has calculated that 50 per cent. of the total births are attended by midwives and that one midwife is required to every 25 births; while at an estimated expenditure of £20 per midwife for training the total sum required to meet the deficiency in the number, which, exclusive of London, amounts to 4168, would be £83,360. We need not remind our readers that after the beginning of 1910 any uncertified woman is forbidden to attend for a fee her neighbour in her confinement except in an emergency. As at the present time there are large numbers of untrained women who are accustomed to render this service to their neighbours the refusal of the law to allow any such custom to continue after January, 1910, must be attended by a very serious state of things unless prompt measures are taken to increase the present scanty number of certified midwives in most of the counties of England and Wales. The difficulties to be overcome are obvious and serious—viz., the difficulty in persuading the proper class of women to take up this occupation, their inability to provide without assistance the necessary funds for their training, and, most important of all, the fact that even when properly trained and certified in only too many instances they will be quite unable to earn a living wage if they follow the occupation of midwife alone, as the provisions of the Act require. The best method of overcoming these grave difficulties has for some time occupied the minds of all those who are interested in insuring the satisfactory working of this important Act.

MRS. HEYWOOD JOHNSTONE in her pamphlet adumbrates a scheme which she thinks might serve to solve the serious problem of supplying trained women to take the place of the untrained neighbour of the present day. She realises clearly that it is impossible to supply properly trained midwives for all parts of the country who will be able to earn a living by the exercise of such an occupation alone. It is also beyond the limits of possibility to suppose that sufficient funds will be forthcoming either from the public or from the Government to enable the necessary financial assistance to be given to any large number of these women. She believes, however, if it were found possible to train a half or even a smaller proportion of the untrained women who at the present time attend their neighbours for a small fee, that in this way the gap which must inevitably exist when the Act comes fully into force in 1910 would be met. Such women would be drawn from the same class as the patients themselves, an obvious advantage, and further, their earnings would be in addition to their ordinary income and they would not be dependent entirely on them for their livelihood. It is true that such a scheme could only cover a moiety of the deficiency that would exist but the remainder could then more readily be provided for by the provision of trained midwives who would devote all their time to such work. The expenses of training the village women would have to be met by grants from the local supervising authorities and the means for their training by an increase in the number of provincial centres in which such training can be given, by an increase in the number of midwives and medical men allowed to undertake such training, and, above all, by throwing open the Poor-law infirmaries as training centres.

Under this scheme the difficulty of the maintenance of these women is by no means so great as it must be in the case of trained midwives who look to their work wholly to support them. Such trained women would in most instances in the country be content with the small addition to their income which their training would give them, while such as worked in towns could probably earn a living wage. Some would no doubt require financial help and such help might be provided for by the promoting of maternity clubs to which all women requiring the services of a midwife should be encouraged to subscribe, by the assistance of the boards of guardians in the case of the very poor, or by the assistance of local benevolent societies and nursing associations. The supervising authority as before would be the county councils, given a free hand to deal as they thought best with their own areas. As MRS. HEYWOOD JOHNSTONE truly points out, if we are to attempt to supply the whole country with highly trained midwives dependent upon their earnings for their livelihood then the task seems incapable of fulfilment, but if we aim only at giving back to the villagers their helpful neighbours with sufficient knowledge to enable the latter to carry on the work with safety to their patients, then we may well hope that the task is not an impossible one to carry to a successful conclusion. It would require the provision of a considerable sum of money and a large increase in the number of local training centres. So long, however, as the Central Midwives Board continues to withhold its "recognition" from Poor-law establishments to the extent that it does at present—for example, only six of the 31 boards of guardians in London and 13 of some 600 provincial boards are recognised for training midwives—it is difficult to see how such an increase is to be provided.

according to the statement given, 8000 righteous pledged against the use of tobacco, while 'many of them have also pledged themselves against drinking, gambling, and profane language.' Everyone must feel that it would be good both for the physical and moral well-being of the coming race if this number could be increased indefinitely. Bishop Welldon spoke at the afternoon meeting and said that no one in Manchester had fought against smoking by boys more than he had. As head-master at Harrow he had frequently punished boys for smoking, and those boys had since grown up to thank him, and many of them now filled important positions. He spoke of juvenile smoking as the cause of serious physical deterioration, and said that 'it was regrettable to find that Great Britain was the last of all the nations to deal with the subject by legislation.' In view of a statement made by Captain Rigg, the treasurer, at the evening meeting that no less than 100,000,000 cigarettes were sold weekly in this country in penny packets, and that £10,000,000 annually were spent by the young people of the country on what he called 'the odious cigarette,' the society has plenty of work before it. But if all indulgence in tobacco were cut off what prospect but that of starvation would there be for those interested in tobacco from the sowing of the seed to the final transformation of the product into smoke? This is no argument if tobacco has no good points at all, but it is difficult to disregard the testimony of its old and widespread use not only by the luxurious and idle but by some of the most strenuous workers and intrepid travellers in every region of the globe who have obtained from it comfort and solace."

PROTECTED VERMIN.

IN a recent issue of THE LANCET[1] it was stated that among ancient Germans and Scandinavians rats were "reverenced as being the souls of the dead." The belief had died out before the advent of Christianity, for the Lesser Edda, written in semi-pagan times at the beginning of the thirteenth century in Iceland, gives us no hint on the subject. It is therefore to be inferred that the rat was on its way to being regarded as vermin in our modern sense of the word at the time when this classic treatise on old Norse beliefs was compiled. In that mystical natural history book "The Hortus Sanitatis," which was originally the work of Johann von Cuba, an Augsburg physician in the fifteenth century, the rat appears as a creature still endowed with certain magical properties. We read in the Hortus that the urine of a rat in heat is capable of rotting unprotected human flesh and so causing deep wounds incapable of proper cicatrisation. Rat dung, moreover, is cited as a potent cure for baldness. Having been first sacred and then magical and medicinal, the rat may quite possibly have been allowed to increase among scanty and superstitious northern populations in the barbaric period of European history. We hear of rats travelling in hordes, as in the story of the "Pied Piper of Hamelin," and these hordes may originally have been allowed to increase on sufferance. The same thing may have happened in the case of the wolf which in some countries was perhaps not exterminated so long as it did no great harm. Edmund Spenser in a curious passage says of the Elizabethan Irish that they regard the wolf as "a gossip" or compeer, and we know that the wolf was not killed off in Ireland till perhaps the early days of the eighteenth century. The Eastern pariah dog, again, enjoys a certain immunity from persecution quite out of keeping with the bad name given to it in the Bible and in Turkey and India. To primitive minds scavengers, such as dogs and rats, often become sacred through what they eat. It has been suggested that in the days of neolithic man the dog acquired a kind of accursed sanctity through gnawing human corpses where they fell—in the door of the household cave, it may be—and thus swallowing and becoming the tenements of the souls of dead tribesmen of note. And according to the elder Mr. Kipling ("Man and Beast in India") it is still accused of man-eating propensities through haunting the burning-ghats or Hindoo cremation grounds. Substitute rat for dog, and the preservation of rats as "the souls of the dead" may be accounted for. That the superstitious regard for vermin of all kinds leads to their increase and to the spread of disease is, of course, obvious.

THE HAMPSTEAD GENERAL HOSPITAL: ELECTION OF MEDICAL STAFF.

A MEETING of the council of the hospital was held on Thursday afternoon, March 5th, when it was unanimously resolved that the recommendation of the selection committee for the appointments to posts on the in-patient staff of the hospital should be adopted. The selection committee consisted of Sir Richard Douglas Powell, President of the Royal College of Physicians of London; Mr. Henry Morris, President of the Royal College of Surgeons of England; and Mr. Edmund Owen, chairman of council of the British Medical Association, these three gentlemen having consented to assist the hospital at a time of great strain. The letter set out below shows the circumstances of their appointment as a selection committee and gives the names chosen:—

To the Chairman of the Council of the Hampstead General Hospital.

SIR,—In accordance with the request made to us by the Council of the Hampstead Hospital, and communicated to us through the Executive Committee of King Edward's Hospital Fund for London, we have selected from the lists of candidates submitted to us the names of the following physicians and surgeons, and have arranged them in the order in which we desire to recommend them. We are informed that Mr. Edmund Owen has already accepted office as one of the surgeons at the request of the Council.

Physicians.	*Surgeons.*
1. Dr. G. A. Sutherland.	1. Mr. J. Jackson Clarke.
2. Sir John Broadbent.	2. Mr. W. H. Clayton-Greene.

We remain, Sir, yours faithfully,
(Signed) R. DOUGLAS POWELL.
HENRY MORRIS.
EDMUND OWEN.

London, March 4th, 1908.

It will, we fear, be some little time before the friction arising from all the circumstances of an unfortunate situation is smoothed away, but we trust to the good sense of all concerned not to perpetuate the trouble wantonly.

DISPLACEMENT OF THE LARYNX IN ANEURYSM OF THE ARCH OF THE AORTA.

A NEW sign observed in some cases of aneurysm of the arch of the aorta is described by Dr. E. Boinet in the *Gazette Médicale de Paris* of Jan. 15th last. It consists in a displacement of the larynx downwards and to the left. It is wanting in cases of chronic aortitis and of tumours and glandular affections in the mediastinum. The depression of the larynx may be very marked; in one of Dr. Boinet's cases, the nature of which was subsequently confirmed by necropsy, the cricoid cartilage was actually situated below the level of the horizontal plane passing through the sternal notch, rendering tracheotomy impossible. As a result of this drawing down of the larynx it may also be much less movable; in one case it was practically immobile, even on deglutition and on movements of flexion and extension of the neck. But these conditions of depression and lessened mobility may occur in association with affections of the tracheo-bronchial glands and with mediastinal tumour. In aneurysm of the arch of the aorta there is in addition a deviation to the left with slight torsion, which, however, is only produced by an aneurysm of some size. The effect produced is that the left lateral aspect of the larynx is more inclined and is drawn downwards, and indirectly into the diet of a child. Dr. **SCHOFIELD**, whose case we mentioned above, has endeavoured to establish a tolerance for eggs in his patient and he has succeeded. A pill containing the ten-thousandth part of a raw egg with a little calcium lactate to assist in stopping the transudation of serum was given every day. The quantity was gradually increased and by the end of six months the daily amount given was one thirty-third part of an egg. A month later the boy was taking a sixth of an egg each day and yet no symptoms were produced. As a test he was given a pudding which he was told contained egg though none was present but no symptoms were produced. Ultimately he was able to eat an egg a day without harm. This very successful result suggests that many, perhaps most, of these cases of intolerance could be cured and some such treatment deserves a trial, for the peculiarity is often very troublesome to its unfortunate possessor.

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[1] THE LANCET, Feb. 15th, 1908, p. 507

Annotations.

"Ne quid nimis."

THE LATE IMPERIAL BACTERIOLOGIST TO THE GOVERNMENT OF INDIA.

THE retirement of Dr. Alfred Lingard from the position which he has held for the last 17 years of Imperial bacteriologist to the Government of India merits more notice than that given to it by the scanty announcement in the *Gazette* when we consider the vast amount of good work which has been executed under his direction. Dr. Lingard went out to India in 1890 and was first stationed at Poona, where he carried out many investigations as regards rinderpest, anthrax, and trypanosomiasis (surra). In the year 1891 he suggested to the Government of India the advisability of building a large laboratory on the hills where all important diseases of animals could be investigated and means could be devised to combat them. After the lapse of two years this proposal was sanctioned and Dr. Lingard proceeded to select a site on the hills near Almora at Muktesar; after some time a suitable one was discovered. This had to be cleared of the vegetation and trees before the building operations could be commenced and the laboratory at Muktesar was finally completed, furnished, and equipped in 1898. In the year 1899 Dr. Lingard went on leave to England and whilst on his leave a great misfortune occurred, for the laboratory was totally destroyed by fire; the valuable equipment was lost, whilst in addition he sustained a grievous blow by the destruction of his large library. For the second time, therefore, in 1900, a laboratory was constructed and the buildings were completed, refurnished, and refitted in 1903. Again in 1906 and 1907 separate and isolated laboratories were erected, together with the necessary sheds and stables. Thus there are now separate buildings for the preparation of tetanus antitoxin and of mallein for glanders, and for the investigation of hæmorrhagic septicæmia and of *charbon symptomatique*. To show how the work has progressed it may be mentioned that in 1890 Dr. Lingard commenced his labours with one native Goanese assistant in Poona. In 1907, when he left, there were two veterinary surgeons acting as assistants, three European laboratory assistants, and two veterinary graduates on the staff. The large output of valuable work was effected during the hot weather at Muktesar, whilst during the cold weather the investigations were transferred to another laboratory situated at Bareilly in the plains. Thus far we have only indicated the part played by Dr. Lingard in the foundation and erection of these laboratories; these on their completion have been the seat of much notable research work and of many important investigations. To name but a few examples, thousands of doses of sera for rinderpest, anthrax, hæmorrhagic septicæmia, and *charbon symptomatique*, and of mallein and tetanus antitoxin have been prepared and distributed; whilst successful researches in the treatment of trypanosomiasis with arsenic followed by mercury, with arsenic and trypanroth, and with atoxyl have been carried out. We may also draw attention to the valuable reports in 1904, one on rinderpest and the other on dourine, the latter being followed in 1906 by a third showing the successful treatment of dourine by arsenic and trypanroth. Lastly, he discovered a successful treatment for surra. Dr. Lingard has accomplished all this work, living often for many months a solitary life on the hill-top on which his laboratory was erected. This laboratory, devised by himself, has been described by the commissioners who were sent out to Africa and the East from the Institute for Marine and Tropical Diseases, Hamburg, as "indubitably one of the finest in India and having nothing to fear with the largest and best-fitted institute in Europe." Dr. Lingard returns to Europe with the satisfactory record of hard work ungrudgingly performed—work which has been of the utmost value in preventing some of the fatal diseases affecting cattle. We trust that his name will appear in a future *Gazette* amongst the honours list.

MODERN DAIRY PRACTICE.

AN interesting paper was read by Mr. Loudon M. Douglas before the Royal Society of Arts on March 4th, in which he reviewed in an untechnical manner the dangers to be apprehended from the use of an impure milk-supply and the means adopted by well-equipped modern dairies to counteract them. He first showed his audience the darker side of the picture, however, for he admitted the conditions under which some of the byres in the United Kingdom are conducted to be thoroughly repulsive and in many cases innocent of the primary requirements of cleanliness. A reactionary class of dairymen still resents bitterly the attacks made on their profits in the cause of the public interests; but improved technical education is training the opinion of the younger generation of the milk trade in favour of cleanly and scientific methods of production, and this is the spirit which Mr. Douglas, like all advocates of scientific advance in any direction, begs the Government to take advantage of, and not to be niggardly in encouraging a useful and indeed vital branch of research. He quoted the example of other countries in securing a proper milk-supply and told of a certain byre in Sweden where the milkers have to dip their boots in an antiseptic solution before entering the milking-shed; this may sound like a *reductio ad absurdum* but the resulting milk when bottled is bought up eagerly at 2*d*. a pint. The Dutch practice is interesting, since it abolishes the middleman in the distribution of milk, the cowkeepers forming coöperative societies to dispose of their own produce, a method which obviously facilitates the proper inspection of the cows. Mr. Douglas acknowledged the difficulties connected with the transport of milk but did not suggest the simple precaution of locking and sealing the churns, which some companies have adopted and which we have advocated strenuously for several years. The paper was an excellent little sermon in hygiene such as may bear good fruit amongst its hearers; it was thoroughly temperate in expression but we should like to know his authority for this statement, "It has also been found that 91 per cent. of the people who die are affected to a more or less degree with tuberculosis, although that may not be the immediate cause of death." Even if 91 per cent. of the subjects of all necropsies were found to are now being held at the Foreign Office, the discussion so far having been of a highly technical character.

Dr. J. Cosmo Stuart Rashleigh has been appointed sheriff of the county of Cornwall.

SANITARY REFORM IN INDIA.

III.[1]—LUNATIC ASYLUMS.

WE will next consider the reports of the lunatic asylums in India.

United Provinces of Agra and Oudh.

The triennial report of the lunatic asylums in the United Provinces of Agra and Oudh for the years 1903, 1904, and 1905, is issued by Colonel R. D. Murray, I.M.S., the Inspector-General of Civil Hospitals, United Provinces. There are four asylums for lunatics in the United Provinces—namely, those of Lucknow, Benares, Agra, and Bareilly. With regard to the number of lunatics we find that at the commencement of the year 1903 there were 1136 in the four asylums, the number rising to 1150 on Jan. 1st, 1904, and to 1183 on Jan. 1st, 1905. In respect to the mortality in these asylums it is satisfactory to note that during the triennium under notice this was much less than that of the former three years, the average percentage of which was 7·48, whilst that of the triennium which we are reviewing is seen to have shrunk to 6·29, notwithstanding that there was an increase in 1905 due to the unusual rate of sickness in Benares. The chief diseases under hospital treatment during the three years were at Agra malarial fevers which headed the list by a considerable majority, dysentery, general debility and anæmia, epilepsy and maniacal excitement, with some others of less extent. It is remarkable that not one case of tuberculosis of the lung occurred, a testimony of the ample space available. There were also no cases of suicide. No epidemic prevailed nor was there any plague and there was no overcrowding at any time. At Bareilly the chief causes of sickness were malarial fevers which again headed the list; next came pulmonary tuberculosis, diarrhœa, and dysentery in order of severity amongst the medical affections. It will be seen, therefore, that pulmonary tuberculosis prevailed somewhat largely, there being 38 cases with 16 deaths, as contrasted with the absence of any cases at Agra, one case at Lucknow, and with 15 cases at Benares, and in view of the prevalence of this disease at Bareilly the question of concreting the "kutcha" floors is to be considered. During the prevalence of plague in the city the very wise precaution was taken, in order to prevent its entry into the asylums, of inducing the attendants with their families to leave the city and to live on the asylum grounds, temporary huts being raised for those who could not be accommodated in the existing quarters. The attendants, as well as many of their families, were also inoculated.

At Benares the principal diseases were likewise malaria in large excess, while next came influenza, dysentery, pneumonia, with 15 cases of pulmonary tuberculosis. Lieutenant-Colonel T. H. Sweeny, I.M.S., who was in medical charge, remarks on the exceptional sickness and mortality in the year 1905 in this asylum, the death-rate being the third highest in the last 20 years. Nothing in it or in its arrangements seemed to account for this, either in the opinion of Lieutenant-Colonel Sweeny or of that of the Sanitary Commissioner with the Government of India. Such sickness, moreover, prevailed, not only in the jail and police lines, but also in the city and in the whole district, so that these authorities were compelled to assume that some climatic influence prevailed over the whole locality; and inasmuch as might be expected in the case of lunatics the preliminary symptoms of their maladies were not declared the mortality was naturally accentuated among them. The severe type of the malarial fever present at the beginning of the year, together with the prolonged and unhealthy hot weather, debilitated practically all the inmates. Lastly, in Lucknow we find the chief causes of sickness to be malarial fevers which once more head the list; next come cases of maniacal excitement, anæmia, diarrhœa, and dysentery. There was only one case of pulmonary tuberculosis.

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Another question raised during the year 1905 is that of the treatment of recovered criminal lunatics. This is whether, without any increased cost to the Government, accommodation apart from other lunatics and criminals could be provided for recovered criminal lunatics, and at the same time whether facilities could be provided for gradually giving them a certain amount of probationary freedom so as to test their fitness for eventual release. It is proposed to set aside a portion of the lunatic asylum at Lucknow that has been set free by the transference of native lunatics from that station to Agra and this proposal meets with the approval of the Inspector-General who, however, is doubtful as to the expediency of allowing recovered lunatics to visit the bazaar during their probationary period. He rightly, it seems to us, considers it a matter of doubt whether they could be trusted to return to their barracks at night unless escorted by a guard; and as an alternative he proposes to employ them in interesting and skilled labour within the institution, thus giving them the full benefit of regular work which would be the best means of keeping their minds in stable equilibrium.

With regard to the cures effected, the percentages of recoveries to the daily average strength of these four asylums was 10·92, 10·28, and 13·07 in 1905, 1904, and 1903 respectively. Amongst other points noted in this interesting report are the religion, sex, and places of residence of the lunatics, their previous occupation, and their ages, the largest number of admissions being between those of 20 and 40 years, and the next between 40 and 60 years. The various types of insanity are also noted, from which it appears that the greatest number of patients were admitted under the head of mania. With regard to the causes to which the insanity was attributed, the most frequent was epilepsy and next to that came charas and ganja smoking; opium smoking and eating together accounted for four cases as compared with 177 cases of the two former. Colonel Murray concludes his report with remarks on the expenditure incurred, its amount and the items accounting for it, and he accords well-deserved praise to each superintendent, which praise is endorsed by the Government of the United Provinces.

Central Provinces.

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[1] Nos. I. and II. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 661), 1908, respectively

FEBRUARY AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean daily range of temperature.	Number of days with rain.*	Total fall for month.
	°	°	°	°	°	°		Ins.
Scilly	53	40	51	45	47·6	6	6	1·42
Jersey	52	26	49	40	44·4	9	9	2·25
Plymouth	54	33	49	41	45·1	8	8	2·20
Torquay	55	30	50	40	44·8	10	6	1·78
Weymouth	55	29	48	38	43·2	10	8	1·45
Bournemouth ...	54	28	49	39	43·3	10	9	1·21
Sandown, Isle of Wight	56	31	49	38	43·6	11	6	1·39
Brighton	55	29	46	37	41·5	9	6	1·30
Bath	55	26	48	36	42·3	12	8	1·35
Harrogate	50	29	45	35	40·1	10	12	1·63
Manchester ...	52	30	46	33	42·2	8	14	2·65
Nottingham ...	53	21	48	35	41·8	13	7	1·49
London...	54	30	48	37	42·3	11	12	1·37
Paris	52	25	47	34	40·4	13	16	1·67
Berlin	60	23	41	32	36·6	9	15	2·18
Brussels	51	25	43	33	38·3	10	15	2·11
Nice	63	28	54	37	45·7	17	No rain.	
Genoa	62	36	53	44	51·2	14	1	0·10
Florence	59	25	51	36	43·6	15	7	2·26
Rome	61	31	54	39	45·6	15	7	1·27
Naples	59	36	53	43	47·6	10	11	2·33
Palermo	63	35	59	42	50·6	17	9	1·18
Malta	63	42	59	50	54·5	9	7	1·62
Algiers	62	34	60	46	53·2	14	15	2·74
Biarritz	59	34	52	42	47·3	10	20	4·30
Lisbon	63	39	59	46	52·6	13	No rain.	

* A day with at least 0·04 inch.

The most striking feature shown by the above table is the extreme dryness of the month at Nice, Lisbon, and Genoa. At Nice the absolute lack of rain is all the more remarkable because of the fact that January was also rainless. At none of the stations either at home or abroad was the period a wet one except at Biarritz, where after about a week of very fine bright weather rain was very frequent and sometimes heavy. With regard to temperature the most salient feature is certainly the extraordinary small diurnal range of only 6° at the Scilly Isles. The exact mean diurnal range was in fact only 5·6°. That ocean-surrounded spot is of course well known to be the most equable spot in the United Kingdom but last month its equability was more marked than usual. The climate over these islands generally was mild for the time of the year and it will be seen that the mean temperature at Torquay and Plymouth compares very favourably with that at Nice, Rome, and Florence, and that the mean at the last-mentioned city was exactly the same as that at Sandown, while at Scilly the mean warmth was higher than that at Biarritz and almost identical with that at Naples. As is nearly always the case, however, the resorts in Southern Europe were warmer during the day time than in this country and sunshine was also much more prevalent. On the Riviera the month was practically one with continuously blue sky and the atmosphere was very dry. Among the inland places Berlin was much the coldest, followed by Brussels, Paris, and Harrogate, while London experienced a very similar temperature to Manchester. There was no higher shade temperature than 63° even at the most southern resorts of the Mediterranean, but after February the warmth of the days increases quickly in that region, and it is probable that before March comes to an end the thermometer will record readings some way above 70°.

OPHTHALMOLOGY AT OXFORD.

THE fourth annual post-graduate course in ophthalmology in connexion with the Faculty of Medicine of the University of Oxford will be held at the Oxford Eye Hospital and at the Radcliffe Infirmary between July 15th and 27th, the last two days of which will be made the occasion of a small congress of ophthalmologists and of the demonstration of many interesting cases and methods. The course itself is to be a very complete one and by no means a "holiday class," for the syllabus shows a solid eight hour a day programme and has been arranged with a view to afford so far as possible the complete practical illustration of a systematic text-book of ophthalmology. No less than 500 cases are promised for demonstration and we doubt if even the clinical material of a large eye hospital could afford so complete a scheme of instruction without a considerable amount of "arranging." Such is being done thoroughly at Oxford and both the University and the Eye Hospital are to be congratulated on working together to secure this result. Medical men attending the congress will be provided with quarters and meals at Keble College for 7*s.* 6*d.* per diem and the syllabus of the course, with all other information, can be obtained from the Margaret Ogilvie Reader in Ophthalmology, Mr. R. W. Doyne, 34, Weymouth-street, London, W., who is senior surgeon to the Oxford Eye Hospital and who will be associated in the conduct of the course with other well-known teachers. The last report of the Oxford Eye Hospital, which is able to draw ample clinical material from the surrounding countryside, is a record of excellent work.

YOUNG SMOKERS.

OUR Manchester correspondent writes: "Meetings were held in Manchester on Feb. 20th of the British Anti-Tobacco and Anti-Narcotic League. It was an occasion of rejoicing to the members who are delighted at the introduction of the Children's Bill. Its drastic clauses prohibiting young people under 16 years of age from buying tobacco or smoking in public places are very pleasing to them. Most of us, even the hardened and unrepentant smokers, whether slaves to the vice or so far masters of themselves as to fill a pipe or put it down with equanimity, will be of the same mind as to the ill-effects of juvenile smoking. The report expressed great satisfaction at the action of the Government. No doubt there are young people in shoals who are given to smoking in public or in private. In days gone by, too far back with some of us, the forbidden pleasure was indulged in with the most modest care as to privacy. There was then no flaunting of cheap cigarettes in the public streets, or even of the piece of cane that was often used as a substitute. It is so far satisfactory to know that in the Manchester district there are,

are now being held at the Foreign Office, the discussion so far having been of a highly technical character.

Dr. J. Cosmo Stuart Rashleigh has been appointed sheriff of the county of Cornwall.

SANITARY REFORM IN INDIA.

III.[1]—LUNATIC ASYLUMS.

WE will next consider the reports of the lunatic asylums in India.

United Provinces of Agra and Oudh.

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KING EDWARD'S HOSPITAL FUND FOR LONDON

WE are asked to state that hospitals in the county of London, or within nine miles of Charing Cross, desiring to participate in the grants made by this Fund for the year 1908 must make application before March 25th to the honorary secretaries, 7, Walbrook, E.C. Applications will also be considered from convalescent homes and sanatoriums for consumption which are situated within the above boundaries or which being situated outside take a large proportion of patients from London. It will be seen that the scope of the operations of the Fund has been extended by the enlargement of the radius from seven to nine miles from Charing Cross as well as by the admission to consideration of the claims of sanatoriums for consumption situated in the country in those cases in which it can be shown that a large number of London patients are treated.

THE TREATMENT OF CHLOASMA, FRECKLES, AND OTHER PIGMENTATIONS BY SCARIFICATION AND APPLICATION OF OXYGENATED WATER.

AT a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 14th M. Masotti described a new method of treating chloasma, freckles, and other pigmentations—scarification followed by the application of oxygenated water—which he had found most successful. In scarifying a patient suffering from acne complicated by chloasma he found to his surprise that after a few sittings the chloasma disappeared. This suggested to him the use of scarification in the treatment of pigmentation. He followed the procedure by the application to the wounds of oxygen, which has a decolourising action. Every five days fine scarifications are made very close together on the spot which it is desired to remove. The part is then washed with warm water and a tampon of cotton-wool soaked in oxygenated water is bandaged on. On the following day erythema is produced and in some days slight desquamation. The pigmentation rapidly disappears, which M. Masotti ascribes to a double action. The scarification causes prompt renovation of the epidermis and the oxygen is brought into direct contact with the pigment on which it exercises its strongly decolourising effect. This method has a great advantage over others that have been employed for the same purpose; it does not produce pain or irritation. The 1 per cent. solution of perchloride of mercury in alcohol recommended by Kaposi causes much pain and produces blisters which have to be dressed. M. Masotti has treated with rapid success several patients suffering from chloasma and various other forms of pigmentation. Sometimes the pigmentation recurred after it had been removed. A relapse is not astonishing, for chloasma often depends on the general health of the patient and upon such conditions as anæmia, tuberculosis, uterine troubles, and so on. Hence it is necessary to combine general with local treatment. At the meeting of the society M. Masotti showed a woman in whom chloasma had disappeared under his treatment after three sittings.

THE LOCALISATION OF ARSENIC IN THE BODY.

IN the *Bulletin de la Société de Pharmacie de Bordeaux* M. Barthe communicates the results of his experiments on the localisation of arsenic in the body after the ingestion of poisonous doses. In a case of acute poisoning by arsenious acid, in which death occurred ten hours after ingestion of the poison, the following results were obtained, the figures representing milligrammes of arsenious acid per kilogramme of organ: stomach, 2003; intestines, 750; liver, 213; blood, 142; lungs, 133; kidneys, 27; muscles, 16; and brain, 2. Several other investigators have obtained similar results, showing the absence of arsenic from the nerve centres, though Scolosuboff held the opinion that large proportions of the poison were absorbed by the nerve centres in cases of poisoning by arsenic.

THE INCOMPATIBILITIES OF ORGANIC SALTS OF SILVER.

IN the *Répertoire de Pharmacie* Dr. V. Demandre deals with various substances which are incompatible with argyrol (silver protein). Argyrol is decomposed by light and is attacked by hydrochloric acid. Alkaline chlorides yield with argyrol a precipitate of silver chloride. The hydrochloride of pilocarpine should never be prescribed with argyrol owing to the formation of a brown precipitate; the nitrate of pilocarpine, however, does not decompose argyrol. The addition of adrenalin to argyrol in solution leads to similar changes to those produced in the case of hydrochloric acid. Cocaine hydrochloride in solution is immediately and completely decomposed by argyrol and the same result is obtained with the sulphates of copper and zinc. Argyrol is decomposed by several other compounds, including the hydrochlorides of morphine, heroin, quinine, cinchonine, and sparteine. Both argyrol and protargol may be prescribed with the hydrochlorides of cocaine, tropacocaine, alpha eucaine, holocaine, and neroanine if these substances are dissolved in a 1·5 per cent. aqueous solution of boric acid. These observations respecting two of the important organic compounds of silver will probably be found useful in the case of others of this class.

THE President of the Local Government Board has authorised for the current year the following researches, in addition to those already announced, under the grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: 1. Further studies by Dr. F. W. Andrewes and Dr. T. J. Horder as to methods of inhibiting in the animal body the activities of infection by certain cocci. 2. A study of the various forms of pneumonia, especially in children, by Mr. A. G. R. Foulerton. 3. A study of acid-fast bacilli in butter by Dr. D. N. Nabarro. 4. An investigation of the injurious gases evolved during artificial illumination by Dr. J. Wade, D.Sc.

THE annual meeting and dinner of the Irish Medical Schools' and Graduates' Association will be held at the Hotel Great Central on March 17th, St. Patrick's Day; Surgeon-General Sir Charles Cuffe, K.C.B., the President, will preside. The Right Hon. Sir Edward H. Carson, P.C., K.C., and Professor B. C. A. Windle, F.R.S., President of Queen's College, Cork, will be guests of the association.

THE Department of Public Health of Queensland in a bulletin dated Feb. 1st states that on Jan. 23rd a case of plague was reported at Cairns. The patient died on Jan. 29th.

MEETINGS of the International Sleeping Sickness Conference summoned by midwives the latter will frequently be unable to obtain medical assistance. It is apparently the more galling to medical practitioners to be called on to assist midwives in difficult emergencies without payment, because they often regard the midwives as competing with them for midwifery practice, and doing so with the advantage of charging lower fees, and of being able to advertise for patients with impunity.

This committee is of opinion that the Poor-law guardians, or other competent authority, should arrange for the payment of medical practitioners summoned by midwives to assist them in emergencies, and the committee considers that the scale of payment should, in any case, not be lower than the existing Poor-law scale for attendance on midwifery cases. While present conditions continue the committee recommends medical men to require payment to be made in advance or guaranteed by some responsible person.

Signed on behalf of the committee,

31st January, 1908. G. A. HERON, Chairman.

The London and Counties Medical Protection Society has done good work in thus prominently bringing before the profession the difficult and disagreeable position of the medical practitioner under the Midwives Act.

THE CITY OF GLASGOW FEVER HOSPITAL AT RUCHILL.

OUR Glasgow correspondent in his letter published in THE LANCET of Feb. 8th gave an outline of the administrative and other difficulties which had arisen in the City of Glasgow Fever Hospital at Ruchill. His account indicated the existence of a deplorable state of affairs, and the Scottish Local Government Board had already ordered an inquiry. The commissioners appointed for this purpose were Mr. Donald Crawford, K.C., sheriff of Aberdeen, Kincardine, and Banff; Professor H. Harvey Littlejohn, of the University of Edinburgh; and Mr. A. Murray, chief clerk to the Local Government Board—men whose acknowledged ability could not fail to give great weight to their collective opinions. The commissioners describe their proceedings as "a public inquiry into the complaints of overcrowding and under-staffing of the Ruchill Fever Hospital and on its administration and management." The inquiry was held in Glasgow on Feb. 3rd and the four following days and the commissioners' report has been issued with commendable promptitude in the form of an eight-page pamphlet.[1] We have no hesitation in saying that the report deserves the careful attention of the medical men in charge of large isolation hospitals because it illustrates only too well how certain evils have been allowed to seethe and simmer unchecked till at last they suddenly frothed up and boiled over. The commissioners arranged their observations under the four heads of overcrowding, under-staffing, friction within the hospital, and responsibility for overcrowding. There was no doubt about the overcrowding, for the hospital was constructed to accommodate 440 patients, but in December, 1907, on some days there were in the wards more than 800 patients, the majority of whom seem to have suffered from measles, although the distribution of the several diseases under treatment is not expressly stated. Of course, the remedy for this was to reduce the admissions and in seeking the culprit the commissioners solve the difficulty by blaming both the medical superintendent and the medical officer of health. In the questions of under-staffing and friction within the hospital the matron seems to play the leading part. On the subject of the authority possessed by her the commissioners say "the staffing of the hospital is the duty of the matron." It does not appear that the medical superintendent complained to her of the insufficient number of nurses but the resident medical officers did so. On Sept. 24th, while the medical superintendent was absent on a holiday, one of them spoke to her on the subject. A portion of this interview and the incidents which grew out of it are described in the report as follows:—

> He says that she replied that that was a matter with which the doctors had nothing to do, that she did not intend to get any more nurses, and that she knew she had the support of the committee in this matter. The matron's account is that Dr. Mackenzie indicated to her that if she did not come to some arrangement with the resident medical officers in regard to the staffing of the wards they were going to make a formal complaint to the hospitals committee.
>
> In seeking to raise the general question of under-staffing with the matron in the absence of the physician superintendent, we think that Dr. Mackenzie and his colleagues, if they were cognisant of it, made a serious mistake. They should have addressed themselves to their own chief. ...... The matron was not unnaturally displeased at this action by the assistant doctors but her resentment led her to make an even more serious mistake. Instead of waiting for Dr. Johnston's return the next day and complaining to him she went into the city and complained to Mr. Anderson, the convener [*Anglice*, chairman] of the hospitals committee. He had never had any communication with the matron before and had not interfered in any way with the internal management. ...... It was arranged that she should speak to the nurses and that Dr. Johnston should speak to his assistants.
>
> Accordingly the matron called the sisters together and addressed them on the 27th September, and she addressed the remaining nurses in similar terms on the 28th. ...... Miss Landles was evidently very angry. ...... The nurses' lunch, a cup of tea and bread-and-butter, between their breakfast at 6.30 and dinner at 12.30, was stopped. They were forbidden on pain of instant dismissal to give information about the nursing arrangements to the doctors. ...... Ultimately the assistant physicians and the matron were not on speaking terms. It was impossible for both to remain in the hospital together, and ...... the hospitals committee directed the physician superintendent to dismiss three of the doctors.
>
> It was officially stated to us that in dismissing the doctors the hospitals committee did not intend to cast any imputation upon their personal character or their professional ability, and this inquiry has shown that there is no room for reflection upon them in those respects, and that their complaint, in conjunction with their colleagues, to the Local Government Board as to overcrowding and under-staffing was well founded.

We congratulate the resident medical officers on the justice of their cause which has now been substantiated, and we shall be glad to hear what amends the corporation of Glasgow proposes to make for their dismissal.

MEDICINE AND THE LAW.

An Offence under the Lunacy Act, 1890.

Dr. L. S. Forbes Winslow was indicted at the recent Middlesex sessions for that he "did unlawfully aid, abet, counsel, and procure Edith Mary Lascelles to receive for payment at her house, unlicensed under the Lunacy Act, 1890, a certain lunatic, to wit, Ethel May Davis." At the same time Edith Mary Lascelles was indicted for "receiving payment to board, lodge, and detain Ethel May Davis, a lunatic, in a house not duly licensed for the purpose." A question was raised as to whether it was open to the defendants to show that they were not aware that Miss Davis was insane, but the chairman pointed out that it had been decided that ignorance was no defence to the charge, and they both withdrew their pleas of not guilty, pleading guilty to the first count of the indictment. The case, as stated by counsel representing the Public Prosecutor, showed that the male defendant had long been acquainted with the female defendant, that she had before had charge of insane persons, and that the male defendant had had ample opportunity for ascertaining the mental condition of the patient. With regard to the suggested defence of ignorance of Miss Davis's condition it was pointed out that the male defendant had frequently given evidence in courts of law in the capacity of an expert in mental disorders. With regard to the female defendant it was stated that the mother of the lunatic had complained of the dirty state in which she was allowed to be and that on one occasion the female defendant was too drunk to sign a receipt for a payment made to her by the mother. Her reply, when the complaint as to cleanliness was made, had been, "Do you expect her to be kept clean for a guinea a week?" Dr. L. S. Forbes Winslow was fined £50 and Edith Mary Lascelles was fined £10.

What is Vinegar?

An annotation under the above heading in THE LANCET of Feb. 22nd, p. 577, referred to the misdescription and adulteration of vinegar and indicated the definitions and regulations desirable in order to prevent the deception at present frequently practised on the public. Two cases recently heard at the Mansion House police-court illustrate the manner in which those who desire malt vinegar may fail to obtain that for which they ask. In the first, in which an oil- and colour-man named Missildine was the defendant, it was proved that malt vinegar had been asked for and that acetic acid diluted with water had been received, the price asked for it being at the rate of 1s. 4d. per gallon. The defendant urged in his favour that the wrong vinegar had been supplied through the mistake of his manager who was deaf and who should have known that his employer only kept malt vinegar for sale in bottles, whereas he had sold the diluted acetic acid by measure. A fine of £5 with 18s. 6d. costs was imposed. The second case resembled the first in that acetic acid and water had been sold as malt vinegar, the proportion of the acid being larger than in the first instance. The fact that two purchases had been made with the same found necessary to re-classify them; as had previously been the case in 1900, the most frequent type was mania and then came dementia, melancholia, and idiocy in the above order. With respect to the alleged causes of insanity ganja smoking was noted in 32 of the cases; opium smoking did not give a single case but opium eating accounted for two cases. With regard to the expenditure incurred, the average cost per head was Rs.11 less than in the previous year in Nagpore, and Rs.2 more per head than in 1905 in Jubbulpore. The report also shows, amongst other items, the religion, sex, and places of residence of the patients and their previous occupation. The age most affected was that between 20 and 40 years.

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[1] Obtainable from Oliver and Boyd, Edinburgh; or from Wyman and Sons, London.

Rangoon.

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THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY AND THE MIDWIVES QUESTION.

THE following is the report of the Midwives Committee of this society, which has received the unanimous approval of the council of the society:—

This committee was appointed for the purpose of considering the working of the Midwives Act, and reporting thereon, especially in reference to the remuneration of medical practitioners called in by midwives.

The committee accordingly directed that a circular letter should be addressed to members of the society, and other medical practitioners, and also published in the medical press, asking for (1) information as to the number of confinements to which each medical practitioner had been summoned by midwives under the regulations of the Midwives' Board; (2) what payment they had received in each case, and from whom; (3) and what was the nature of each case to which they were summoned.

Several hundred replies were received, and the following information has been derived from them:—

A large number of practitioners replied saying that they had never been summoned by midwives, several saying that there were no midwives in their districts.

In considerably more than half the cases the medical practitioners summoned by midwives received no payment whatever, and the average payment, calculated from a large number of cases, was not over 9*s*. A noteworthy point is that while some practitioners seem to be uniformly unpaid a few seem to be almost uniformly paid. Probably the class of people in the districts concerned accounts largely for this; but, in one or two instances, the explanation given by the medical practitioner was that he refused to go unless paid.

Of the fees received all but a few were received from the patients or their relatives, and it seems to be quite exceptional for payment to be made by the midwife. A few fees were paid by boards of guardians, nursing associations, provident dispensaries, &c.

The cases to which the medical practitioners were summoned were in the great majority serious ones. Operative assistance was required in many cases. The largest number of the less serious cases were described as delayed or difficult labour. In about 3 per cent. of the cases the death of the child appears to have been the cause of the summoning of the doctor, and puerperal fever was the cause in about 2 per cent. of the cases.

Grave dissatisfaction was expressed by many of the writers at the present state of affairs, and it is evident from the tone of many of the letters that unless proper provision is made for the payment of doctors not certified or not stated; in the 76 English towns the proportion of uncertified deaths in the same week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 25·5 and 21·0 per 1000 in the two preceding weeks, rose again to 24·1 in the week ending March 7th. During the first ten weeks of the current quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·9 in London and 18·9 in Edinburgh. The 182 deaths of Dublin residents registered in the week under notice showed an increase of 23 upon the number in the previous week, and included nine which were referred to the principal epidemic diseases, against four and seven in the two preceding weeks; these nine deaths included three from diphtheria, two from whooping-cough, two from diarrhœa, and one each from scarlet fever and "fever," but not one either from measles or small-pox. These nine deaths were equal to an annual rate of 1·2 per 1000, the death-rate last week from these principal epidemic diseases being also equal to 1·2 in London and 1·6 in Edinburgh. The three fatal cases of diphtheria exceeded the number in any previous week of this year. The 182 deaths from all causes in Dublin last week included 33 of infants under one year of age and 53 of persons aged upwards of 60 years. Nine inquest cases and eight deaths from violence were registered, and 68, or 37·3 per cent., of the deaths occurred in public institutions. The causes of 12, or 6·6 per cent., of the deaths in Dublin last week were not certified; in London all but one of the 1580 deaths registered were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon: J. C. Ferguson to the *Duke of Edinburgh*, on recommissioning. Staff Surgeon: W. H. C. Garde to the *Victory*, additional, to be lent to Haslar Hospital. Surgeons: H. G. T. Major to the *Donegal;* G. Price to the *Vivid*, additional, to be lent to the *Circe*, temporary; T. A. Smyth to the *Research;* A. J. Wernet to the *Canopus;* W. G. Edwards to Plymouth Hospital; A. B. Marsh lent to the *Hebe*, temporary; A. C. Renwick to the *Pembroke*, additional, to be lent to the *Jason*, temporary; H. M. Langdale to the *Spanker*, lent, temporary, appointment to the *Shannon* cancelled; R. R. Horley to the *Duke of Edinburgh*, on recommissioning; and L. C. E. Murphy to the *Vernon*, additional, for the *Furious*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Herbert E. R. James retires on retired pay (dated March 7th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st West Riding of Yorkshire: Surgeon-Captain P. J. S. Bird resigns his commission (dated Jan. 28th, 1908). 1st Carnarvonshire: Surgeon-Lieutenant C. W. Owen resigns his commission and is appointed Second Lieutenant (dated Feb. 17th, 1908). 6th Lancashire: Surgeon-Captain W. T. Blackledge resigns his commission and is appointed Captain (dated Feb. 18th, 1908).

Royal Engineers (Volunteers): 1st London: Surgeon-Captain E. C. Roberts resigns his commission (dated Feb. 20th, 1908).

Rifle: 2nd Volunteer Battalion, The Welsh Regiment: Surgeon-Lieutenant-Colonel D. Hepburn is granted the honorary rank of Surgeon-Colonel (dated Feb. 12th, 1908). 24th Middlesex Volunteer Rifle Corps: Surgeon-Captain C. Graham Grant to be Surgeon-Major (dated Jan. 31st, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

London District (London Companies): Lieutenant-Colonel and Honorary Colonel V. Matthews resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Feb. 17th, 1908); Major J. Harper to be Lieutenant-Colonel and is appointed to command the companies under the conditions of Paragraph 47 of the Volunteer Regulations (dated Feb. 17th, 1908); Captain J. R. Whait to be Major (dated Feb. 17th, 1908). South Wales Border Bearer Company: Lieutenant John O'Sullivan, from the Manchester Companies, to be Lieutenant (dated Dec. 19th, 1907).

A dinner of past and present members of the London companies will be held at the Holborn Restaurant (Venetian Hall) on Tuesday, March 31st, at 7.30 P.M. This date has been fixed in order that the corps may fittingly mark the close of the twenty-third year of its embodiment, prior to being merged in the Territorial Force. There will be no other guests than past members. Tickets at the price of 3*s.* 6*d.* each (exclusive of wines, &c.) can be obtained from the honorary secretaries, Regl. Quarter-Master-Sergeant Bell, Headquarters, 51, Calthorpe-street, Gray's Inn-road, London, W.C., and Sergeant May, Elmhurst, East Sheen, London, S.W.

THE TERRITORIAL FORCE.

Colonel J. Turton, R.A.M.C. (Vols.), V.D., Senior Medical Officer of the Sussex and Kent Volunteer Infantry Brigade, is to be appointed Principal Medical Officer of the Home Counties Division of the Territorial Force. Surgeon-Colonel G. S. Elliston, V.D., Senior Medical Officer, Suffolk Volunteer Infantry Brigade, has been appointed Principal Medical Officer of the East Anglian Division of the Territorial Force. Surgeon-Colonel J. Raglan Thomas, Senior Medical Officer, Devon Volunteer Infantry Brigade, has been appointed Principal Medical Officer of the Wessex Division of the Territorial Force.

VOLUNTEER SURGEONS.

In the House of Commons on March 5th, Mr. Haldane, in reply to Sir F. Powell, said that medical officers of the Volunteers will have the option of transferring to the Royal Territorial Medical Corps or of remaining regimental officers. Those who transfer will be permitted to retain the uniform of their former unit until worn out. The compound title will be abolished in the case of those who join the Territorial Medical Corps. The appointment of brigade-surgeon in the Territorial Force will lapse, as the Territorial Force will be organised on the same basis as the Regular Army, in which such appointment does not exist.

TUBERCULOSIS IN THE ARMY.

The preliminary report of the War Office committee appointed to consider the care and treatment after discharge from the army of soldiers invalided for tuberculous disease shows that the committee is of opinion that the practicable methods of treatment resolve themselves into the following:—

(*a*) To continue the present method—viz., to discharge at once from the army any man who is diagnosed as suffering from tubercle of the lung, to discharge him from hospital as soon as he is fit to travel, and afterwards to disown all responsibility for him.

(*b*) To provide a special central military sanatorium for tuberculous patients to which all soldiers suffering from the disease should be sent for treatment.

(*c*) To make use of existing civil sanatoria in all parts of the country by reserving in each a number of beds at the expense of army funds, and by transferring soldiers who are suspected of having the disease to the available institution nearest to their own homes.

The committee recommends the last of the three suggestions. We shall take the suggestions into full consideration at an early opportunity.

Surgeon-Major Caspar Robert Laurie, A.M.R., has been promoted from Honorary Associate to Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England.

METROPOLITAN CONVALESCENT INSTITUTION.—The sixty-eighth annual meeting of the governors of this association was held at Sackville-street, W., on March 3rd, Mr. M. C. FitzGerald being in the chair. The annual report stated that the number of patients admitted to the four homes in 1907 was 7515. Reference was made to the arrangements that had been made for the reception of patients requiring treatment after surgical operation in specially equipped wards at the Bexhill and Little Common homes with the object of relieving the great pressure upon the surgical beds at hospitals by receiving patients in an early stage of convalescence. Since the scheme was inaugurated in June, 1906, 311 patients had occupied beds in the surgical wards. Last year 207 cases were treated, the number which would be termed major operation cases being 87. The income of the institution in 1907 was £13,031 and the expenditure £14,228. As a result of a shortage of income in the last two years, due mainly to a falling off in the receipts from legacies, there is now a deficit of £2678 and an earnest appeal is made for this amount. The report was adopted and the proceedings terminated with the usual formal votes of thanks.

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Rangoon.

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THE following is the report of the Midwives Committee of this society, which has received the unanimous approval of the council of the society :—

This committee was appointed for the purpose of considering the working of the Midwives Act, and reporting thereon, especially in reference to the remuneration of medical practitioners called in by midwives.

The committee accordingly directed that a circular letter should be addressed to members of the society, and other medical practitioners, and also published in the medical press, asking for (1) information as to the number of confinements to which each medical practitioner had been summoned by midwives under the regulations of the Midwives' Board; (2) what payment they had received in each case, and from whom; (3) and what was the nature of each case to which they were summoned.

Several hundred replies were received, and the following information has been derived from them :—

A large number of practitioners replied saying that they had never been summoned by midwives, several saying that there were no midwives in their districts.

In considerably more than half the cases the medical practitioners summoned by midwives received no payment whatever, and the average payment, calculated from a large number of cases, was not over 9s. A noteworthy point is that while some practitioners seem to be uniformly unpaid a few seem to be almost uniformly paid. Probably the class of people in the districts concerned accounts largely for this; but, in one or two instances, the explanation given by the medical practitioner was that he refused to go unless paid.

Of the fees received all but a few were received from the patients or their relatives, and it seems to be quite exceptional for payment to be made by the midwife. A few fees were paid by boards of guardians, nursing associations, provident dispensaries, &c.

The cases to which the medical practitioners were summoned were in the great majority serious ones. Operative assistance was required in many cases. The largest number of the less serious cases were described as delayed or difficult labour. In about 3 per cent. of the cases the death of the child appears to have been the cause of the summoning of the doctor, and puerperal fever was the cause in about 2 per cent. of the cases.

Grave dissatisfaction was expressed by many of the writers at the present state of affairs, and it is evident from the tone of many of the letters that unless proper provision is made for the payment of doctors capillaries. Such transudation takes place most commonly in the skin, setting up urticaria, and frequently also in the bronchial mucous membrane, producing the symptoms of asthma. It is in this way that an attack of urticaria is caused by the eating of shell-fish. In countries where eggs are a common article of diet tolerance to the action of the decalcifying substance derived from them is almost universally present. The boy whose case is recorded by Dr. Schofield seems never to have acquired this tolerance. Such tolerance as regards shell-fish, a diet much less general in its use, is, as we know, often wanting. To express the theory in the terms of present-day pathology, the decalcifying substance produces in the blood an anti body and then tolerance is established. Dr. Schofield, who is to be congratulated on the result of his treatment, fully succeeded in developing the anti-body in his patient's blood and the liability to poisoning was overcome. Similar treatment would be worth practising in the cases of intolerance to various foods—e.g., mutton—which are occasionally met with. It would be interesting to learn whether the yelk of egg had a poisonous effect or whether this was confined to the white.

I am, Sir, yours faithfully,
Wimpole-street, W., March 7th, 1908. R. HINGSTON FOX.

DELAYED CHLOROFORM POISONING.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 29th an article appeared from Mr. E. D. Telford reporting three cases of what he describes as the above condition. He informs us in his last paragraph that we are no nearer to a solution of these mysterious cases and that it is essential that all cases should be fully reported. Now, what is the example that he sets us? He is so anxious to tell us how nicely his operation wounds healed that he has quite forgotten to say what method was employed by the anæsthetist. He also tells us nothing about any symptoms that appeared during the anæsthesia, or whether the anæsthetic was administered by an expert, or by someone who did not fully appreciate what he was doing or should do in any circumstances that might arise during the administration. He further omits to mention how the patient was prepared in two of the three cases or how they were treated immediately after the operation. Mr. Telford states that the changes found post mortem are probably due to the anæsthetic, but this I think is very questionable on account of the enormous amount of degeneration sometimes found, especially in the liver, within two days of an administration of a drachm or so of chloroform. Why, for instance, should it not equally be due to the castor oil or the enema?

I have never yet seen a case of this kind, and other anæsthetists seem to be in the same position; while the surgeon seldom knows whether chloroform, or a mixture containing chloroform, has been employed; neither does he know whether oxygen has been administered in conjunction with the anæsthetic. Until the anæsthetists are given an opportunity of going into the cases *before the death of the patient*, we are not likely to arrive at the true cause and preventive treatment of the condition. Most of the patients apparently suffer from rickets, but so do thousands of others who exhibit no such symptoms. The resident medical officer of the same hospital reports two similar cases on the authority of the surgeon. He tells us that chloroform was used in each case, but he likewise omits to mention the method or any symptoms that occurred during the administration. Since these occurrences are so frequent at this one particular hospital it is most important that more of the details of the anæsthesia with less about the operation, should be published.

Another case is reported by Dr. H. C. Wilson, also on the authority of the surgeon, and without obtaining any notes from the anæsthetist. He gives an excellent account of the condition, but apart from stating that one and a half ounces of chloroform were administered during one and a half hours, he tells us absolutely nothing about the very feature which it is attempted to prove is the cause of the whole condition. The remaining case is published by Dr. H. Thorp who certainly tells us a little more than the others, for he says: "The anæsthetic was well taken," in addition to mentioning that two drachms of chloroform were administered during seven minutes.

Such notes as these will never help to prevent the fatalities occurring. Some at least of the patients should have been given the C.E. mixture rather than chloroform; but if the anæsthetist were consulted he would probably inform us that this was in fact done. As a preliminary I should like to know (1) what kind of chloroform was employed; (2) who was the maker; (3) if ether was added, what kind of ether and in what proportion; and (4) how exactly did the patient behave throughout the various stages of the administration, and what degree of anæsthesia was maintained.

I am, Sir, yours faithfully,
London, W., March 4th, 1908. ROWLAND W. COLLUM.

OPEN WINDOWS AND ADENOIDS.

To the Editor of THE LANCET.

SIR,—Adenoid growths in the naso-pharynx of children are likely in the near future to assume a greater degree of importance on account of the medical inspection of schools under the now famous Section 13 of the Act of last year. Already an increasing number of children arrive at the hospitals, their parents having been recommended to get their throats treated. The best way to settle a question such as that raised by Dr. J. Sim Wallace would be by means of school children, vast numbers of whom are accessible. Dr. Wallace's figures are altogether too small to serve as a foundation for any generalisation bearing upon adenoids, which is very far at present from being a simple subject. It would no doubt be desirable, and would certainly be interesting, to make a comparison between the prevalence of adenoids now and 30 years ago. But it seems to me as hopeless a task as it would be to compare, e.g., appendicitis now and 30 years ago. Histories of cases will no doubt help, but they are equally certain to mislead.

As regards deformities of jaws and teeth we are not all agreed on the exact relation between them and adenoids or other form of nasal obstruction. According to my observation such deformities are very rare in the younger children who apply for treatment, but occur with increasing frequency in the later years of childhood when the second dentition is well advanced. These latter are presumably neglected cases. If these deformities stand to adenoids in the relation of effect and cause it follows that radical treatment of adenoids at an earlier stage ought to reduce the frequency of the deformities. Statistics showing a gradual diminution of dental and palatal irregularities with other statistics showing simultaneous increase of radical treatment of adenoids would prove the causal relation in a satisfactory manner. But the ground covered must be very wide to be convincing. Some such work appears to me essential before palatal or dental deformities can be accepted as proof of past adenoids in persons of 30 or 40 years of age.

I cannot believe that open windows have anything to do with adenoids unless it be in the way of preventing them. My experience of the poorer quarters of London is limited to six weeks' midwifery practice as a student in St. Luke's, Clerkenwell, and Islington. The open window was then (six years ago) a phenomenon sufficiently rare to attract attention. Those districts grew, and still grow, large quantities of adenoids. It is stated in books by responsible authors that adenoids are exceedingly rare among savages and other uncivilised persons who have no windows to open and of whom many are exposed to climatic influences quite as unfavourable as we in England. On the other hand, I have never seen such a collection of "typical adenoid faces" as in a crowd of children which I observed (August, 1907) in a south-western coast town justly famed for the mildness and salubrity of its climate. However, an absolutely certain diagnosis of adenoids can only be made by the eye or the finger.

I am, Sir, yours faithfully,
T. JEFFERSON FAULDER.

Welbeck-street, W., March 2nd, 1908.

THE STREAM HILL SANATORIUM SITE.

To the Editor of THE LANCET.

SIR,—My attention has been directed to the anonymous letter in your issue of Feb. 22nd *re* the site which I have given to the County of Cork Joint Hospital Board to erect a sanatorium on. As some of your medical contributors may be wasting time giving "Valetudinarian" unnecessary information, it is as well for me to state at once that no bulrushes grow on the ground, the earth surface is not peat mould, and that the under stratum is not yellow clay. The site has been closely inspected by a medical and an engineering inspector result precluded the suggestion that there had been a mistake, and the defendants, Messrs. T. Richards and Co., Limited, of Fetter-lane, were fined £8 with 18*s.* 6*d.* costs.

A Case of Cocaine Poisoning.

At the Central Criminal Court on March 5th, before Mr. Justice Bucknill, Isidor Zeifert, a dentist, whose name is not on the Dental Register, was indicted for and charged on the coroner's inquisition with the manslaughter of a patient who had died under the administration of cocaine. The defendant, who gave evidence in his own defence, said that he had studied medicine in Russia and had taken the primary degree of Bachelor of Medicine, but before passing his final examination he became involved in political matters and had to leave his country. He came to England and acted as assistant to medical men and dentists in London. He had been for 13 years in constant practice as a dentist and this was the first time he had ever had an accident. He had administered cocaine to his patients many times, and this was the first occasion any ill consequence had followed. The defendant's counsel, in his address to the jury, denied that there had been any negligence. Mr. Justice Bucknill, in summing up, said that the defendant was charged with the manslaughter of the woman who was his patient. In this connexion, guilt meant that he caused the death of the woman by wicked and culpable negligence in the reckless administration of a drug in such circumstances that he must have known that he was doing something that was dangerous, and yet did it recklessly and brought himself within the pale of the criminal law. If the jury could not find that, or if they had any doubt about it, they must find him not guilty. The learned judge referred to the fact that cocaine was extensively used by dentists, and very often without an examination being made as to the state of the patient's health. He also alluded to the difference of medical opinion as to what would be an excessive dose and to the fact that cocaine was a most uncertain drug, it being impossible to say what its effects would be on any particular person. The jury found the defendant "Not guilty," when Mr. Justice Bucknill, in discharging the defendant, said: The jury have found you "Not guilty," and I agree entirely with that verdict. Let me remind you, so that you may be wiser in the future—take my advice, that with the knowledge that we now have of cocaine, and that you have, it will be extremely unwise of you if you ever administer it without first ascertaining the condition of the patient's heart.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8820 births and 5493 deaths were registered during the week ending March 7th. The mean annual rate of mortality in these towns, which had been equal to 18·6, 18·4, and 17·3 per 1000 in the three preceding weeks, rose again to 17·6 in the week under notice. During the first ten weeks of the current quarter the annual death-rate in these towns averaged 18·3 per 1000; the mean rate in London during the same period did not exceed 17·9. The lowest annual death-rates in the 76 towns last week were 7·9 in Leyton, 8·0 in East Ham, 8·4 in Barrow-in-Furness, and 9·5 in Walthamstow; in the other towns the rates ranged upwards to 24·3 in Rhondda, 26·1 in Swansea and in Hanley, and 28·4 in Stockton-on-Tees. The rate of mortality in London last week did not exceed 17·2 per 1000. The 5493 deaths in the 76 towns last week showed an increase of 119 upon the low number in the previous week, and included 414 which were referred to the principal epidemic diseases, against 335 and 374 in the two preceding weeks; of these, 149 resulted from whooping-cough, 109 from measles, 65 from diphtheria, 48 from diarrhœa, 23 from scarlet fever, and 19 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·3 per 1000, the rate from the same diseases in London being 1·2. No death from any of these epidemic diseases was registered last week in Wolverhampton, Blackburn, St. Helens, Coventry, Hornsey, or in seven other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 3·1 in Rhondda, 3·7 in Salford, 3·8 in Reading, and 5·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 170 and 138 in the two preceding weeks, rose again to 149 in the week under notice; the highest death-rates from this disease last week were 1·5 in Handsworth and in Smethwick, 1·6 in Wallsall, 2·0 in Sunderland, and 2·2 in Northampton. The 109 deaths from measles showed a further increase upon the numbers in recent weeks, and caused the highest death-rates, 1·6 in Rhondds, 1·8 in York, 2·3 in Croydon, and 3·9 in Stockton-on-Tees. The deaths referred to diphtheria, which had been 52 and 47 in the two previous weeks, increased to 66 last week, the highest proportional mortality from this disease being equal to rates of 1·2 in York and 1·5 in Salford and in West Bromwich. The 23 fatal cases of scarlet fever were fewer than in any previous week of this year, but included ten in London, two in Liverpool, and two in Oldham. The 48 deaths attributed to diarrhœa showed a further slight increase. Of the 19 deaths referred to "fever," fewer by five than those in the previous week, two each were returned in London, Bradford, Middlesbrough, and in Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 13 preceding weeks from 5581 to 3674, had further fallen to 3567 on March 7th; 345 new cases were admitted to these hospitals during last week, against 473, 420, and 383 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 451, 427, and 384 in the three previous weeks, further declined to 325 in the week under notice, and were 34 below the corrected average number in the corresponding week of the five years 1903–07. The deaths in London attributed directly to influenza last week were 122, against numbers increasing steadily from 32 to 141 in the five preceding weeks. The causes of 56, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified last week in Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 48 other smaller towns 15 uncertified causes of deaths were, however, registered in Liverpool, nine in Birmingham, six in Sheffield, three in Sunderland, and two both in Gateshead and in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·8 and 19·2 per 1000 in the two preceding weeks, was 19·3 in the week ending March 7th, and exceeded by 1·7 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates ranged from 15·9 in Edinburgh and 16·7 in Greenock to 20·7 in Perth and 22·0 in Dundee. The 681 deaths in these eight towns exceeded the number in the previous week by four, and included 96 which were referred to the principal epidemic diseases, against 92 and 99 in the two preceding weeks; of these, 47 resulted from measles, 18 from whooping-cough, 11 from "fever," seven from scarlet fever, seven from diarrhœa, and six from diphtheria, but not one from small-pox. These 96 deaths were equal to an annual rate of 2·7 per 1000, which exceeded by no less than 1·4 the mean rate from the same diseases last week in the 76 English towns. The fatal cases of measles, which had been 35 and 41 in the two preceding weeks, further rose to 47 in the week under notice, and included 31 in Glasgow, five in Edinburgh and in Aberdeen, three in Paisley, and two in Greenock. The 18 deaths from whooping-cough corresponded with the number in the previous week; nine were returned in Glasgow, three in Dundee, three in Leith, and two in Edinburgh. Of the 11 deaths referred to "fever" in the eight towns, showing a further slight decline from the numbers returned in recent weeks, eight were certified as cerebro-spinal meningitis and three as enteric; six occurred in Glasgow and two both in Paisley and in Leith. The seven fatal cases of scarlet fever showed a slight increase, and included three in Glasgow and two both in Edinburgh and in Aberdeen. The seven deaths attributed to diarrhœa showed a considerable decrease. Of the six deaths referred to diphtheria, fewer than in any recent week, three occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 184 and 137 in the two preceding weeks, rose again to 155 in the week under notice, and were six below the number returned in the corresponding week of last year. The causes of 21, or 3·1 per cent., of the deaths in these eight towns last week were the hospital-man, and then cut me down to a paltry pittance. I suffer in the long run. *To do this the* hospital man gives away, each of them at more than one so-called charity, my daily resources, the nimble half-crown, in the out-patient departments, in order to be able to 'do a scoop' on occasion when my richer patients have need of him, and then sneak my patient and *his friends afterwards* because I am not as practised in skill as he is. When I can, I send my patients who are neither *poor nor rich into hospital* and compel the hospital-man to give away *his own* living by way of a change and see how he likes it. *Do you* think I am going to let him come and clean out a poor devil who owes me an account as it is and then *get left myself?* No, Sir, *into hospital he goes*; the fellow who sells me to make his position operates on him for nothing, out comes my patient, pays me what he owes me, and gets a little *holiday at the seaside into the* bargain. *Two can play at the* same game with advantage."

The above is positively what is steadily taking place, and is actually being brought about by the methods *of* the hospital practitioners themselves. The tables are *being turned* with a vengeance, hence the cry which has lately *sprung* up amongst hospital practitioners that *there is hospital abuse*, a fact they steadily denied whilst it harmed only that "*poor fool*" the trusting and long-suffering general practitioner amongst the lower *middle* classes.

Dr. Saundby's letter contained at the end some sentences which I would like to deal with. He says: "As it [my proposal] is *dangerous* to the public as well as to the profession and *offers* such serious temptations it should be nipped in the bud. It may be advocated as justice to the general practitioner but it means dishonour to the *profession.*" It seems a thousand pities that Dr. Saundby's paucity of resource should drive him to draw upon unworthiness of his profession. It would have *been* bad enough if it came from a spiteful general practitioner speaking of "specialists," but coming from a consultant and a former *President* of the British Medical *Association* and chairman of its ethical committee, a *member* (I believe) of the General Medical Council, and an author of a work on "Ethics," its gravity is overwhelming! It is the hardest thing that can be said against any body of men. Dr. Saundby surely forgets that the profession which to-day asks for the trust of the public must of necessity be the same men who, Dr. Saundby asserts, will succumb to "serious temptations" and so court "dishonour." If they prove untrustworthy, then they cannot be trustworthy now if he is to be believed. He cannot have it both ways.

What code of "ethics" outside Bedlam is it that justifies the perpetuation of injustice to the general practitioner for fear of dishonour to the whole profession? How can anything that can be "advocated as justice" to a section of a community bring dishonour to the entire community? *How can justice mean dishonour?* Is it then the fact that the general practitioner's anomalous fiscal position constitutes the only check on the would-be dishonesty of the "specialist" and so averts "danger to the public" and danger and "dishonour to the profession"? Is it meant that both general practitioners and hospital practitioners will go into collusion—in plain English, conspire to rob the public—because the general practitioner gets "justice"? Does Dr. Saundby desire us to accept it as certain that if the medical profession be placed in a position of trust they will succumb to a man and become so easily dishonoured? Are they not for the most part subject now to "serious temptation"? And are they all *dishonourable*? He speaks of "danger to the public"; surely this must mean something more than mere *fees*? *Does "dishonour"* not tend to accrue when, in any community, a section is adversely treated in favour of another *section*? Does he mean that only the general practitioners are keeping the profession from dishonour and that if their position were improved and put on all fours with that of the hospital practitioners the *latter's* unchecked methods would mean general "dishonour" because it would have a free rein by reason of the general *practitioner's* interests being identical? Dr. Saundby need not fear for the physician's odd two or three *guineas for* a consultation. Only let him and others remember that a fee, in proportion, is due to the general practitioner *for "meeting* the physician" in consultation.

Does Dr. Saundby think that general practitioners *do* now, and will in *future*, call in "physicians" for the sake of an extra fee? Does he expect your readers to believe him? He surely places a *very contemptuous value on the* services of the general practitioner in *his letter*. Which of any two men will be the *more likely to keep* and maintain the honour of the profession—one who *modifies* his fees to meet *his patient's means* and helps and *supports* his brother medical man, or the man who selfishly grasps all he can lay *hands on, leaving* the general practitioner to eke out a *living* as best he can whilst using the sources of that general practitioner's *daily* bread as a lever in hospital work to get into a position to be able to ignore the general practitioner's *claims* to be fairly dealt by?

It would be far better if we flung such rotten "ethics" to *the four* winds of heaven and went in for wholesale and universal throat-cutting, pure and simple. One would then know what to expect and not be caught napping. Expect nothing except that which one appropriated unasked and therefore suffer no disappointment and resentment for unfair treatment. What can be said for the "honour" of a profession in which one class lives by preying on the resources of the other class, arrogates to itself the better position, makes the laws to be observed in its *own* selfish interests, parcels out all the chances in life amongst its units, closes its ranks to entry from the other class and to *do so* breaks unchallenged every law of God and man—"Live and let live"? Lest it be thought that I exaggerate, I will relate what many of your readers will learn with some astonishment. A few days ago an appointment was made to a dispensary for out-patients only, in London, involving two afternoons' work per week; seeing minor surgical cases, whitlows, cut fingers, rheumatic joints, boils, abscesses, &c. There was attached to this paltry appointment a stipend of 50 guineas per annum (miscalled an honorarium) for doing charity! This appointment would suit, and ought only to be held by, a very youthful and inexperienced "specialist," or a general practitioner whose ambition lay in worthy and honourable lines. There applied, amongst others, for this post and got it, a full surgeon on a large teaching and a non-teaching hospital, in both of which places he "had beds." Now, Sir, is this not subversive of fair play as between seniors and juniors? I was not a candidate for the above post.

I have been saying unpleasant things and ask a little more space for a most pleasing contrast. I inclose you the appointment card sent by a *consultant* to a general practitioner's patient making an appointment, and which was handed to me by the general practitioner himself. We both spent much time saying many good things about that "*consultant.*" I wish that I could publish his name. On the back of this card is printed the following:—

> Dr. —— does not undertake the *continued treatment of patients* or visit them in their own homes except in *coöperation* with their usual medical attendant, and whenever possible a note of previous health should be brought from him.

This notice incidentally makes an excellent definition of a "consultant," and *no man* who does not conform to the above has any right to demand "consultant fees." Will Dr. Saundby please take *note of* the above and put it to the credit of a profession that must "deny justice" lest "dishonour" follow in its train.

I am, Sir, yours faithfully,
F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.

London, March 6th, 1908.

"THE CASE FOR THE GOAT."

To the Editor of THE LANCET.

SIR,—I am *greatly obliged to* you for having, in your kind review of my little book, "The Case for the Goat," drawn my attention to a clerical slip in the table on p. 11 which I shall correct at the earliest opportunity. It should *read as follows*:—

—	*Goat's milk.*	*Cow's milk.*
Water	83·21	87·56
Butter-fat	7·30	3·63
Casein	4·18	8·81
Milk sugar	4·10	
Ash...	1·21	

In my book the table appears—I cannot tell now whether the omission is due to typist, *printer, or* author—minus the

Correspondence.

"Audi alteram partem."

THE PARATHYROID GLANDS.

To the Editor of THE LANCET.

SIR,—In an interesting paper on the parathyroid glands recently reviewed by you[1] Dr. David Forsyth expresses the opinion that these bodies have no peculiar function and that their secretion is identical with that of the thyroid gland. These conclusions are based on the careful examination of a large number of thyroids both from man and the lower animals and on general considerations, but not on experiments on living animals, for Dr. Forsyth holds that any attempt to remove the parathyroids at the same time leaving the thyroid proper will be either incomplete, or if complete, accompanied by so much injury to the thyroid as to make any inferences untrustworthy. This view is also taken by Dr. Swale Vincent and Dr. W. A. Jolly[2] who consider that "when parathyroidectomy proves fatal this is probably due to the severe damage simultaneously done to the thyroid"; but Dr. Vincent and Dr. Jolly themselves relate[3] an experiment on a cat in which both thyroid lobes and three parathyroids were removed, leaving only one parathyroid; the cat remained well; 13 days later the remaining parathyroid was removed, the cat died 17 days after this with "typical symptoms." The fact that the cat died after the second operation shows that it was not one of those animals which are not affected by complete excision and that it survived the first operation shows that the disturbance then inflicted on the parathyroid left was not sufficient to destroy it functionally; apparently the cat's life was first saved by leaving the parathyroid and later destroyed by removing it. I have recently had a similar experience; from a dog there was excised on the right side the thyroid lobe leaving only one parathyroid with possibly a minute portion of thyroid proper; the dog remained well. 61 days later the left lobe with its parathyroids was removed. The dog still remained well. 113 days later the remaining parathyroid was excised. In ten days the dog died with the usual acute symptoms.

But the case for the parathyroids does not rest only on microscopic appearances and experiments on animals. The thyroid contains a considerable amount of iodine, while according to Estes and Cecil iodine, if present at all in the parathyroids, only occurs in such minute quantities as to be of no functional significance.[4] Easterbrook found that while thyroid extract was a powerful metabolic stimulant parathyroid extract produced little or no effect in the patients to whom he gave it.[5] Hutchison found that parathyroid feeding had no effect in myxœdema,[6] and others state that it has no effect in Graves's disease, in which thyroid extract and iodides are said to do harm.[7] It must not be inferred that interference with the parathyroids produces no ill effects. The affection known as operative tetany is thought to be due to this; out of 52 extirpations of the thyroid in Billroth's clinic tetany occurred in 12 cases and proved fatal in nine. Dr. W. S. Halsted has recently recorded an interesting case of the disease from a woman with a large and rapidly growing goitre. One lobe was excised. Care was taken not to include any parathyroid and on examination of the part removed none was found. The case did well but the remaining lobe increased in size and two years later was excised; on this occasion, notwithstanding due care, a parathyroid was found in the part removed; the patient did not make as good a recovery as before, but was subject to serious "attacks" with a sense of numbness. During these attacks the patient felt and appeared to be very ill. Dr. Halsted felt so confident of the nature of these attacks that he at once commenced parathyroid feeding: "the effect of parathyroid exhibition was almost instantaneous and most marvellous."[8]

Again, it is possible that the parathyroids may have to do with the good effect in Graves's disease claimed for the milk from thyroidless goats.[9] The excision of the thyroid with its accompanying parathyroids does not produce at the time any obvious effect in sheep and goats; but Horsley[10] has recorded a case in a sheep in which myxœdema came on 20 months after operation, and I have seen two cases in goats in which the operation was followed by myxœdema, temporarily benefited by thyroid feeding,[11] but the symptoms in these cases were very different to the severe nervous symptoms, tremors, paralysis, convulsions, and death, which in a few days follow the complete extirpation in dogs and cats. The explanation of this appears to be now forthcoming. Recently, Dr. MacCallum, Dr. Thomson, and Dr. Murphy[12] have found that there exist in the goat four parathyroids, two in the thyroid, and two in the thymus. Further, they found in two out of several experiments that if the thymic parathyroids were excised together with the thyroid and its parathyroids severe symptoms came on which proved fatal in a few days; the good effects produced by the milk of thyroidless goats is usually attributed to its containing some substance antagonistic to the thyroid, this substance neutralising the excessive secretion of the enlarged thyroid of Graves's disease; it suggests itself that this substance may be derived directly or indirectly from the thymic parathyroids left in the thyroidectomised goats.

It is true of all the experiments cited that the results do not uniformly follow in a series of operations, but the view that the thyroid and parathyroids are functionally identical does not relieve us from this difficulty, for in dogs the complete operation is followed by early death in about 95 per cent. of the cases, the remaining 5 per cent. recovering without ill-effect. One of the problems connected with Graves's disease is whether it is to be regarded as starting in the central nervous system or in the thyroid gland; some of the cases have a history of nervous strain, others of acute infectious disease; in others, again, the disease is preceded by an ordinary goitre without symptoms. These various origins seem to be brought into line by the experiments of Tedeschi.[13] He confirmed Filehne's observation that the symptoms of Graves's disease can be produced by an injury to the restiform bodies and he further found that the symptoms could be prevented by excision of the thyroid before the restiform operation, and that when caused by that operation they could be diminished by a subsequent excision of the thyroid. If a central nervous lesion can cause the peculiar change in the thyroid its secretion could cause the other symptoms; with respect to infective diseases it is easy to see that their toxins might affect the nerve centre. Lastly, in cases of apparent thyroid origin no doubt the centre and the gland would early act and react on one another.

I am, Sir, yours faithfully,

Devonshire-place, W., March 7th, 1908. WALTER EDMUNDS.

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[1] THE LANCET, Feb. 29th, 1908.

[2] Journal of Physiology, vol. xxxiv., 1905.

[3] Ibid., vol. xxxii., 1905.

[4] Johns Hopkins Hospital Bulletin, vol. xviii., No. 193, 1907.

[5] THE LANCET, August 25th, 1900, p. 610.

[6] Journal of Physiology, vol. xxiii., 1899.

[7] Surgery, Gynæcology, and Obstetrics, vol. v., 1907.

[8] American Journal of the Medical Sciences, vol. cxxxiv., 1907.

[9] THE LANCET, Feb. 1st, 1903, pp. 292 and 393.

[10] Clinical Society's Transactions, vol. xxi., Supplement, 1888.

[11] THE LANCET, Jan. 25th, 1902, p. 227.

[12] Johns Hopkins Hospital Bulletin, vol. xviii., 1907.

[13] Medical Annual, 1903, p. 334.

THE BLOOD CONDITION IN EGG POISONING.

To the Editor of THE LANCET.

SIR,—Referring to Dr. A. T. Schofield's interesting case of egg poisoning reported in your last issue I should like to inquire whether the coagulation time of the blood was ascertained, and if so whether the time had diminished after tolerance to egg diet had been established. Following the teaching of Wright, I suggest a different theory of the poisoning from that put forward by Dr. Schofield. Eggs, like shell-fish, contain a powerful decalcifying substance, supposed to reside chiefly in the membrane which incloses the albuminous material of the egg. On the outer surface of this membrane the shell is formed, consisting principally of calcium salts, the substance in question having the power of selecting the calcium dissolved in surrounding media and precipitating it in a solid form. When the decalcifying substance is taken into the human stomach it finds its way quickly into the blood, and in individuals who are not tolerant of its action reduces the fibrin-forming power of the blood by precipitating the calcium salts on which that power depends. Hence there is diminished coagulability, and transudation of lymph through the walls of the kept waiting for months before they can be admitted, will be rectified. The balance on the hospital erection fund stands at £37,809 and the cot endowment fund at £4345.

The late Mr. E. R. Bickersteth.

The death occurred on March 7th of Mr. Edward Robert Bickersteth, F.R.C.S. Eng., consulting surgeon to the Liverpool Royal Infirmary, in his eightieth year. Mr. Bickersteth had been in bad health for several months. It is a strange coincidence that Mr. Bickersteth should only have survived his former colleague the late Mr. Reginald Harrison one week.

March 10th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Appointments at the University.

CONSEQUENT on the resignation of the late Professor C. J. Wright the council of the University has appointed Dr. John B. Hellier as professor of obstetrics. Dr. Hellier has been connected for many years with the school of medicine and with clinical teaching in Leeds. Himself a student of Leeds, he was at one time teacher of materia medica and more recently has been lecturer on gynæcology. His promotion to a professorship will add to the Senate of the University a man of sound judgment, and his position as honorary obstetric physician to the infirmary will enable him to correlate the instruction to the students which comes on the one hand from lectures and on the other from practical work. Dr. E. O. Croft, who was formerly honorary demonstrator of midwifery, has been appointed to succeed Professor Hellier as lecturer on gynæcology. Dr. R. Veitch Clark, who was formerly demonstrator of physiology and who was recently appointed assistant medical officer of health of the city, has been appointed by the council honorary demonstrator of public health under Professor J. Spottiswoode Cameron.

The Workpeople's Hospital Fund.

The twenty-first annual meeting of the supporters of the Leeds Workpeople's Hospital Fund was held on Feb. 26th under the chairmanship of Mr. F. R. Spark who initiated the movement and has been not only the honorary secretary and for many years the chairman of the fund but has been the life and soul of the endeavour throughout. At one time the voluntary subscriptions of the workpeople at the various factories and workshops of Leeds were paid directly to the different charities which it was desired to benefit. It was then agreed that the collectors of the infirmary and of the other institutions should cease to collect such subscriptions within the city boundaries and that a specially organised fund should be started. The movement has from the beginning been attended with every success. It is true that the money collected does not now go, as it did at first, entirely to the charities, and that the committee has deemed it wise and within the scope of the movement to make extensive capital outlay in the provision of convalescent homes, the maintenance of which, of course, involves an annual demand on the amount collected and that these homes are reserved exclusively for the use of subscribers to the fund. Though in this respect the fund cannot be strictly regarded as one devoted entirely to charitable purposes, it is satisfactory to note that the amounts voted to the different institutions have not lessened since this new policy was entered upon but have increased considerably. The main source of income is derived from the voluntary subscription on the part of the workers of a weekly sum of 1*d.* in the case of men and of ½*d.* in the case of women, girls, and boys. In many cases the workpeople have authorised their employers to keep back this amount from their wage, an arrangement which facilitates the collecting of the money, and is being increasingly fallen in with. From this source the amount collected during 1907 was £9781, as against £9137 for 1906. Other sources of income are collections made at public-houses, matinées, football matches, Sunday concerts, carnivals, and various collections, in addition to the annual gala, the success of which depends mainly on that uncertain factor, the weather. With a balance brought forward from last year of £1730, and with the addition of a special donation of £1000 the total receipts for 1907 amounted to £15,983. At the annual meeting the Lord Mayor made a donation of 21 guineas, so that the handsome sum of £16,000 was realised. From this grants were made as follows: Leeds General Infirmary, £5250; Leeds Public Dispensary, £800; Hospital for Women and Children, £800; Tuberculosis Association, £315; District Nursing Association, £250; Maternity Hospital, £125; Bramley District Nursing Association, £50; and Stanningley District Nursing Association, £50. During the year the Convalescent Home for Men at Horsforth has been enlarged and was reopened by Sir James Kitson (now Lord Airedale) on July 13th. Since the reopening 321 patients have been admitted. The regular time during which patients remain in is two weeks, but 115 of those admitted were on this occasion allowed to stay in three weeks. During the time when the home was closed for repairs 359 men were sent at the expense of the fund to other convalescent homes. The Convalescent Home for Women is at Ilkley, in Wharfedale, and to this 416 patients were admitted during the year. The total expenditure on both homes and on the general fund has been £7683, which includes £4319 of capital expenditure on the rebuilding of the Horsforth Home. The amounts voted to the different charities were the same as last year, and it is hoped that as the capital expenditure next year may be less there may be a proportional increase in the amount available for distribution.

March 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of St. Andrews and the late Professor J. Bell Pettigrew.

AT the Court of the University of St. Andrews which met last week a motion was unanimously adopted expressing great regret at the death of Dr. James Bell Pettigrew who for 33 years had been Chandos professor of medicine and anatomy in the University. It was also resolved to express to Mrs. Bell Pettigrew the heartiest thanks of the Court for the generous and munificent gift of £6000 which she is bestowing on the University in memory of her husband, and to assure her that the Court will be able through the gift to erect a commodious and well-arranged museum which it will associate with the name of Professor Bell Pettigrew. It was explained that by an ordinance of the University Court passed in 1900 it had been provided that the Chandos professorship of medicine, which the University Commissioners had enacted should come to an end at the termination of Professor Bell Pettigrew's tenure of the chair, should be continued after his death as a professorship of physiology. The business and finance committee will draw up a statement of the terms and conditions of appointment of a professor to the new chair.

Aberdeen Town Council and Street Accidents.

The watching committee of the town council of Aberdeen recommends that in cases of accident or of sudden illness happening in the street the police constable on whose beat it occurs should be authorised to send for the nearest available medical practitioner and that the fee of 2*s.* 6*d.* for day calls and 5*s.* for calls between the hours of 10 P.M. and 8 A.M. should be paid to such practitioner by the council.

Deer District Public Health Committee.

At a meeting of the above held in Maud on Saturday, Feb. 29th, circulars from the Local Government Board with regard to the Vaccination (Scotland) Act, 1907, the Notification of Births Acts, 1907, and the Public Health (Scotland) Amendment Act, 1901, were considered. It was agreed not to adopt the Vaccination Act or the Notification of Births Acts. The circular with regard to the Public Health Act was left to the sanitary authorities. The question of what constituted a dairy was under discussion, as, for instance, ought crofters to be registered as such who sold small quantities of milk to people with carts who went round and collected such small supplies.

March 10th.

BRISTOL MEDICAL MISSION.—The annual meeting of the subscribers to the Bristol Medical Mission was held on Feb. 25th. The medical report stated that 9050 patients were treated during 1907, including 1934 who were visited at their homes. The financial statement showed a small favourable balance.

of the Local Government Board and approved of. Nor was any evidence of medical value given against it at the recent inquiry, the only medical witness against it having not thought it worth his while to visit the site before giving his evidence. I am, Sir, yours faithfully,

LANGLEY BRASIER-CREAGH.

Stream Hill, Doneraile, Co. Cork, March 3rd, 1908.

THE HALL-EDWARDS FUND.

To the Editor of THE LANCET.

SIR,—Mr. J. Hall-Edwards, who is well known as a pioneer in this country in radiographic work, has as a result of this work developed cancer of the skin of both hands. It has been found necessary to amputate one hand and it is feared that he will lose the other. Mr. Hall-Edwards is in consequence deprived of the means of earning a livelihood, and has to face an uncertain future with the added distress of financial difficulty. It is hoped to raise a fund to put him beyond the reach of want, and for this purpose a local committee was formed at a meeting presided over by Sir Oliver Lodge on March 5th. About £600 have been promised, and it is hoped that the medical profession throughout the country will show its sympathy by contributing to the needs of one who by his pioneer work has helped to make the road easy and safe for those who follow him.

We are, Sir, yours faithfully,

ROBERT M. SIMON, M.D. Cantab., } Secretaries.
J. O. VAUDREY, }

41, Newhall-street, Birmingham, March 10th, 1908.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 29th you print a letter from Dr. Robert Saundby, intended, no doubt, as a reply to my letter in your issue of Feb. 22nd. With reference to Dr. Saundby's remarks concerning French medico-political history I beg to remark that I addressed myself to persons of the United Kingdom. I do not consider Dr. Saundby's remarks on the above score call for any comment from me. Persons who essay forth to "nip buds" must be careful lest inadvertence leads to thorny experiences.

Care on Dr. Saundby's part would have prevented his misrepresenting me, though his words in any case bear a peculiar importance and gravity which cannot be avoided. I spoke of "the fee agreed upon for the operation," one-third part of which should be apportioned "on the nail" to the general practitioner for his assistance at the operation and the major part of the after-attendance. As it takes two persons to make a bargain, I presume that the person paying the fee—the patient or the patient's friends—must needs agree to the fee paid. I positively deny that this is "dichotomy." It is nothing of the sort, it is a computed compound payment to two men for doing two men's work honestly. My proposal will insure the ultimate payment of the general practitioner if the so-called "specialist" is paid, and if not then the "specialist" is in "the same boat." Nowadays, with present methods, the "specialist" is often the only man paid, and the general practitioner has to whistle for his fees. My plan will also tend to keep many out of the hospitals, which apparently the hospital practitioners cannot or do not care to insure. Modern medical and surgical methods, instead of tending to cheapen treatment, as they ought to do, actually are made to render it more expensive and prohibitive to the sufferer of slender purse. The result is that more frequent resort is had to the hospital and so puts an increasing stress on charitable funds, whilst depriving a large section of the medical profession of an honest livelihood, and at the same time preserving to the public a self-respecting independence. Actually the methods of working, as between the profession and the public, is forcing hospital abuse "willy-nilly" on the public and turning the entire charitable system into a universal curse instead of a blessing. The public are and have long been desirous of a scale of charges as between themselves and the profession which will be final and inclusive. Instead of that our methods have been elaborated, till a serious illness, needing operation, is more disastrous financially than an earthquake or a fire. Why have the public not been met in this matter? Simply because it did not suit the pockets of the so-called "specialists" (hospital practitioners) who make and impose the rules which are known as "ethics." Those who suffer most are the public and general practitioner. The reason for this is that in any case the hospital practitioner gets material for "increasing his knowledge and perfecting his skill" which he could not otherwise obtain in such peculiarly favourable circumstances. He also derives a competitive advertisement from the better-class patients of his less fortunate "professional brother" (?), and finally is thereby enabled to set up a high financial standard of reward for his paid work, limit competition (financial and skilful), and keep a close corporation against the general practitioner, whose source of daily bread he helps to distribute gratis in hospital, in order to attain to the exclusive professional position he has usurped. When a "specialist" is wanted, under present ethical rules, he comes in, recommends certain procedures, which he carries out to his own sole financial profit at a high price, and departs. Apparently the "honour" of the profession, to judge from Dr. Saundby's letter, rests solely and simply on the predicament of the non-participating general practitioner. Clearly the "specialist" has no more to gain as he, figuratively speaking, "scoops the pool." Is there no "danger to the public" in these methods? Are there no "serious temptations" likewise? Wherein, if we are to accept Dr. Saundby's estimate, lies the inducement to benefit their patients by "further advice" or "expert skill" if it means financial desolation and loss of practice subsequently? We have heard "specialists" (?) complain that cases of cancer, &c., are not sent early enough for operation and thereby the patients' chances are seriously jeopardised. Must we judge the matter after the estimate of Dr. Saundby's letter? Or is the complaint of the "specialist" merely a dodge to get more cases in the doubtful stage to operate on under a financial arrangement beneficial to himself solely? Your readers will please bear in mind that I am simply speculating on lines laid down in Dr. Saundby's letter, in that the medical profession under "serious temptations" will come to "dishonour." I am simply showing the temptations and refuse to be responsible for the deductions.

My method, and that of some others known to me, is to meet the financial position of the patient and at the same time take into consideration the claims of my fellow practitioner and support and help him in actual practice instead of preaching "ethics" at him as "soft music to soothe his agony," the while the rising tide of "specialist-aided" hospital abuse and exclusive profit tariff comes up and drowns him and his paying patients. I want it generally understood that a general practitioner can, without giving offence or be thought a scoundrel, make to a "specialist" just such a request as I have had made to me and have gladly complied with: "I have a patient, suffering from so and so, who needs an operation, who wants it done at home, who says that he or she is willing to pay 'so much' for the whole affair, but that if your fee and my fees come to more, he or she will have to go into hospital. I know he or she is not at all well off and they already have had expense. Can you help us?" My reply is: "Tell your patient that for the sum mentioned you and I will do what is necessary—operation and after-treatment." Where is the "dichotomy" in such an arrangement? Does it not make for the benefit of the patient, bodily and financially? Is it not a gain to the patient, the general practitioner, and even the so-called "specialist" to do the work so that the after-treatment entails little or no trouble and that recovery will ensue without avoidable complications? It must be remembered that where one existed formerly there are a hundred skilled men available. Now, Sir, for want of a proper understanding between public and profession I can assure you that general practitioners are actually being driven to aid and abet hospital abuse and I cannot say that I blame them; in fact I consider it poetic justice. Let the following remark of a general practitioner made to me explain my meaning: "The hospital-man (doctor) works on hospitals purely to suit his own ends, to get into a position to charge big fees, to come to my and my neighbours' patients at high fees for operations which he takes good care to prevent me from doing by keeping the hospital circle a closed ring against me and those like me. He parcels out to each of his set as many appointments per man as he can, in order to keep us out and limit competition and therefore keep prices high. His high fees come out of my practice, and therefore leaves me less and less to draw upon amongst my patients who do pay for what they get. If my patients feel the expense of an illness, they pay *cachets* of 50 centigrammes every evening with food this remedy was continued for several months with occasional intervals. In this way M. Lancereaux and M. Paulesco succeeded in putting an end to the phenomena of vaso-dilatation in the vessels of the head and neck and at the same time to the debilitating nightmares, to the tachycardia, to the exophthalmos, and to the goitre; in a word, they had brought about permanent recovery.

Surgery of the Liver.

M. Quenu has operated in four cases of cancer of the gall-bladder without being able to remove the diseased parts; in three of them he did not proceed beyond exploratory laparotomy, and in the fourth, suspecting the existence of biliary calculus, he sought for the gall-bladder in the midst of a mass of new growth but desisted on perceiving that he had to do with epitheliomatous infiltration. M. Quenu believes that epithelioma often complicates biliary lithiasis and that a systematic histological examination of gall-bladders removed for this cause would often reveal epitheliomatous lesions. According to the statistics published in foreign countries the results of operations for cancer of the gall-bladder are generally rather poor. Nevertheless, in 23 cases of cholecystectomy for cancer there was only one death due to the operation and with several of the patients operated on the prolongation of life was truly remarkable.

Riot at the Clermont-Ferrand School of Medicine.

An acute disturbance occurred on March 9th at the Clermont-Ferrand School of Medicine. Thanks to the influence of the Minister of Public Instruction a new Professor, Monsieur Vigenaud, a radical municipal councillor, had been appointed at the end of December without the ordeal of going through the *concours*. The new professor began his duty on March 6th and the occasion passed off without incident but also without any audience, so to speak, for there were only six students present. On the 9th the students turned up in force and they made such a noise that M. Vigenaud could not get out a word and had to take refuge in a neighbouring lecture room. The students followed him into the room and demanded that he should send in his resignation which he accordingly did on the afternoon of the same day.

"The Roux Hygienic Pipe."

Dr. Roux, the well-known director of the Pasteur Institute, has just gained an action which he brought against two commercial inventors who, to give a scientific flavour to an invention of their own, had brought out a pipe which they called "Pipe Hygiénique Roux." They were sentenced to pay Dr. Roux 2000 francs damages, the designation of the pipe was to be suppressed, and the judgment was to be published in five separate newspapers.

March 9th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Mr. Andrew Carnegie's Gift to the Koch Fund.

To celebrate the twenty-fifth anniversary of Professor Robert Koch's discovery of the tubercle bacillus a committee has been formed with the object of collecting a sum of 1,000,000 marks (£50,000) to be called "Robert Koch Stiftung." The money will be used in encouraging researches bearing on the fight against tuberculosis. Up to a short time ago only 300,000 marks had been collected, so that probably there might have been great delay in realising the committee's purpose had not Mr. Andrew Carnegie contributed a sum of not less than 500,000 marks, thus leaving only a deficiency of 200,000 marks. This balance still remaining to be collected is likely to be subscribed before long as it will be a duty of the rich men of Germany to equal the generosity of Mr. Carnegie. It must be remarked that this is the first instance in which Mr. Carnegie has contributed money to an institution outside America or Great Britain. The *Deutsche Medizinische Wochenschrift*, in commenting upon this gift, calls it a conspicuous example of a noble mind and a typical act of this generous friend of humanity.

Proposed Legislation against Quackery.

It has been already explained in these columns on various occasions that in Germany anybody may practise medicine without possessing a legal qualification provided that he avoids assuming a title equivalent or similar to the titles of duly qualified medical practitioners. The consequence of this state of matters, which has existed since 1869, has been an unlimited increase of quacks of every kind whose advertisements fill many columns of the daily and weekly newspapers. Many attempts have been made by the representatives of the medical profession to induce the Government to change the present legislation, but all their efforts have been unavailing; it was said in the Parliamentary debates on this subject that the German public was intelligent enough to distinguish between qualified and unqualified medical men and that if people preferred to be treated by quacks it was their own business. Of course, these views are in marked contrast to the principles of government followed in Germany in other cases, and in opposition to them it has been argued that unskilful treatment might be injurious not only to the individual patient but to the general public also. For instance, in infectious diseases or syphilis the measures necessary to prevent the spread of the disease might be hindered by the intervention of some quack. The persistent efforts of the medical profession, and especially of the Society for the Prevention of Quackery, have gradually succeeded in convincing the Government and the general public that medical quackery is a social danger, and the Government has accordingly at last introduced a Bill directed against quackery and against the sale of medicines of undisclosed composition. The Bill, however, does not do away completely with unqualified practice; it even gives some legal recognition to unqualified practitioners as a class by providing that they must register their addresses at the offices of the local authority; they must also inform the said authority of the circumstances in which their medical training was obtained, and they must keep books according to a prescribed form. Another paragraph of the Bill forbids unqualified persons to treat patients by letter without examination and excludes infectious and venereal diseases from treatment by them. The administration of narcotic compounds and the use of hypnotism and mystical ceremonies are also prohibited. The authorities are empowered to prohibit an unqualified person from practising if he has evidently injured the health of patients and where he has been convicted by a court of justice. Other paragraphs deal with the sale of patent medicines. The sale of such medicines may be prohibited by the Federal Council when they are prejudicial to health or obviously intended to deceive the public. A special commission in connexion with the Imperial Health Office will inform the Federal Council what patent medicines should in its opinion be excluded from sale in Germany. Advertisers of anti-venereal, or aphrodisiac, or anti-conceptional compounds, or medicinal preparations the composition of which is undisclosed, and those who publish advertisements which are evidently fraudulent, may be punished with a fine not exceeding 3000 marks (£150) or with imprisonment for a period not exceeding one year. This Bill, although a step in advance, is not sufficiently far-reaching, because by making regulations to be observed by unqualified practitioners it gives them official recognition. It thus seems to create a new class of practitioners who, though being below the standard of the fully qualified medical profession, are nevertheless legally entitled to attend patients on complying with certain conditions. It would have been better to go to the root of the evil by absolutely prohibiting the practice of medicine by persons who are not in possession of a full medical diploma and by prohibiting quack advertisements. It is, however, very improbable that such a radical measure would ever obtain Parliamentary assent, for the unqualified persons whose interests would be affected find many influential supporters among Members of Parliament.

March 9th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Cancer of the Uterus and its Treatment.

Dr. Paul Kubinyi, first assistant at the Second Gynæcological Clinic of the University of Budapest, has compiled his clinical experiences with regard to cancer of the uterus in a large and well-illustrated volume of 480 pages. His observations are founded on a vast amount of clinical material which has been utilised in accordance with the latest scientific bracket, which has, of course, the surprising effect of suggesting that any attempt to make cheese out of cow's milk is foredoomed to failure. Happily, my two other analyses of goat's and cow's milk show that I am not ignorant of the proteid value of cow's milk. (The Stevenson and Murphy figures are, proteid in cow's milk, 3·55, as compared with 4·29 in the case of goat's milk).

The appreciative review in THE LANCET has given me much pleasure. If goat keeping is to make the progress in this country which it has made on the continent, with remarkable benefit to the health of children, it must be largely due to the good word of the medical profession. Doctors, on looking into the "case for the goat," realise at once how unanswerable it is.

Especially in rural districts, where so many labourers' families have much less milk than they ought to have, medical patronage of "the poor man's cow" must have considerable effect on the stamina of children.

May I just refer to the prejudice against goat's milk due to an alleged taste? A medical man lately made this objection to goat's milk in my presence. I found that his experience of goat's milk had been gained in Egypt and Italy. I sent him a bottle of milk from my goats and he and his wife were at once converts to goat's milk, drinking it in tea and coffee or alone. Goat's milk never tastes except when the animal which yields it is ill, has had access to garlic, ivy, or some other strong-flavoured food, or has been milked into a foul vessel.

I am, Sir, yours faithfully,
Feb. 29th, 1908. "HOME COUNTIES."

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Milk-supply of the City.

THE reports of the public analysts and the medical officer of health under the Sale of Food and Drugs Acts for the quarter ended on Dec. 31st, 1907, showed that whilst the milk from shippons in the city was free from tuberculosis, on the other hand 20 per cent. of the milk coming into the city from the country was contaminated with tuberculosis. This was eloquent testimony to the administration of the health committee and to the work of the medical officer of health, and was the best possible testimonial to the health of the cows housed in the city, as pointed out by the chairman of the infant-life preservation subcommittee of the health committee. Great credit was due to the Liverpool cow-keepers for the manner in which they had responded to the health committee's requirements. He also advised householders to visit personally those shippons from which they obtain their milk and until the milk-supply from the country was free from disease to insist that milk from Liverpool shippons only was supplied to them, even though more payment were required. The public might be reassured to know that joint action was being taken by several of the great cities in this matter. There was a meeting held in Manchester on Feb. 28th of representatives of Birmingham, Leeds, Manchester, Sheffield, and Liverpool, and resolutions were unanimously agreed to calling the attention of the Local Government Board to the matter with a view to legislation in a Bill which Mr. John Burns was about to bring before the House of Commons. In view of the fact that 20 per cent. of the milk which came into Liverpool from the country was proved to be tuberculous every cow should be licensed. The causes of the country cow being diseased were threefold: first, in consequence of the want of appreciation of their responsibility by landlords in not providing healthy shippons for country cattle; secondly, by a want of cleanliness on the part of farmers; and thirdly, by the rural district councils not putting into force the powers which they possessed in connexion with this matter. The Liverpool city council had led the way in the matter from the first and the chairman was satisfied that the council would not rest until the milk-supply from the country sent into the city was as pure as that supplied by Liverpool cow-keepers.

Liverpool Maternity Hospital.

The annual meeting of the subscribers to the Liverpool Ladies' Charity and Lying-in Hospital, henceforth to be known as the Liverpool Maternity Hospital, was held on March 2nd, at the town hall, under the presidency of the Lord Mayor (Dr. Richard Caton). The report stated that the number of patients in the outdoor department was 1673 as against 1649 in the previous year The number of patients attended in the hospital was 357, as against 295 during the year 1906. In the school of midwifery 54 pupils were trained during the year 1907; 24 of these pupils were, in addition, trained in the hospital as monthly nurses and received certificates of proficiency. The managing committee cordially coöperated in reducing the infant mortality in the city. The matron and midwives sent prompt notification of every birth attended to the medical officer of health, and by arrangement with the Liverpool Ladies' Sanitary Association it was intended that the name and address of each applicant in a specified area should be sent to that association so that the "mother's visitors" attached to it may visit the women and give them timely instruction on health and domestic matters, and endeavour to influence the home conditions for good. The financial condition of the charity showed a deficiency of £660. The Lord Mayor, in moving the adoption of the report, said that the charity was one of the oldest and most valuable in the city. He believed that the staff attended one-eleventh of the total births in Liverpool and they saved an immense amount of suffering and prevented much mortality. He regretted that the charity was not better supported and wished some way could be seen of increasing the income. In the matter of maternity provision Liverpool, with its one hospital containing only 19 beds, compared badly with such towns as Glasgow, which had 80 beds; Manchester, 140 beds; and Dublin, with only one-half the population of Liverpool, 126 beds. Liverpool was making an effort to reduce its high infant mortality and one such means was that charity. On the motion of Professor Wilberforce, seconded by Dr. Henry Briggs, it was decided to adopt in future the name "The Liverpool Maternity Hospital and Ladies' Charity" in the place of the old name, as more expressive of the work of the institution.

The Liverpool Country Hospital for Chronic Diseases of Children.

The annual meeting of the friends of this charity was held on March 3rd at the town hall, the Lord Mayor presiding. As the priority of the hospital would seem to have been challenged, the committee in its report goes to some pains to prove the position of the institution. The report begins with an excerpt from a speech delivered by Sir Edward Russell at the opening ceremony of the institution on Nov. 4th, 1899, in the small ward at West Kirby where the work has been carried on ever since, awaiting the opening of the new hospital at Heswall. Sir Edward Russell's words were: "The hospital, he believed, would be looked upon as a great experiment to be followed in other parts of the country, and he was convinced that if they kept their principle in view it might be the beginning of a national undertaking and that the country at large would realise the importance of so teaching the rising generation that nothing of which science could make a certainty should be left to chance." The prophecy has been truly realised during the year 1907, for London has now followed in Liverpool's footsteps and a home for children suffering from tuberculous diseases has been established in Hampshire, mainly through the endeavours of the ex Lord Mayor of London (Sir William Treloar), who, however, in his appeals which were sent far and wide throughout the country, claimed that no institution for the care of children suffering from tuberculous diseases existed in this country. It is to justify the claims of the founders of this hospital and of the appeals that have been made from time to time that special prominence is now given to the fact that there has been in existence for some eight years such an institution as the Liverpool Country Hospital for Children, comprehensive in its scope, dealing with every form of chronic ailment, tuberculous or otherwise, requiring prolonged treatment, whether medical or surgical, in the fresh air of the country. The committee had the satisfaction of acknowledging two handsome donations of £5000 each from Mr. Holbrook Gaskell and Mr. Andrew Gibson, besides smaller gifts, including £300 for a memorial cot from Mrs. and Miss Mitchell Molyneux. The number of endowed cots is six; there are besides six annual appropriated cots. The splint fund has proved most valuable. The report of the honorary medical staff showed the satisfactory nature of the work done during the past year, and the time is looked forward to when, with the accommodation which the new hospital will afford, a largely increased number of cases will be benefited and the present state of affairs, whereby so many children are two educated Bengalis had themselves and their families inoculated it is true; but it is said, "with these extremely rare exceptions the whole of the inoculations were done on people attracted by the reward of eight annas; beggars, drunkards, victims of the opium, hashesh or cocaine habit—the dregs of the streets." These persons come up again and again, anxious to have the eight annas, and care had to be taken to prevent the inoculation of the same person two or three times a month. They have actually taken to making a round of the wards so as to escape detection. Singularly enough, a beggar who had certainly been inoculated three times in a very short period contracted plague; his "case" history should be worthy of record. Dr. Hossack has a good deal to say on the rat and flea theory; and his remarks should attract particular attention in Bombay. He states that the Calcutta pulex cheopis, the rat-flea, will hardly bite human beings at all, even when it is starved; it does not seem to flourish here either and the spread of plague in seasons of epidemic cannot be traced to it. For the information of the curious it may be noted that pulex irritans, the common household flea, is very rare here but that the dog-flea abounds. Dr. Hossack holds that there is no panacea for plague, and he pins his faith to general sanitary improvement though he would exterminate the rat if he could. Practical conclusions are that there is no panacea for plague and all that can be done is to do as much as is practicable for the extermination of rats, preferably with the aid of special legislation in the matter of building. Disinfection must be carried out preferably with a pulicidal disinfectant, but the only thing on which to place reliance is the very difficult measure of general sanitary improvement. Preventive inoculation must be pressed so far as possible, but until the people display a less antagonistic attitude towards it than they do at present it cannot be counted on much as a practical measure. Research work must be prosecuted more vigorously than it has been in the past and the following are points on which evidence might profitably be collected. Much of the work on fleas in Calcutta has been done during the non-epidemic period; this will have to be confirmed during the epidemic period. Post-mortem examinations must be made to decide whether Hunter's contention is correct that even in man intestinal lesions are common and point to food infection. His feeding experiments might well be repeated here as also the Commission's flea-infection experiments. It is hardly necessary to point out that if such experiments as are suggested are to be carried out there must be some provision of a special plague laboratory in which plague-infected animals may be kept. Some increase in the staff will also be necessary if experiments are to be carried out on such a scale as to produce convincing result.

The Jackal in Bengal.

The Government of Bengal has recently been considering the question whether the jackal is a sufficiently dangerous animal to make it worth while to put a reward upon its head. It is reported that the mortality caused by jackals has at particular times and in particular places been serious but not so great as to induce the Government to take special measures. The mortality referred to has probably in most cases been due to hydrophobia, for the jackal seems to be peculiarly susceptible to rabies. A healthy jackal is rarely dangerous to anything above the size of a fowl but a mad jackal often plays havoc among both men and cattle. Meanwhile the Lieutenant-Governor has given authority to Commissioners to take steps to encourage the destruction of jackals in any locality where, or at any time when, they may become a dangerous pest and has sanctioned the payment of a reward not exceeding eight annas for each animal destroyed. The amount of the reward is not very tempting and in the case of a mad animal it is very inadequate, so there seems little risk of the extinction of the species. The jackal serves a useful economic purpose as a scavenger and in any measures for its destruction this is an aspect of the question that should not be overlooked.

Feb. 20th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Union Medical College, Peking.

THE annual professional examinations of the above institution have just been held and out of 47 students who went up 38 were successful in passing. The examinations were conducted by an international examining board composed of some of the medical officers of the legations there, acting in conjunction with the teachers of the various subjects. As one of the examiners of this board I could not fail to be impressed, as were the other members, at the way in which the students answered questions. In anatomy, with the exception of an imported limb and bones, all the teaching is done from models, made in Paris. Waterston's Stereoscopic Atlas of Anatomy was also employed. The students knew their models well but the different structures, nerves, arteries, &c., are much too plain to be as useful as teaching from the *corpus vile* and they will have difficulty later when learning surgery. As long as human dissection is not officially permitted it will not be possible to alter this unsatisfactory state of affairs. The subjects for examination were anatomy, physiology, practical histology, therapeutics, and biology. All of these have been taught entirely in Chinese, the terms used being those of the Shanghai Terminological Committee. It is gratifying to the principal (Dr. T. Cochrane) and his staff that they have such good material to work upon, as the average Chinese student is diligent and assiduous in his studies, while at the same time he is fortunate in being the possessor of a well-developed memory that would be the envy of his foreign contemporaries. The whole system of early education in China is one of memorising thousands of ideograms—one for each word—and thus it comes that his memory is trained to a high pitch from his earliest days.

The China Medical Journal.

Efforts are being made by the Medical Missionary Association of China to bring into line the experiences of medical practitioners all over the empire and there has been much improvement of late in the journal which is issued bi-monthly and is well illustrated, and to which any medical man, be he missionary or not, may contribute. The work of the various post-graduate courses in England and America is showing good results not only in the more scientific way in which diseases are discussed but also in the increased number of men who are *au fait* with the methods of clinical research. The first number of this year contains, among others, an article by Dr. C. K. Roys on the Etiology and Diagnosis of Enlarged Spleen which is so common in the province of Shantung. It formed 14 per cent. of all cases treated by Dr. Roys during the past six months. The average age of those affected was 14 years, and the poor are more often affected than the rich. In no case was any malarial parasite found, and in only 3 per cent. was there any evidence of malaria. Though Manson says of enlarged spleen that "wherever they are common the district is malarious and therefore unhealthy, perhaps to Europeans deadly," Dr. Roys said that Shantung province is very little affected with malaria. No foreign children have had it, and in 25 years there have been only two known cases among European adults, both of whom suffered from attacks previously to arrival in this region. Dr. Roys looks upon malnutrition as the chief exciting cause. The food being limited to millet with no meat or rice is lacking in proteins. None of his cases showed primary anæmia or symptoms of idiopathic blood diseases so often associated with enlarged spleen. Hæmoglobin averaged 50 per cent. and none of the counts made showed a leucopenia as in kala-azar. In the few sporadic cases that have come under the notice of your correspondent in Peking noma oris has been the leading symptom, accompanied invariably by evidence of protein starvation. In another article Dr. R. T. Booth of Hankow cites a case of ligature of the common femoral artery and vein in which no sign of deficient collateral circulation appeared and the patient did well, although he had been admitted to hospital suffering from a granulomatous condition of the penis, a mass of enlarged glands in the right groin, and an ulcerated cavity in the left groin. Complete amputation of the penis and double castration with enucleation of glands in the right groin were effected. It was on lightly scraping the left groin that the ulceration was found to have affected the vessels from which there was a tremendous flow of blood. There was no œdema or coldness of the limb. Dr. R. Ascornet, the Imperial Maritime Customs surgeon at Pakhoi, the southernmost port in China, in his report for part of 1907, makes a point in relation to plague which confirms the recent utterances of Mr. Haffkine and Dr. J. Ashburton Thompson with regard to plague occurring independently of communication of the infection from the sick. An outbreak occurred in Ti-cok—about four miles from Pakhoi—and raged for a month there, causing a heavy mortality, but it was entirely limited to this village of 1500 inhabitants and no case was observed either

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Ulster Hospital for Children and Women, Belfast.

AT the annual meeting of the supporters of this institution held on March 3rd it was reported that 247 children and 92 women had been admitted as in-patients during 1907, while in the extern department 2147 children (including 417 eye cases) and 698 women had attended. 226 maternity cases were delivered, of whom nine were admitted to hospital. Financially, the total income for the year was £1129, while the expenditure for the same time was £1108, leaving a balance of £105. The fund for rebuilding the hospital now amounts nearly to £5000 and an additional equal amount would enable the board of management to start operations. Dr. W. St. Clair Symmers, professor of pathology, in moving a proposition, referred to one great drawback to medical progress in Belfast—the difficulties of obtaining post-mortem examinations, which were rare except when ordered by the coroner, owing to the fact that public opinion was dead against them. He spoke of the educating value of such examinations on the medical profession and hoped in time that there would be a change of opinion on the part of the Belfast public who attended hospitals.

Lady Superintendent of Nurses at the Belfast Workhouse.

The Local Government Board has written to the Belfast board of guardians refusing to sanction the person nominated by the guardians to the above post and requesting them to proceed to make another appointment. At their weekly meeting on March 3rd a motion was carried by 21 votes to 16 to the effect that the Local Government Board should be informed that the guardians had made their appointment to the best of their ability and that they refused to change their views on the matter. All the lady guardians voted against the proposition.

The Belfast Society for Providing Nurses for the Sick Poor.

At the annual meeting of this association held on March 6th it was reported that during the past year the number of cases sent forward for attendance was 168 in excess of the previous year, and as usual consumption and other forms of tuberculous disease head the list, there being a total of 215 of such forms of disease. There were also 100 cases of ulcer, 64 of cancer (only two are noted as recovered), 55 of pneumonia, and in all there were 1291 cases. Financially the income from all sources was £1341, while the expenditure was £1180, leaving a balance of £161 on the right side. It was decided to incorporate the society under the Companies Act.

Treatment of Cases of Fever in Belfast.

The medical practitioners of Belfast have received a note from the superintendent medical officer of health dealing with the above matter. Section 156 of the Public Health (Ireland) Act, 1878, provides that "any expenses incurred by a sanitary authority in maintaining in a hospital or in a temporary place for the reception of the sick a patient who is not a pauper, shall be deemed to be a debt from such patient to the sanitary authority," &c. The expenses referred to, the circular goes on to say, mean the costs of conveying, removing, feeding, providing medicines, disinfecting, and all other things required for patients individually, exclusive of structural or establishment expenses. The public health committee, having ascertained that the lowest sum which would cover these "expenses" would be 12*s.* 6*d.* per week, has given instructions for accounts to be made out and furnished on that basis, but, on the other hand, it will reduce or altogether remit (if necessary) the charges in any case where it is satisfied that the circumstances are such as to justify the reduction or remission of the debt.

The Extensions at Purdysburn Asylum.

A deputation has been appointed, consisting of members of the Belfast asylum committee, to wait on the finance committee of the corporation to obtain the money necessary for carrying out the complete scheme at Purdysburn of the buildings required for the whole asylum on the villa system, the estimated cost being £65,000. The work, it is estimated, will occupy four years and the expenditure will be at the rate of £20,000 per annum for each of these four years. The total cost of the whole scheme of concentration will be £125,000, according to a statement of the chairman of the asylum committee.

Triennial Visitation of Queen's College, Cork.

The triennial visitation of Queen's College, Cork, was held last week by the visitors—viz., Mr. Justice Kenny, President; Sir Rowland Blennerbassett; Dr. J. M. Redmond, President of the Royal College of Physicians of Ireland; Mr. John Lentaigne, Vice-President of the Royal College of Surgeons in Ireland; and Sir John William Moore, M.D. A large number of students were present. Mr. Justice Kenny having opened the proceedings, Professor B. C. A. Windle, President of the College, enumerated various improvements which have been made in the equipment of laboratories and in connexion with the anatomical department, with a view of keeping pace with the progress of science, and he also alluded to a valuable Anglo-Indian library which has been established through the munificence of Lieutenant-Colonel Sexton, a former student of the College. The visitors then proceeded to visit the various departments of the College, and on their return Mr. Justice Kenny, in the course of his address, referred to the highly satisfactory condition of the College and medical school. He also said that the medical visitors considered it desirable that a climatological station for training students, especially medical students, to take meteorological observations should be established in connexion with the splendid physical laboratory.

March 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Individual Isolation of Patients in Children's Hospitals.

AT a meeting of the Society for Diseases of Children held on Feb. 19th M. Lesage spoke of the great advantages of the individual isolation of patients and described what had been done on his initiative at the Hôpital Hérold with a view to prevent the patients contracting fresh infections (*contagions intra-hospitalières*) during their stay in the wards. Reconstruction has been in progress at this hospital and provision now exists for the individual isolation of each child in a cubicle with glass sides (*un box vitré*), open at the top but having a door which is kept closed. This arrangement of the wards is by itself sufficient to prevent infection without having recourse to rigorous precautions for the avoidance of contamination by indirect contact. There is no washing of hands or changing of overalls unless they are actually soiled; these precautions are, in fact, unnecessary when nothing more has been done than feeling a pulse or auscultating a patient. The charge nurse (*surveillante*) has been abolished. Each ordinary nurse (*infirmière*) is directly responsible to the principal medical officer for the six cubicles and six children under her care.

Implantation of a Metal Plate after Fracture of the Skull.

At a meeting of the Surgical Society M. Morestin gave some particulars of a case which had been under the care of M. Rouvillois. The patient was a young officer who by falling from his horse sustained a slight wound in the right temporo-parietal region. Although there was no symptom of compression an operation was performed and a fracture was found together with intracranial effusion which was evacuated by trephining. After the lapse of some weeks the patient's condition was satisfactory except for the presence of cranial hernia and an adherent cicatrix. In order to protect the brain against possible accidents M. Rouvillois freed the cicatrix and applied a perforated gold plate which he covered with a flap of skin taken from the back of the head. This operation was followed by recovery which has been maintained up to the present time.

Treatment of Exophthalmic Goitre.

At a meeting of the Academy of Medicine held on Feb. 25th M. Lancereaux and M. Paulesco said that the idea had occurred to them that sulphate of quinine was indicated in the treatment of exophthalmic goitre, because it was a typical vaso-constrictor, and the leading pathological feature of exophthalmic goitre was vaso-dilatation of the vessels of the head and neck. They accordingly administered sulphate of quinine to more than 20 patients suffering from this condition and the effects were excellent. Given in doses from one gramme to one and a half grammes in

&c.). Eight hours after the bite he was put to bed and a liberal dose of whitehouse mixture administered. He developed no further symptoms and was discharged four days later. The patient was an old soldier and had served with Lord Roberts in Afghanistan and never knew fear till the day of his accident. I treated him for snake bite pure and simple, no sign of alcoholism, and must say that his condition warranted heroic treatment as he was in a comatose state."

Vital Statistics.

In the quarter ending June 30th, 1907, the number of births in the Commonwealth was 27,895, of which 1656 were illegitimate. 267 cases of twin births were registered and nine cases of triplets. 14,324 were males and 13,571 were females. During the same period there were 10,707 deaths. Tuberculosis was the most destructive disease, claiming 939 victims, of whom 529 were males and 410 females.

Enteric Fever in Victoria.

A return just placed before the Board of Public Health shows a remarkable diminution in the number of cases in the past ten years. In 1898 there were 5423 country cases and 2020 cases in Melbourne, while last year the figures were 1030 and 350. The metropolitan sewerage system has greatly improved the figures for Melbourne.

Remarkable Occurrence.

While two lunatic patients were being taken by steam launch from Sydney to Gladesville Asylum, which is on the Parramatta River, one of them suddenly jumped overboard. Before the attendants grasped the situation the other patient had dived after the first and seizing hold of him kept him afloat till both were rescued by the launch party.

Obituary.

The death is announced of Dr. James Barrett, one of the oldest and most widely known of the older generation of medical men in Melbourne. Dr. Barrett was a native of Banbury, Oxfordshire, and arrived in Melbourne in 1858. He was one of the original members of the Alfred Hospital staff and for many years held a commission as justice of the peace. Three sons are members of the medical profession—viz., Dr. J. W. Barrett who is lecturer on physiology of the special senses at the University of Melbourne and was formerly demonstrator at King's College, London; Dr. Edgar A. Barrett; and Dr. John Barrett who was a distinguished cricketer and visited England as a member of an Australian eleven. One daughter, Dr. Edith Barrett, has also been practising medicine for some years in Melbourne.

Jan. 25th.

Obituary.

REGINALD HARRISON, F.R.C.S. ENG.,

CONSULTING SURGEON TO ST. PETER'S HOSPITAL FOR STONE, ETC.

THE unexpected death of Mr. Reginald Harrison has removed one who for 40 years played a hard-working and distinguished part in two great circles of surgical activity and who devoted his thought and time in no small degree to the alleviation of an unnecessary cause of suffering in city streets with which his hospital experience had early made him familiar.

Reginald Harrison was born 70 years ago in Shropshire and was the eldest son of the late Rev. Thomas Harrison of Stafford. He was educated at Rossal and received the rudiments of his medical training at the Stafford General Hospital where he came under the influence of the late Mr. Moreton of Tarvin, to whose instruction he was wont to acknowledge his lasting debt. Coming to London, he entered St. Bartholomew's Hospital and qualified M.R.C.S. and L.S.A. in 1859. He at once went to Liverpool, the city which was to become the nurse of his professional fortunes, although when he entered it he had not, in his own words, "the acquaintance of one professional friend in the city or neighbourhood." He started as house surgeon at the Northern Hospital and in the next year obtained the valuable appointment of resident surgeon to the Royal Infirmary, a post which he held for three years; at the end of this period he commenced practice but was able to devote much of his time to the remodelling of the Liverpool School of Medicine which had fallen into a very unstable condition. He was appointed demonstrator of anatomy and registrar in the school and shortly afterwards surgeon to the Northern Hospital. In 1866 he became a Fellow of the Royal College of Surgeons of England and two years later he was made assistant surgeon to the Royal Infirmary at Liverpool, succeeding to a full surgeoncy in 1874, and to the senior surgeoncy on the retirement of Mr. E. R. Bickersteth 14 years later. Harrison proved himself to have two qualities which, when they occur in one man, of necessity make for his success: he was an enthusiast and a steady worker. He has left a record of the latter fact in the Liverpool Hospital Reports, of which he was part editor from 1867 to 1871, and he performed a similar duty for the Liverpool and Manchester Reports from 1873 to 1878. During these years other duties were crowding upon him; he was made successively lecturer in Surgery and Anatomy at the Liverpool School of Medicine and in Clinical Surgery at the Victoria University which had not yet undergone its analytical reconstruction. He was also an examiner in surgery at the University of Durham as well as at his own.

In 1883 he was chosen to deliver the Address in Surgery at the Liverpool meeting of the British Medical Association and in 1888 he became President of the Liverpool Medical Institution. In that year he was asked to deliver the Lettsomian Lectures before the Medical Society of London, and he took for his subject "Some Points in the Surgery of the Urinary Organs." By this time he was in the enjoyment of a wide consulting and operating practice, especially in urinary surgery, the branch in which he had taken a special interest from the outset of his career. It was more a matter of regret than surprise to his colleagues, therefore, when in the next year he was invited to go to London to fill the place of the late Mr. Walter Coulson as surgeon to the St. Peter's Hospital for Stone. He accepted the invitation and at his departure from Liverpool was presented with an address and pieces of plate, the presentation being made by the late Sir W. Mitchell Banks. Sixteen years later Harrison returned to Liverpool to do public honour to the memory of that same distinguished surgeon who had been his close personal friend, the occasion being his delivery of the first Banks Memorial Lecture. He took for his subject "The Prospects and Retrospects of University Life," and in the course of a graceful tribute to his departed colleague he showed his deep knowledge of the records of his own university, of the court of which he was a life member. Whilst at Liverpool he married Jane, daughter of Mr. A. Baron, of that city. Harrison came to London with his reputation made and from the first his success in private practice was assured. He continued to play a prominent part in professional life and held many offices; he was made a Vice-President of, and Hunterian professor to, the Royal College of Surgeons in 1890, and Bradshaw lecturer in 1896, when he took for his subject "Vesical Stone and Prostatic Disorders." In the same year he was elected President of the Medical Society of London and gave his official address on "The Treatment of Some Forms of Albuminuria by Renipuncture." Two years later he was made a Vice-President of the Royal Medical and Chirurgical Society, and in 1902 he delivered the annual memorial lecture of the Hunterian Society. This was by no means his last official public utterance, for in 1904 he practically founded the Metropolitan Street Ambulance Association and since then until his death the presidency of that body was a labour of love with him. His interest in ambulance work dated back to his hospital days at Liverpool and he made a careful study of all the systems employed, so that he became an acknowledged authority on ambulance work in civil life. He published a book on the subject, which is in its sixth edition, but his ideals took more solid form than ink and paper.

We need not rehearse all the phases of the movement of which he was the guiding spirit, for we have made frequent allusion to the street ambulance problem for London, and need only refer to a leading article on the subject in THE LANCET of Nov. 23rd, 1907, p. 1474, for an epitome of the whole matter; but we may repeat that Reginald Harrison has been the mainspring of the movement and the fulfilment of his scheme for a motor ambulance service, in so far as it affects the City of London, was a fitting reward for his labour. He was keenly interested in the outcome of the Parliamentary Committee which still has the matter in hand and we wish he could have died assured that it will lead to the extension of the City's system to the whole metropolitan area. His delight was unmistakeable on the two occasions during last year of the public trials of the "White Swan" of the City, as the ambulance car has been dubbed, for the successful investigations. Dr. Kubinyi having been for a long time connected with the clinic has personally attended almost all the cases referred to in his work. His chief, Professor Tauffer, was the first surgeon in Hungary who performed total extirpation of the uterus. Since the first operation 121 total extirpations have been made; out of these about 20 were performed by Dr. Kubinyi himself. The operations were fairly successful, the mortality being only 14 per cent.; due regard must also be had to the fact that many of the cases were very advanced. The decline of the death-rate of the operated cases was noticeable from year to year. As to the technique of the operations, Dr. Kubinyi says that both his chief and himself adhere to the use of the large artery clamps (angioclast), although it cannot be denied that this instrument has some drawbacks, especially the frequent occurrence of secondary hæmorrhages. Amongst the 121 operations there were various complications—namely, lesions of the bladder in eight cases, lesions of the ureter in six cases, and lesions of the rectum in four cases. Dr. Kubinyi finds that the use of the angioclast considerably shortens the duration of the operation. The average time occupied by the operation was from 15 to 20 minutes. In the concluding portion of his work he criticises the methods of teaching at present followed in the University. He maintains that it is unfair always to blame the practitioners for the neglected cases which come under the surgeon's care when they are either inoperable or offer only a very slight hope of success. It would be more reasonable to blame the defective educational system under which the students gain merely theoretical knowledge and attend patients before they have had sufficient practical training. As long as 150 students are crowding the operating theatres it cannot be expected that they will become successful practitioners, on whose shoulders rests the solution of the whole cancer problem. If the practitioner recognises a uterine cancer in its initial stage and sends the patient at once to a surgeon, then the best chances of recovery have been insured.

The Sick-Club Question.

On Feb. 23rd the medical officers of the sick clubs held a meeting in order to arrive at a final decision in the conflict between the clubs and the medical officers. The chair was taken by Dr. Nándor Flesch, chief secretary of the Hungarian Medical Association. On account of the presence of a great many country practitioners at the meeting Dr. Flesch related the history of all the negotiations between the clubs and the special committee of the Medical Association. He said that in spite of every effort the committee could not come to an agreement with the managers of the clubs, partly because the fees offered are exceedingly low—3 kronen (*2s. 6d.*) as compared with the 6 kronen which were asked—and partly because the managers of the clubs would not allow the medical men a free hand in strictly medical affairs. For these reasons Dr. Flesch advised the committee to abstain from any further negotiations with the club managers. It will be much more convenient to let every district branch of the Medical Association negotiate with the local clubs. It was, however, unanimously resolved to send an ultimatum to the clubs informing them that if they do not on or before March 15th agree to pay 6 kronen per member then the medical officers will declare a strike.

Popular Lectures on Hygienic Subjects.

At the last meeting of the Society for the Propagation of Science Dr. Bród Miksa read a paper on the Deficiency of House Accommodation in Budapest. He said that he had had measurements made of the dwellings of 1604 sick members of the Budapest District Sick Club and had collected authentic data about the conditions of living of several thousand workmen inhabiting these places—namely, their yearly income, their rent, the state of their health, and the number of rooms and cots. Dr. Bród Miksa made some terrible disclosures about the miserable condition of these unfortunate people. His investigations showed that only 53 per cent. of the workers possess beds; the others lie on sacks of straw, and in many cases even on the bare floor. Many have to share their beds with two or three others, healthy and sick together. He even found a working woman who had to share her bed with a strange woman immediately after confinement. Not a single workman was found who could claim to have a daily income of 5 kronen (something over *4s.*); needlewomen earn an average of *2s.*, and factory workers *1s.* As to food, only 22 out of 100 workmen have meat every day; most of the workmen live on vegetables, bacon, and flour puddings. Wine is very little consumed by them, strong alcoholic beverages being more used.

The Symptomatological Importance of the Percussion Note given by the Vertebral Column.

Dr. Frederick Korányi, professor of clinical medicine at the University of Budapest, delivered a very interesting address on the above subject at a meeting of the Royal Medical Society. He said that the percussion note of the vertebral column where it covered healthy organs was decidedly different from that elicited when the organ behind it was pathologically changed. He exhibited a case of pleuritic effusion, on which he demonstrated the trigonum pleuriticum (a dull area) discovered and named by himself. He had very satisfactory results with his percussory method in cases of abdominal and pelvic tumours and other malformations. He then demonstrated his method of examining the vertebral column and showed that absolutely typical percussion notes could be elicited on the lumbar, sacral, and coccygeal portions of the column. He also demonstrated the pathological difference of the percussion notes on patients brought from the Gynæcological Clinic. He showed on these patients how the note changed in cases of parametritic exudation, displacement of the uterus, and uterine tumours.

March 7th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENT.)

Plague and its Treatment in Calcutta.

THERE have never been in Calcutta epidemics of plague such as have swept through the crowded quarters of Bombay and the bazaars of Poona, though in 1900 the disease threatened to extend to Calcutta in an alarming way. But that was the worst year, and since then the incidence of the disease has been comparatively slight. This phrase is used advisedly, for there have been 50,000 deaths in all in the last ten years. This may seem a heavy mortality, but the figures for Bombay city make this bill of mortality appear a small one. Whatever the reason may be plague does not take a great hold upon this city and the sanitary improvements carried out in the worst quarters have unquestionably done much to prevent really severe epidemics since 1900. In an interesting report just presented by Dr. W. O. Hossack, special health officer, this point is clearly brought out, for the two wards which used to suffer most showed last year cases only of 1 in 123 and 1 in 140 of the total population. Formerly the figures were 1 in 47 and 1 in 64. We read that "all the bad *'basti'* centres in these two wards have been cleared out and many of the old and insanitary masonry houses opened up, remodelled, repaired, and put in a proper sanitary condition." A practical commonsense policy has in fact been followed and the general health of Calcutta must have benefited in consequence. It is in the miserable mud huts and Kacha dwelling houses that the disease appears most often. Over 71 per cent. of cases came from these last year, and if we could rebuild the whole native city plague would not get any foothold here. There may be something in the climate and the soil which is inimical to the bacillus, for disinfection has the most remarkable results—the average number of cases per infected house last year was only 1·11. Given fairly healthy surroundings and the poorest classes even in Calcutta need not apparently dread plague. With regard to preventive measures, apart from the sanitary measures taken, there has been a war waged against rats, but it is doubtful whether any great impression has been produced upon these vermin. Upwards of 122,000 were killed last year, but these figures are not impressive when we think of the 4,000,000 rats destroyed by the Japanese in Tokio in three years. It is in the northern parts of the city that most have been killed and it is here that the greatest stores of grain are kept. Until the store-rooms are of good masonry the rats will increase and multiply, as they have ample food supplies upon which to live. In the European quarters their numbers are said to have diminished greatly and the big livery stables in Dharamtollah have practically been purged of their presence. When we get rat-proof godowns for food grains—and such are now being built in some parts of the town—greater success will be gained in the operations in this particular direction. As to inoculation as a prophylactic measure the population as a whole has shown an indifference which is rather disheartening. Some 3100 persons were inoculated last year as against 101 in 1905–06, and at first sight this increase would seem to be satisfactory; but Dr. Hossack has no illusions on the subject. A few Europeans and one or

Medical News.

TRINITY COLLEGE, DUBLIN.—At the Final Examination in Medicine in Hilary term the following candidates were successful :—

Part I.—John L. Phibbs, Frederick A. Anderson, Desmond Drew, and Wellesley R. Allen.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Paul Knapp has been recognised as *privat-docent* of Ophthalmology.—*Berlin:* Dr. Emil Abderhalden, *privat-docent* of Physiology, and Dr. A. Hildebrandt, *privat-docent* of Surgery, have been granted the title of Professor.—*Bologna:* Dr. Giovanni Rubinato has been recognised as *privat-docent* of Internal Pathology.—*Bonn:* Dr. Binz, Professor of Pharmacology, is retiring at the age of 75 years.—*Breslau:* Dr. Wilhelm Harttung of the dermatological department in the Allerheiligen Hospital and Dr. Keller, *privat-docent* of Children's Diseases, have been granted the title of Professor.—*Budapest:* Dr. Karl Hudovernig has been recognised as *privat-docent* of Neurology and Mental Diseases.—*Göttingen:* The title of Professor has been conferred upon Dr. Adolf Jenckel, *privat-docent* of Surgery.—*Heidelberg:* Dr. von Wasielewski, *privat docent* of the Cancer Institute, has been appointed Extraordinary Professor.—*Jena:* Dr. Karl Wittmaarck of Greifswald has been appointed Extraordinary Professor of Otology.—*Kiel:* Dr. Reiner Müller has been recognised as *privat-docent* of Hygiene and Bacteriology; Dr. Friedrich Bering as *privat-docent* of Dermatology; and Dr. Oskar Wandel, *privat-docent* of Medicine, has been granted the title of Professor.—*Leipsic:* Dr. Ernst von Brücke has been recognised as *privat-docent* of Physiology and Dr. Max Versé has been recognised as *privat-docent* of Pathological Anatomy.—*Lemberg:* Dr. Adam Salowij, *privat-docent* of Gynæcology, Dr. Roman Rencke, *privat-docent* of Medicine, and Dr. Edmund Biernacki, *privat-docent* of Experimental Pathology, have been granted the title of Extraordinary Professor.—*Leyden:* Dr. F. Basenau has been recognised as *privat-docent* of Hygiene.—*Marburg:* Dr. Rudolf Hücker of Greifswald has been recognised as *privat-docent* of Surgery.—*Montreal (Laval University):* Dr. Loir has been appointed Professor of Medicine.—*Munich:* Dr. L. Neumeyer, *privat-docent* of Anatomy, has been granted the title of Professor.—*Naples:* Dr. Ettore Pasini and Dr. Michele Scinti have been recognised as *privat-docenten* of Neurology and Psychiatry.—*Pisa:* Dr. Giovanni Pellizzi, Extraordinary Professor of Psychiatry, has been promoted to the Ordinary Professorship.—*Prague (Bohemian University):* Dr. W. Mladejovsky, *privat-docent* of Balneology and Climatology, has been granted the title of Extraordinary Professor.—*Rome:* Dr. Nicola Pende has been recognised as *privat-docent* of Internal Pathology and Dr. Roberto Terzaghi as *privat-docent* of Dermatology.—*Tübingen:* Dr. Johann Jacobj of Göttingen has been appointed to the chair of Pharmacology and Dr. A. Mayer has been recognised as *privat-docent* of Midwifery and Gynæcology.

MEDICAL SOCIETY OF LONDON.—The 135th anniversary dinner of the Medical Society of London was held at the Whitehall Rooms of the Hôtel Métropole, London, on March 11th, the President, Dr. J. Kingston Fowler, being in the chair. Covers were laid for over 130 guests and the proceedings were marked with much enthusiasm. On the right of the chair were seated Prince Francis of Teck, Sir Thomas Barlow (President of the Clinical Section of the Royal Society of Medicine), Mr. R. Marcus Gunn (President of the Ophthalmological Society), Dr. J. B. Ball (President of the Laryngological Section of the Royal Society of Medicine), Sir Anderson Critchett, Sir Felix Semon, Sir Edgcombe Venning, Dr. F. de Havilland Hall, and Mr. A. Pearce Gould. To the left of the chair were Lord Montagu of Beaulieu, Professor W. Osler, Mr. D'Arcy Power (President of the Harveian Society), Dr. C. E. Beevor (President of the Neurological Section of the Royal Society of Medicine), Dr. H. R. Spencer (President of the Obstetrical Section of the Royal Society of Medicine), and Dr. R. J. Probyn-Williams (President of the Society of Anæsthetists). The Chairman, in proposing the toast of "The Medical Society of London," said that the society still retained all its original vitality; the dire misfortune which some had foretold would happen to it in consequence of a certain amalgamation of societies had not occurred. The members of the society now numbered nearly 800 and the attendances at the meetings were most satisfactory. Some of the distinguished Fellows who had resigned by reason of certain changes in other societies had since rejoined the Medical Society. Mr. Edmund Owen in a witty speech proposed the toast of "The Guests and Kindred Societies." Sir Thomas Barlow, who replied to the toast, said that all the societies were of one kith and kin, working together for the honour of the medical profession. They must all admit the premier position of the Medical Society and must acknowledge that it had deserved well of the profession, for in season and out of season it had worked for the unity of the medical profession. Professor Osler, who also replied, referred to the literary treasures contained in the library of the Medical Society of London. He suggested that the diary of the Rev. John Ward should be published, and mentioned that it recorded a meeting of Shakespeare, Ben Jonson, and Drayton when Shakespeare took too much wine and afterwards contracted a fever from which he died. Mr. Pearce Gould proposed the toast of "The President" which was suitably acknowledged, and the proceedings terminated.

SUSSEX COUNTY HOSPITAL.—We have received from Dr. F. G. Bushnell and Dr. A. W. Anderson a summary of the recent work done in the pathological department (the Stephen Ralli Memorial) of this hospital, from which we extract the following particulars. Between August 31st, 1907, and Jan. 31st, 1908, 482 examinations have been made, of which 177 were histological, 20 chemical, 186 bacteriological, and 99 microscopical. 675 media tubes were inoculated and amongst other interesting work tubercle bacilli were found in pleural effusions and the bacillus typhosus was isolated from typhoid dejecta. The parasites which were identified included bilharzia hæmatobia, echinococcus cysts, and spirochæta pallida. The opsonic index was repeatedly estimated in 38 cases and seven bacterial vaccines were prepared. The observers state that "this treatment of staphylococcal infections, especially if subacute or chronic, is hopeful." Necropsies have been performed to the average number of 150 per annum, with the consequent bacteriological and histological investigations. The department has a branch for the assistance of private practice. Since the foundation of the memorial some 30 original contributions have been made to medical literature by research workers in the department. Dr. Anderson is shortly proceeding to Hamburg to demonstrate the technique of opsonic determination in the laboratory of Professor Unna.

ASSOCIATION OF CERTIFICATED DISPENSERS.—The annual meeting of this association was held in the Court-room of the Apothecaries' Hall, Blackfriars, E.C., on March 5th, and was well attended, most of those present being engaged in the Poor-law infirmaries and out-door dispensaries, general and special hospitals, and general dispensaries in London. Mr. Montagu Smith (Lewisham Infirmary) presided. The minutes of the first annual meeting were read and confirmed. The treasurer, Mr. A. L. Anderson (Whitechapel Infirmary) presented the balance-sheet which, after meeting all liabilities, showed a favourable balance of £24 6*s.* 9*d.* The honorary secretary, Mr. A. Howell (Dalston Dispensary), presented the annual report, which stated that the association continued to prosper, the membership having increased by 50 compared with the preceding year, making a total of 225. The committee had kept in close touch with all matters affecting the interests of the members. A deputation had waited on the master and wardens of the Society of Apothecaries, pointing out several urgent and necessary reforms the adoption of which would greatly enhance the value of the assistant's certificate. The introduction of a Bill into Parliament on behalf of the assistants will stand over until it has been seen what can be done for them through the Government Poisons and Pharmacy Bill now before Parliament. The register kept by the honorary secretary had been the means of a large number securing temporary or permanent engagements and members were invited to make their holiday arrangements in good time in order to be provided with trustworthy locum-tenents. It was then announced that if the necessary arrangements could be made a quarterly journal would be instituted and that the next general meeting would be of a social character to enable the members to meet and to know each other better. An appeal to those present on behalf of at Pakhoi or in any of the surrounding villages. He adds: "Il est étonnant que vu le mouvement continuel et très important d'échange qui se fait entre cette ville et Pakhoi, cette dernière soit restée complètement indemne."

The Opium Habit.

In the eyes of those of us in China who are best able to judge the British Government is doing its utmost, so far as is reasonable and fair, to suppress the opium traffic. China also seems in earnest and the recently opened Government bureau for the suppression of opium-smoking is beginning to make itself unpleasantly felt among those habituated to the drug. In England where the liberty of the subject is such a frequent cry when any attempts are made to ameliorate the lot of the people an outcry would soon result if the following methods were followed for putting down alcoholism. I refer to a supplementary set of regulations which have been issued by the bureau in question which now requires that all smokers under the age of 60 years shall take out a licence quarterly which shall not be transferable and which must each time it is renewed state that it is for a smaller amount of opium than the former permit and, further, that no smoker shall apply for the same amount for more than ten consecutive days. In this way it is estimated that the habit should be altogether overcome in the course of from three to six months. Smokers can only obtain the drug from licensed shops and must always obtain their supplies from the same shop, so that their consumption can be checked. They must always carry their permits and present them when purchasing opium and the shops are also required to send in monthly returns showing the amount sold by them each day. Travellers can obtain their supplies from the hotel-keepers who will be held responsible for their customers and who will be granted supplies on specially issued travellers' permits. Smokers of more than 60 years are allowed a free hand! These regulations are for this province (Chih-li) where the evil is not so great as it is down south.

Feb. 5th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Severe Heat Wave.

A HEAT wave of unusual severity and almost unexampled duration passed over South Australia and Victoria between Jan. 13th and 20th. Although the thermometric readings were higher in Adelaide the heat was most trying in Melbourne. The maximum shade readings at the Melbourne Observatory were 109·2° F. on Jan. 17th and 107·6° on Jan. 20th. From the 15th to the 20th the daily maximum in the shade was well over 102°. On Jan. 17th a carefully observed thermometer in the city stood at 112° in a louvred shade box on the roof. Inland some very intense heat was experienced. Over 100 deaths are reported from various parts of Victoria as directly attributable to the heat. At the Melbourne Hospital 23 cases of heat apoplexy were admitted, of which 15 were fatal. Fatalities occurred chiefly among elderly persons and infants. The duration of such intense heat for six days has not a parallel in the Victorian record, though a somewhat similar spell occurred in 1898 over a period of five days.

Australasian Medical Congress.

The arrangements for the congress to be held in Melbourne in October, 1908, are well forward. In the section of medicine special attention will be given to the Conditions of Anæmia which occur in Australia and the Types of Tuberculosis with reference to Sanatorium and Tuberculin Treatment and the Value of Opsonic Indices. In the section of surgery a special discussion will be held on the Surgery of Nerves and Paralysis, opened by Mr. H. S. Newlands of Adelaide and Dr. Basil Kilvington of Melbourne. The Surgical Diseases of the Bile-passages and Pancreas will be discussed by Dr. H. V. C. Hinder of Sydney and Dr. W. Anstey Giles of Adelaide. The Surgery of Non-malignant Disease of the Stomach will receive special consideration from Dr. T. H. Fiaschi of Sydney, Dr. J. Ramsay of Launceston, Tasmania, and Mr. W. H. Brown of Colac, Victoria. Septic Peritonitis and its Surgery will be reviewed by Dr. W. Chisholm of Sydney and Dr. R. B. Duncan of Kyneton, Victoria. Dr. Zwar will deal with Spinal Anæsthesia. The principal general discussions in the section of obstetrics will centre around the question of Premature Termination of Pregnancy; the Early Recognition of Pelvic Infectious Processes of the Puerperium; Eclampsia; Uterine Fibroids; and Dysmenorrhœa. In the diseases of children section Infantile Paralysis, Tubercle, and Rickets will be given special place, while the prevention of introduction of infectious diseases into children's hospitals has also been set down for general discussion. In all the remaining sections interesting work has been arranged and the congress promises to be as successful as any of the previous gatherings.

The Plague

Plague has reappeared in Sydney rather earlier than usual this summer. Up to Jan. 18th three cases have occurred. The disquieting feature of the outbreak is that it has taken place in a part of Sydney which has been hitherto unaffected. The first cases occurred in the vicinity of a produce store in the suburb of Marrickville. The dwellings from which the cases were removed were comfortable artisan cottages and were well kept. Plague rats had been discovered under the produce store and it is surmised that an infected rat may have been conveyed thither in a consignment of chaff which had come from Darling Harbour—a spot where plague rats are frequently discovered. Vigorous measures have been taken by the authorities. None of the cases have proved fatal.

Retiring Officers.

Dr. Woodward, the Government medical officer to the tramways and railways of New South Wales, is about to retire after a lengthy term of service. Dr. Woodward was an Imperial medical officer with a rank of surgeon-general and was appointed to his present position in the railway service in 1883. He was extremely popular and his organisation of the Railway and Tramway Ambulance Corps has been most successful. He compiled a text-book on ambulance soon after his appointment and this has run through five editions.—The city coroner of Melbourne, Mr. Candler, retired on Dec. 31st of last year after a continuous service extending over 54 years. Mr. Candler was born in 1827. His first appointment was in the early days of the "diggings," but he has been in office in and around Melbourne for more than 40 years. The Victorian Government has announced that Mr. Candler will be granted a pension. Many years ago Mr. Candler published monographs on "Consumption" and "Measles," but the views expressed as to etiology have been discounted by the advent of bacteriological science. He is the oldest surviving member of the Melbourne Club.

Alleged Conspiracy.

In September of last year a practitioner at Kalgoorlie, Western Australia, obtained a judgment for £200 damages against four fellow practitioners for alleged conspiracy against him in his professional calling. The full court has since set aside this judgment and entered judgment for the defendants with costs. The chief justice in the course of his judgment said: "No medical man was compelled to associate with any other practitioner. Two or more practitioners were at liberty to combine not to meet another as long as their object was not to injure the latter in his professional calling. Had it been proved that this was the object of the combination it would have contained an element of illegality necessary to conspiracy; as this had not been proved the verdict of the jury and judgment for plaintiff would be set aside." A stay of proceedings was granted till February to enable the plaintiff to ask leave to appeal to the High Courts.

Vicarious Snake Bite.

A case was reported from Shepperton, Victoria, in which a snake bit a small dog. The owner of the dog in attending to it was bitten by the dog and soon after developed marked symptoms of snake-bite poisoning. Dr. Welchmann, who subsequently treated the patient, kindly supplies the following account of the case. "The history was a little dog had been bitten by a snake and while pouring some whisky down the dog's throat it inserted its teeth between the thumb and forefinger of the left hand. The dog died and the patient was noticed to become drowsy. He was immediately driven off to hospital, stopping at one hotel on the road, where he was given some brandy, but as he was getting very sleepy the dose was not repeated. On arrival at the Mooroopna Hospital the patient was comatose and the pupils contracted. Vigorous anti-snakebite treatment was administered (scarification, strychnine, and locally permanganate of potassium, him "inspector of nuisances." It is proposed that the London name shall be universally used. The promoters of the Bill do not propose to extend its provisions to Scotland or Ireland.

The Eyesight of Army Officers.

The relaxation of the regulations with respect to the wearing of glasses by Army officers is to be raised by a question in the House of Commons at an early date. The suggestion, of course, is that candidates for commissions who at present are disqualified by shortsightedness or astigmatism might be accepted if they were allowed to wear glasses on duty.

HOUSE OF LORDS.

THURSDAY, MARCH 5TH.

Poisons and Pharmacy Bill.

The Earl of CREWE moved the second reading of the Poisons and Pharmacy Bill. He said that the subject dealt with in the Bill was familiar to their lordships and a somewhat similar Bill had been introduced in the House of Commons in a recent session. Describing the scope of the present Bill he said that the first clause dealt with some additions that it was considered necessary to make to the Schedule of Poisons. The second clause enabled certain poisonous substances used for horticultural and agricultural purposes to be sold by dealers who were not chemists where need arose owing to the absence of qualified sellers. The third clause was also important, although non-controversial. It provided that where a chemist carried on business in more than one shop there should be a qualified chemist in charge of each shop. The fourth clause dealt with certain amendments with regard to the examination of the Pharmaceutical Society, and the fifth clause enabled regulations to be made in order to safeguard the sale and distribution of certain poisons commonly employed for domestic and industrial purposes. The Bill differed from the previous measure in the omission of two subjects on which controversy took place. This Bill did not apply to Ireland and he did not desire to trouble their lordships with the pros and cons of that subject now. The other controversial point was, What should be the powers of limited liability companies trading as chemists as regarded the titles which they could use? Ought they to be allowed to describe themselves by such titles as chemists and druggists? Considerable controversy arose in these directions and the Government had not included these matters in the Bill for this reason. There was a sharp line of demarcation of feeling upon both subjects—perhaps more strong in the House of Commons than in the House of Lords. He therefore would propose that if their lordships read the Bill a second time it should be referred to a joint committee of both Houses of Parliament in order that evidence might be taken on the two points to which he had alluded, and then, if the committee desired it, they might make recommendations on them to Parliament. He hoped that the Bill would come back from the joint committee in sufficient time to allow the very valuable uncontroversial clauses to become the law of the land this session, with the addition of such controversial matter as Parliament might think fit.

Lord ASHBOURNE (much of whose speech was indistinctly heard in the Press Gallery) was understood to say that the Bill involved considerations of very general interest and the course suggested by the noble Earl appeared to be convenient. It was possible that although certain matters to which the noble Earl had referred might not be controversial they might still be subjected to a reasonable amount of criticism. He went on to say that the power of addition to the Schedule of Poisons must always be given in such legislation. They could never stereotype the poisons at any particular period. He had no doubt that the Pharmacy Act of 1868 had been added to by Orders in Council just as under the Irish Act of 1870 it had been added to by the appropriate authorities in Ireland. He could not help thinking that the question of Irish legislation could not be left out of view in connexion with the Bill. They in Ireland would like to see the subject of poisons dealt with in a clear and intelligent way, and if there was an improvement in the law of England they would like to have some improvement in the law of Ireland. If it was not found convenient and desirable to adopt the whole Bill in the case of Ireland he could see no objection to saying that the same schedule of poisons which science had found was required for England should be applied to Ireland.

The Bill was then read a second time.

It was agreed, on the motion of the Earl of CREWE, to refer the Bill to a joint committee of both Houses of Parliament.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 4TH.

The Health of the Army.

Mr. HALDANE, in the course of his annual statement on the Army said that since last November the War Office had been paying threepence extra per day to the recruit. The recruit was at a growing stage and there was nothing on which attention had been more concentrated than the improvement of his spiritual, mental, and bodily condition. The result of that policy was that the class of recruits was undoubtedly improving. The consensus of the reports from the various districts was to this effect. The pay, the additional comforts, and the prospects of the soldier were having a marked effect. There were many indications to prove this but perhaps the most satisfactory was the decrease of wastage. Wastage might be comprised under the following heads: invaliding, men discharged within three months of their enlistment as not likely to make efficient soldiers, and men discharged for misconduct. In 1903–04 the number of invalids was 4973; in 1904–05, owing to the efforts of his predecessor, the number fell to 4226; in 1905–06 it was 3234; last year it dropped to 2894; and he had no doubt that this year it was again falling. Having dealt with the discharges for inefficiency and misconduct the right honourable gentleman went on to say that two years ago he was struck with the fact that there was a disease in the army which was known as "soldier's heart." It seemed that the heart of the soldier became more easily affected than the heart of any other class. He had therefore appointed a highly qualified committee of very distinguished medical men and physiologists together with practical officers to sit under the Director-General of the Army Medical Service and to inquire into the whole system of the physical training of the soldier. This committee traced "soldier's heart" to the old-fashioned system of doing exercises and the War Office had substituted for it the Danish system of training. The great advantage under the new conditions was that physical exercises were based not only on military requirements but on medical expert advice as to their effect. The report stated that the new exercises tended to develop the intelligence of the men, that they were capable of being performed without undue distress to them and were more interesting in their nature, and they would undoubtedly diminish admission to hospital for disordered action of the heart. So much for physical exercises. He was glad to say that under other heads things were improving very much. The Director-General of the Army Medical Service reported to him for the purposes of this statement that improvements had already begun to accrue from the steps which had been taken towards the prevention of disease and consequent inefficiency of the army. For instance, whereas the average yearly number of cases of Malta fever was for the years 1896–1905 over 160 in every 1000 men in the garrison, in 1907 the number had fallen to two in every 1000 men. This represented a saving of about 40,000 days' pay in a year to the British Government taking into account only the days spent in hospital and not the loss and expense entailed by death and invaliding. That was, he thought, a remarkable tribute to the achievements of science. This improvement, the report stated, might be directly attributed to scientific discoveries lately made in large part by officers of the department. As a result of the steps which had been taken in consequence of these discoveries the disease might be regarded as practically stamped out. He thought that he ought here to acknowledge how much they owed to this committee and also to the Royal Society for the deep interest it had taken in this matter. The committee also said: "We can also report for the year 1907 a considerable improvement in the health of the British Army in India in respect of three important diseases—enteric fever, venereal disease, and malarial fever. We regard this satisfactory state of affairs as a direct result of the increased attention paid by all the authorities concerned, both military and medical, to sanitation in cantonments. The improvement in venereal disease may be attributed to an increase in temperance and an improvement in general moral tone throughout the ranks of the army." He might say in connexion with the Army Medical Service that the War Department had this year opened a new medical college in London which would, he hoped, greatly facilitate the education of these most valuable officers of the army—the officers of the Army Medical Service. As regarded temperance he had given instructions that wherever it was possible an army tent might be placed at the disposal of the temperance organisation of a battalion and the War Office had taken every step it could to encourage the cause. The growth of temperance in the army was marked and satisfactory. There had been an improvement in dining arrangements and in many other things which conduced to the well-being of the men. The right honourable gentleman then proceeded to deal with other topics.

In the course of subsequent discussion Mr. SEDDON said that unless he was wrongly informed the decrease in venereal disease in the army was not in fact what it was represented to be. He therefore thought that it would be a wise protection if the medical inspection of the soldiers, especially in large towns, was made more minute than it was at the present time.

THURSDAY, MARCH 5TH.

Royal Territorial Medical Corps.

Sir FRANCIS POWELL asked the Secretary of State for War whether Volunteer surgeons on enlistment in the new Territorial forces would cease to be attached to their present regiments; whether they would be gazetted to a Royal Territorial Medical Corps and be required to wear the uniform of such corps; whether the compound title or rank would be abolished; whether the senior medical officer would, if efficient, be appointed brigade surgeon; and if so, while holding the appointment, whether he would be seconded from his regiment.—Mr. HALDANE replied: Medical officers of the Volunteers will have the option of transferring to the Royal Territorial Medical Corps or of remaining regimental officers. Those who transfer will be permitted to retain the uniform of their former unit until worn out. The compound title will be abolished in the case of those who join the Territorial Medical Corps. The appointment of brigade surgeon in the Territorial Force will lapse as the Territorial Force will be organised on the same basis as the regular army, in which such appointment does not exist.

Medical Inspection in Voluntary Schools.

Sir FRANCIS POWELL asked the President of the Board of Education whether, under the proposals of the Government, the cost of the medical inspection of children in voluntary schools would be defrayed from the same sources and administered under the same regulations as in the case of provided schools.—Mr. MCKENNA answered: Yes, sir.

St. John and St. Andrew Ambulance Lectures.

Major ANSTRUTHER-GRAY asked the President of the Board of Trade whether Scotch candidates under St. Andrew Ambulance for masters' and mates' first-aid certificates must attend eight lectures out of 12, while the English candidates under St. John Ambulance had to attend only four and five lectures; and whether, seeing that this system involved more time, trouble, and expense to the Scotch candidate than was deemed necessary for the English candidate, he would take steps to make the two courses equal.—Mr. KEARLEY (Parliamentary Secretary to the Board of Trade) replied: The St. John Association requires a minimum of four lectures of two hours' duration; the St Andrew a minimum of eight lectures of one and a half hours' duration. The expense under the St. John varies from about 12s. 6d. to 17s. 6d., that under the St. Andrew is fixed at £1 1s. We have no power to compel either of these associations to vary its course.

The Investigation of Non-fatal Accidents.

Mr. ARTHUR HENDERSON asked the Secretary of State for the Home Department what number or percentage of the 123,230 non-fatal accidents reported in 1907 were made the subject of special investigation by factory inspectors.—Mr. GLADSTONE answered: The information asked for by the honourable Member is not available and could at Pakhoi or in any of the surrounding villages. He adds: "Il est étonnant que vu le mouvement continuel et très important d'échange qui se fait entre cette ville et Pakhoi, cette dernière soit restée complètement indemne."

The Opium Habit.

In the eyes of those of us in China who are best able to judge the British Government is doing its utmost, so far as is *reasonable and fair, to suppress the opium traffic.* China also seems in earnest and the recently opened Government bureau for the suppression of opium-smoking is beginning to make itself unpleasantly felt among those habituated to the drug. In England where the liberty of the subject is such a frequent cry when any attempts are made to ameliorate the lot of the people an outcry would soon result if the following methods were followed for putting down alcoholism. I refer to a supplementary set of regulations which have been issued by the bureau in question which now requires that all smokers under the age of 60 years shall take out a licence quarterly which shall not be transferable and which must each time it is renewed state that it is for a smaller amount of opium than the former permit and, further, that no smoker shall apply for the same amount for more than ten consecutive days. In this way it is estimated that the habit should be altogether overcome in the course of from three to six months. Smokers can only obtain the drug from licensed shops and must always obtain their supplies from the same shop, so that their consumption can be checked. They must always carry their permits and present them when purchasing opium and the shops are also required to send in monthly returns showing the amount sold by them each day. Travellers can obtain their supplies from the hotel-keepers who will be held responsible for their customers and who will be granted supplies on specially issued travellers' permits. Smokers of more than 60 years are allowed a free hand! These regulations are for this province (Chih-li) where the evil is not so great as it is down south.

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A HEAT wave of unusual severity and almost unexampled duration passed over South Australia and Victoria between Jan. 13th and 20th. Although the thermometric readings were higher in Adelaide the heat was most trying in Melbourne. The maximum shade readings at the Melbourne Observatory were 109·2° F. on Jan. 17th and 107·6° on Jan. 20th. From the 15th to the 20th the daily maximum in the shade was well over 102°. On Jan. 17th a carefully observed thermometer in the city stood at 112° in a louvred shade box on the roof. Inland some very intense heat was experienced. Over 100 deaths are reported from various parts of Victoria as directly attributable to the heat. At the Melbourne Hospital 23 cases of heat apoplexy were admitted, of which 15 were fatal. Fatalities occurred chiefly among elderly persons and infants. The duration of such intense heat for six days has not a parallel in the Victorian record, though a somewhat similar spell occurred in 1898 over a period of five days.

Australasian Medical Congress.

The arrangements for the congress to be held in Melbourne in October, 1908, are well forward. In the section of medicine special attention will be given to the Conditions of Anæmia which occur in Australia and the Types of Tuberculosis with reference to Sanatorium and Tuberculin Treatment and the Value of Opsonic Indices. In the section of surgery a special discussion will be held on the Surgery of Nerves and Paralysis, opened by Mr. H. S. Newlands of Adelaide and Dr. Basil Kilvington of Melbourne. The Surgical Diseases of the Bile-passages and Pancreas will be discussed by Dr. H. V. O. Hinder of Sydney and Dr. W. Anstey Giles of Adelaide. The Surgery of Non-malignant Disease of the Stomach will receive special consideration from Dr. T. H. Fiaschi of Sydney, Dr. J. Ramsay of Launceston, Tasmania, and Mr. W. H. Brown of Colac, Victoria. Septic Peritonitis and its Surgery will be reviewed by Dr. W. Chisholm of Sydney and Dr. R. B. Duncan of Kyneton, Victoria. Dr. Zwar will deal with Spinal Anæsthesia. The principal general discussions in the section of obstetrics will centre around the question of Premature Termination of Pregnancy; the Early Recognition of Pelvic Infectious Processes of the Puerperium; Eclampsia; Uterine Fibroids; and Dysmenorrhœa. In the diseases of children section Infantile Paralysis, Tubercle, and Rickets will be given special place, while the prevention of introduction of infectious diseases into children's hospitals has also been set down for general discussion. In all the remaining sections interesting work has been arranged and the congress promises to be as successful as any of the previous gatherings.

The Plague.

Plague has reappeared in Sydney rather earlier than usual this summer. Up to Jan. 18th three cases have occurred. The disquieting feature of the outbreak is that it has taken place in a part of Sydney which has been hitherto unaffected. The first cases occurred in the vicinity of a produce store in the suburb of Marrickville. The dwellings from which the cases were removed were comfortable artisan cottages and were well kept. Plague rats had been discovered under the produce store and it is surmised that an infected rat may have been conveyed thither in a consignment of chaff which had come from Darling Harbour—a spot where plague rats are frequently discovered. Vigorous measures have been taken by the authorities. None of the cases have proved fatal.

Retiring Officers.

Dr. Woodward, the Government medical officer to the tramways and railways of New South Wales, is about to retire after a lengthy term of service. Dr. Woodward was an Imperial medical officer with a rank of surgeon-general and was appointed to his present position in the railway service in 1883. He was extremely popular and his organisation of the Railway and Tramway Ambulance Corps has been most successful. He compiled a text-book on ambulance soon after his appointment and this has run through five editions.—The city coroner of Melbourne, Mr. Candler, retired on Dec. 31st of last year after a continuous service extending over 54 years. Mr. Candler was born in 1827. His first appointment was in the early days of the "diggings," but he has been in office in and around Melbourne for more than 40 years. The Victorian Government has announced that Mr. Candler will be granted a pension. Many years ago Mr. Candler published monographs on "Consumption" and "Measles," but the views expressed as to etiology have been discounted by the advent of bacteriological science. He is the oldest surviving member of the Melbourne Club.

Alleged Conspiracy.

In September of last year a practitioner at Kalgoorlie, Western Australia, obtained a judgment for £200 damages against four fellow practitioners for alleged conspiracy against him in his professional calling. The full court has since set aside this judgment and entered judgment for the defendants with costs. The chief justice in the course of his judgment said: "No medical man was compelled to associate with any other practitioner. Two or more practitioners were at liberty to combine not to meet another as long as their object was not to injure the latter in his professional calling. Had it been proved that this was the object of the combination it would have contained an element of illegality necessary to conspiracy; as this had not been proved the verdict of the jury and judgment for plaintiff would be set aside." A stay of proceedings was granted till February to enable the plaintiff to ask leave to appeal to the High Courts.

Vicarious Snake Bite.

A case was reported from Shepperton, Victoria, in which a snake bit a small dog. The owner of the dog in attending to it was bitten by the dog and soon after developed marked symptoms of snake-bite poisoning. Dr. Welchmann, who subsequently treated the patient, kindly supplies the following account of the case. "The history was a little dog had been bitten by a snake and while pouring some whisky down the dog's throat it inserted its teeth between the thumb and forefinger of the left hand. The dog died and the patient was noticed to become drowsy. He was immediately driven off to hospital, stopping at one hotel on the road, where he was given some brandy, but as he was getting very sleepy the dose was not repeated. On arrival at the Mooroopna Hospital the patient was comatose and the pupils contracted. Vigorous anti-snakebite treatment was administered (scarification, strychnine, and locally permanganate of potassium, staff of their respective departments should be vaccinated. This opinion was conveyed to the employees in these departments, but it was stated that the committee in no way desired to compel them to be vaccinated against their own wishes. 33 persons as a result had been vaccinated, eight by the public vaccinator and 23 by the deputy public vaccinator. The deputy public vaccinator was, and is, a member of the borough council, but he was not employed by the borough council in this matter, nor has he received from them any fees in respect of it. The employees were at liberty to go to any medical man they pleased, and they went to the public vaccinator or his deputy, because by so doing they were vaccinated free of charge. The usual fee in respect of the operation would be paid by the board of guardians of the parish.

The Ventilation of the House.

Sir PHILIP MAGNUS asked the Prime Minister whether, having regard to the prevalence of influenza among Members of the House of Commons, he would reconsider the advisableness of a daily adjournment of the House for a half hour between the hours of seven and nine in the evening with a view to the better ventilation of the House by the admission of fresh air through opened windows.—Mr. HARCOURT (the First Commissioner of Works) in the absence of Sir Henry Campbell-Bannerman replied: The opening of windows would be a distinct hindrance to the efficient ventilation under the new and improved system. The absence of members might be of advantage at any period of the sitting, but during their presence the whole air of the chamber is changed every five minutes and it is possible, though not comfortable, to do this in three minutes. The more rapid change is invariably effected during divisions when both members and air are in movement.

Sir PHILIP MAGNUS: May I ask the right honourable gentleman whether he has tried the experiment of flushing the chamber with fresh air for a quarter of an hour or 20 minutes during late sittings of the House.

Mr. HARCOURT: Yes, the experiment has been tried but not successfully.

Sir PHILIP MAGNUS: Will the right honourable gentleman say what were the effects? Was there more or less influenza?

Mr. HARCOURT: The effect of opening the windows to admit fresh air was to prevent air being delivered through the floor.

Sir PHILIP MAGNUS: Does the right honourable gentleman consider it a disadvantage that fresh air should be received through the windows rather than through the matting of the floor over which scores of Members tread with dirty boots?

Mr. HARCOURT: The air admitted by the windows is received only by the fans in the ceiling and not by Members on the floor of the House.

The Royal Navy Medical Service.

In the course of the discussion on the Navy Estimates

Mr. MITCHELL-THOMSON said that for some time there had been a complaint about the position, prospects, and pay of the Navy Medical Service. It was time that the Admiralty had inquired to see whether if some revision of the scale of pay was carried out it would have the effect of attracting to the service more higher graduates from the medical schools of the country. He also wanted to draw attention to the importance of giving Navy medical officers an opportunity of studying in the hospitals on shore. He expressed the hope that both these matters would be seriously considered.

Mr. LAMBERT (Civil Lord of the Admiralty) at a later stage of the debate said that of course the Admiralty would most carefully consider these suggestions with regard to the Navy Medical Service.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BEALE, PEYTON T. B., F.R.C.S. Eng., has been appointed Surgeon to the City Dispensary.

BRISCOE, J. CHARLTON, M.D. Lond., has been appointed Assistant Physician to King's College Hospital.

BROWNE-MASON, JOHN THOMAS, L.D.S. Eng., has been appointed Honorary Consulting Dental Surgeon to the Exeter Dental Hospital.

CARR, HAMPDEN, L.K.Q.C.P. Irel., L.R.C.S. Irel., has been appointed Honorary Medical Officer at the Port Pirie Hospital, South Australia.

CROSS, F. G., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kingston District of the county of Surrey.

DALBY, AUGUSTUS WILLIAM, L.R.C.P. & S. Edin., has been re-appointed Medical Officer of Health for the Frome (*Somerset*) Rural District.

EAGER, RICHARD, M.B. Aberd., has been appointed Senior Assistant Medical Officer at the Devon County Asylum, Exminster.

GIBSON, J. A., M.D. Edin., has been appointed by the Isle of Wight County Education Committee as Medical Inspector of Schools for the County.

HALL, GEORGE, M.D. Lond., B.Sc. Dunelm, M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Royal Victoria Infirmary, Newcastle-on-Tyne.

HUDSON, BERNARD, M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the Royal Hospital for Diseases of the Chest, City-road, E.C.

JAQUES, ROBERT, F.R.C.S. Eng., has been appointed Honorary Surgeon to the Plymouth Royal Eye Infirmary.

JEWESBURY, REGINALD C., M.B. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician to Charing Cross Hospital.

JOHNSTON, W. L., M.B., Ch.B. Edin., has been appointed Resident House Surgeon at the Royal Infirmary, Stirling.

MONTESOLE, M. HERSCHEL, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon at the Western General Dispensary, Marylebone-road, N.W.

PARKIN, ALFRED, M.D. Durh., F.R.C.S. Eng., has been appointed Honorary Assistant Physician to the Royal Victoria Infirmary, Newcastle-on-Tyne.

RIGGALL, ROBERT MARMADUKE, M.R.C.S., L.R.C.P., has been appointed Second Assistant Medical Officer at the Devon County Asylum, Exminster.

ROCYN-JONES, DAVID THOMAS, M.B., C.M. Edin., D.P.H. Oxon., has been appointed Medical Officer of Health and Medical Inspector of Schools for the County of Monmouthshire.

SILVER, CLIFFORD MARKING, L.D.S. Eng., has been appointed Dental Surgeon to the Exeter Dental Hospital.

WATKINS, JOHN G., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Taunton Board of Guardians.

WHARTON, JOHN, M.D., B.C. Cantab., has been appointed Honorary Assistant Surgeon to the Manchester Royal Eye Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, rising to £100, with board, washing, and lodging.

BIRMINGHAM, JAFFRAY BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

BIRMINGHAM, QUEEN'S HOSPITAL.—Two House Physicians for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BOURNEMOUTH, ROYAL NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST.—Resident Medical Officer. Salary £10 per month, with board, residence, and washing.

BRADFORD ROYAL INFIRMARY.—House Physician and House Surgeon, unmarried. Salaries £100 per annum, with board and residence.

BUCKS COUNTY COUNCIL.—Medical Officer of Health. Salary 50 guineas per annum and fees.

BUCKS COUNTY EDUCATION COMMITTEE.—Education Medical Officer. Salary £300 per annum, with expenses.

BURY, CORPORATION OF.—Assistant Medical Officer of Health and School Medical Officer. Salary £150 per annum.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, washing, and attendance.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Physician for six months. Salary £30, with board, residence, and laundry.

CARLISLE, CITY OF.—Medical Officer of Health. Salary £500 per annum.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Honorary Medical Officer.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Physician to Out-patients.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Junior House Surgeon. Salary at rate of £60 per annum, with rooms, board, washing, and attendance.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon and Assistant House Surgeon. Salaries £80 and £40 respectively, with board and lodging.

DUNFERMLINE, CARNEGIE DUNFERMLINE TRUSTEES.—Assistant Medical Officer (female). Salary £200 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—Eight Clinical Assistants.

EXMINSTER, DEVON COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £140, rising to £160, with board, lodging, and washing.

FINCHLEY URBAN DISTRICT COUNCIL.—Medical Officer of Health and Superintendent of the Hospital. Salary £300 per annum, rising to £400.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Senior House Surgeon, Senior House Physician, Two Junior House Surgeons, and One Junior House Physician. Salary of Senior Officers at rate of £60 per annum, and of Junior Officers at £30 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL HOSPITAL, WITH WHICH IS AMALGAMATED THE NORTH-WEST LONDON HOSPITAL.—Three Physicians and two Surgeons in charge of the Out-patients' Department in Kentish Town. Also two Anæsthetists at the Hampstead Hospital.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon for six months. Salary £20. Also House Physician for eight months. Salary 25 guineas. Also Assistant Casualty Medical Officer for eight months. Salary 25 guineas. All with board and residence.

IPSWICH, BOROUGH OF.—Assistant Medical Officer of Health. Salary at rate of £150 per annum.

KENT COUNTY COUNCIL.—Medical Officer of Health. Salary £800 per annum, with expenses.

LEAMINGTON, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

LEICESTER INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LINCOLN UNION.—Medical Officer. Salary £100 per annum and fees.

LISCARD, VICTORIA CENTRAL HOSPITAL.—Honorary Assistant Anæsthetist.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

institution of which, as our readers will remember, the public owes a good deal to Captain Nott Bower, the Chief Commissioner of the City Police, who was Mr. Harrison's son-in-law. In recognition of his ambulance work he was made a Knight of Grace of the Order of St. John of Jerusalem. Two years ago the Khedive of Egypt conferred upon him the First Class of the Imperial Order of the Medjidieh in appreciation of his services. He was an honorary member of the French Surgical and Urological Society and of more than one similar society in America. He showed his sympathy with distant colleagues by appealing to the profession at home for duplicate copies of books to send to Toronto to replace the medical section of the library after it had been destroyed by fire in 1890.

Such was his public career. In private life he was a kind and courteous gentleman, a man who attracted friends naturally. He was a man of wide tastes outside surgery, and these are well indicated by saying that he was a member of the Athenæum, the Garrick, and the M.C.C. He died at Lower Berkeley-street on Feb. 28th from influenzal pneumonia after a very short illness. He is survived by one son and two daughters. Mr. Harrison was an industrious writer, as our own columns abundantly testify. During the last two decades of the last century there were few years in which he did not contribute some paper of urological interest, so that his papers form a fair epitome of the progress of that branch of surgery. The books which he published, besides those mentioned above, were "The Urethrotomies and Kidney Capsulotomy," "The Surgical Disorders of the Urinary Organs," and "Clinical Lectures on Stone and Urinary Disorders." His occasional contributions, were largely concerned with urethrotomy, the treatment of certain cases of acute nephritis by renipuncture and later by capsulotomy, and the pathology and treatment of enlarged prostate. For long he advocated vasectomy in this last-named condition but in his later writings he gave due consideration to prostatectomy. He maintained a prejudice in favour of the perineal route for lithotomy after the pendulum of opinion had swung towards the suprapubic operation but he was no slave to custom and judged every procedure on what appeared to him to be its merits. As far back as 1888 he demonstrated the electric endoscope at Liverpool and then reminded his audience that 20 years previously he had shown there Desormeaux's primitive instrument with its paraffin illumination. In his Bradshaw lecture in 1896 he showed a keen appreciation of the potentiality of the x rays as a means of diagnosis of stone, a prophesy which he lived to see justified. Amongst other subjects on which he wrote were albuminuria and kidney tension, lithotrity, and urine fever. His thoughts, however, were not entirely fixed on his special practice for three years ago he sent us a thoughtful little paper on the possible connexion between the increase in appendicitis and the use of boric acid as a preservative of food.

Dr. Richard Caton, Lord Mayor of Liverpool, and an old friend and colleague of Mr. Reginald Harrison, has kindly sent to us the following supplementary note. "The numerous friends of the late Mr. Reginald Harrison, alike those in the profession and among the laity, have heard with the deepest regret the news of his death. In Liverpool the feeling was particularly strong and widespread. The bonhomie, cheeriness, kindliness of nature which characterised Mr. Harrison, no less than his great ability in his own professional sphere, caused him to be greatly beloved and highly valued. The special ability and tact which were so characteristic of him were of great value not merely in the hospitals which he served so diligently in Liverpool, but also in regard to his connexion with the Medical Institution and the School of Medicine. It is well known that Great Britain owed to Mr. Harrison the introduction of the ambulance system. He had noted during his travels in America the great advantages that method offered, and after some difficulty he succeeded in persuading the authorities in Liverpool to institute an exactly similar arrangement. This, as we know, has now been copied in a large number of cities not only in England but throughout Europe, and is found of the greatest advantage. Mr. Harrison's zeal and energy were exceedingly valuable also to the School of Medicine. At a time when that institution was in low water and when it was a matter of doubt whether it was worth while continuing it, Mr. Harrison together with two or three of his colleagues were of opinion that if improved and maintained it might prove the germ from which a college and even a university might spring in the city of Liverpool, and to a considerable extent the present flourishing University of Liverpool has to thank him that its foundation took place at so early a date as it did. Mr. Harrison was greatly beloved by his students. His methods of teaching were simple, direct, and practical. He wasted little time in disquisitions upon theory, but he showed his pupils how to form a careful diagnosis and how to carry out a useful and practical treatment. The loss to Mr. Harrison's private friends is indeed a very great one. Not many men have such kindliness, such capacities for friendship, and few had the wonderful memory that he possessed in regard to faces and individuals whom he had known even at remote periods of time. Nowhere is his loss more lamented than among his many friends in Liverpool."

EDWARD DILLON MAPOTHER, M.D. R.U.I., F.R.C.S. IREL.

THE many friends in England and Ireland of Dr. Edward Dillon Mapother, and those Irishmen scattered through the world who were his former pupils at the Royal College of Surgeons in Ireland will regret to hear of his death which took place at his residence, 16, Welbeck-street, London, W., from influenza and broncho-pneumonia, on March 3rd, in his seventy-third year. He had retired from active practice for several years and had lately been in failing health.

Dr. Mapother belonged to a well-known Roscommon family of English descent but long settled in that county. He was born at Fairview, near Dublin, on Oct. 14th, 1835. The system of apprenticeship being still in vogue when he commenced his professional studies he was bound to Dr. Hatch Power, professor of surgery in the Royal College of Surgeons, Dublin. In 1857 he graduated M.D. (with first honours and gold medal) in the Queen's University. For some years he was engaged in tutorial work and prepared many successful candidates for the medical service of the Crown as well as for graduation. In 1862 he became a Fellow of the College of Surgeons and soon after, in 1867, was elected professor of anatomy and physiology in succession to Professor Jacob, having been appointed in 1864 to the chair of hygiene. He had been surgeon to St. Vincent's Hospital from 1859 as well as to the Children's Hospital. For several years he discharged with conspicuous ability the onerous duties of medical officer of health of Dublin, and many much-needed sanitary reforms owe their initiation to his courage and energy. He was elected President of the Royal College of Surgeons in Ireland in 1879 and it was largely due to his exertions in his year of office that the dental diploma of the College was instituted, while later he took a leading part in the movement which brought about the amalgamation of the Carmichael and Ledwich schools with that of the College. He was the author of many professional works, amongst others "A Manual of Physiology" (three editions), "Lectures on Public Health," and "The Body and its Health," a book for primary schools (six editions). In 1868 he won the Carmichael prize for the best essay on "Medical Education." He delivered the address on public medicine at the Brighton meeting of the British Medical Association in 1886. During the next few years he spent a considerable time at the centres of medical education in France and Germany in the study of skin diseases as well as syphilis and gout.

In 1888 he removed the sphere of his consulting practice to London and was presented with a farewell address by the leading members of the profession in Dublin. In that year he was President of the Dublin branch of the British Medical Association. Dr. Mapother was also a Fellow of the Royal Medical and Chirurgical Society, a member of council of the Medical Society of London, and chairman of the Irish Medical Schools' and Graduates' Association. He was also for some years, 1880–1885, surgeon to the Lords Lieutenant of Ireland.

He married in 1870 Ellen, daughter of the Hon. John Tobin, M.P., of Halifax, Canada, who survives him and has issue one son, Edward Mapother, M.B., B.S. Lond., who has lately entered the medical profession and is at present house physician at University College Hospital, and six daughters, of whom five survive.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced: Dr. Ferdinand Petersen, extraordinary professor of surgery in the University of Kiel, aged 62 years.

derived from primary dry cells. It is most convenient and useful and the fact that it can easily be recharged is not the least recommendation about it. Considering its small size it is remarkably effective. We received a specimen lamp, which came through the post without injury, from Messrs. G. E. Wilson and Co., of 20, Cross-street, Manchester, and the price is 8s. 6*d.*

A COINCIDENCE IN INVENTION.

To the Editor of THE LANCET.

SIR,—In your issue of March 7th a communication is published from Mr. Seymour Stritch of Dublin upon a new pessary. May I venture to call your attention to a communication from me in your columns of Oct. 6th, 1900, p. 1020, upon the same subject? Mr. Stritch's pessary is merely mine in a very modified form; in essential features, ring on hinged stem, it is the same. As a matter of fact, and as the result of experience, I have discarded the "ring" pattern in favour of the "Hodge," and find that in every way it gives satisfaction to both patients and myself. Messrs. Krohne and Sesemann, 37, Duke-street, London, W., have made my instrument in considerable numbers since its first conception, and I am sure they will be pleased to show it at any time to Mr. Stritch—in both "ring" and "Hodge" patterns. I do not for a moment suggest that Mr. Stritch could either have seen my article, or the pessary itself, before offering his communication to your journal.

I am, Sir, yours faithfully,

Woodford Green, Essex, March 10th, 1908. HUGHES R. DAVIES.

"WON'T-LET-GO" CEMENT.

ACCORDING to our examination this is a carefully prepared gelatin cement and a practical trial convinced us of its effective adhesive qualities. It is very clean to use and is contained in a collapsible metal tube. The makers, Messrs. J. E. Morgan, of 63, Ludgate-hill, London, E.C., suggest its use by surgeons and in hospitals on account of its strength and antiseptic properties. We confirmed the presence in it of a pleasant antiseptic oil.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.—(*Pathological Section*). 8.30 P.M., Mr. S. G. Shattock: Specimens of the Larvæ of Eristalis Tenax passed by the Bowel. Mr. C. B. Walker: Enlargement of Hen's Comb produced by Injections of Testicle Extract. Dr. L. Barlow: The Relation of Endothelioma to other Forms of New Growth. With papers and demonstrations bearing on the subject by Mr. C. W. Rowntree, Mr. A. Leitch, and Dr. L. Courtauld.

THURSDAY.—(*Dermatological Section*). 5 P.M., Clinical Cases will be shown by Dr. J. H. Sequeira and others.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. F. C. Shrubsall: Anthropometry and Physical Development (illustrated by lantern slides).

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. C. F. Rousselet: Exhibition of Mounted Specimens. Right Hon. Lord Avebury: On Seeds, with Special Reference to British Plants.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Dr. F. Langmead, Dr. P. Weber, Dr. C. Chapman, Dr. G. Carpenter, Dr. P. Parkinson, Mr. S. Stephenson, and others: Cases and Specimens.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

FRIDAY.—8.30 P.M., Mr. A. E. Shipley: The Relation of Entozoa to the Mucous Lining of the Alimentary Canal. Dr. W. T. Prout: (1) The Rôle of Filaria in the Production of Disease; (2) Note on an Unusual Cause of Dysenteric Diarrhœa in the Tropics; (3) exhibit of the Sword of a Sword Fish removed from a man who had been transfixed by it.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY.—5 P.M., Dr. F. A. Bainbridge: The Pathology of Acid Intoxication.

WEDNESDAY AND FRIDAY.—5 P.M., Mr. M. Greenwood: The Physiological and Pathological Effects which follow Exposure to Compressed Air.

(Arris and Gale Lectures.)

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Dr. H. French: The Influence of Pregnancy on certain Medical Diseases, and the Influence of certain Medical Diseases on Pregnancy. (Goulstonian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. C. Fox: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. M. Sandwith: Bilharziasis.

TUESDAY.—4 P.M., Dr. E. Cautley: Clinique (Medical). 5.15 P.M., Lecture: Mr. F. Eve: Experiences and Observations in the Surgery of some Non-malignant Affections of the Stomach.

WEDNESDAY.—4 P.M., Mr. R. H. J. Swan: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. H. Thursfield: Post-Basal Meningitis.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. L. Guthrie: Precocious Development.

FRIDAY.—4 P.M., Mr. R. Lake: Clinique (Ear).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Ball: Diseases of the Tonsils (illustrated by lantern slides).

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Ball: Diseases of the Tonsils (illustrated by lantern slides).

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Hood: Arterio-Sclerosis.

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).

an assistant in distressed circumstances pointed to the early founding of a benevolent fund. Votes of thanks to the master and wardens of the Apothecaries' Society and to the chairman, treasurer, secretary, local secretaries, and committee of the association concluded the business.

Dr. J. Charlton Briscoe has been elected assistant physician to King's College Hospital.

WATERED MILK.—At Gloucester police court on Feb. 27th the dairyman who had the contract for the supply of milk to the Gloucester Workhouse was fined £15 and costs for supplying milk adulterated with 17 per cent. of water to the inmates of that institution.

LITERARY INTELLIGENCE.—Messrs. Wm. Hodge and Co., Edinburgh and Glasgow, announce for publication on March 19th, as a new volume in their series of Notable Scottish Trials, an account of the "Ardlamont Case," which some 13 years ago was the general topic of conversation all over Britain.

DONATIONS AND BEQUESTS.—The late Mr. James Robert Turle by will bequeathed 100 Hudson's Bay shares of the value of about £7700 and £3000 New South Wales 3 per cent. of the value of about £2570 to the London (Royal Free Hospital) School of Medicine for Women; 100 Hudson's Bay shares and £3000 New Zealand 2½ per cent. to the Metropolitan Convalescent Institution; and £8400 London County Council 3 per cent. to the New Hospital for Women, Euston-road, N.W.

HEALTH AND SANITATION OF ST. VINCENT.—Mr. D. T. Tudor, acting administrator, in his report on the blue-book of the colony for the year 1906–07, just presented to Parliament, states that the estimated population in March, 1907, was 51,009. The births registered in 1906–07 were 1768, as against 1709 in 1905–06. Of these 1018, or 57·57 per cent., were illegitimate. Marriages were 141, a decrease of 55 on the previous year's figures, a decreased total which coincided with the increased percentage of illegitimacy. The total registered deaths were 929, as against 775 in 1905–06, being 18·2 per 1000 of the estimated population, a general rate of mortality which, after taking into account the deplorably high rate of infant mortality, must be regarded as very favourable. The infant mortality (infants under one year, exclusive of stillbirths) reached no less a total than 311, being 33·5 per cent. of the whole. The corresponding figures in 1905–06 were 169, or 21·8 per cent. The causes of death were thus tabulated: general diseases (including syphilis 119, tubercle 65, tetanus 37, and malarial fevers 18), 356; diseases of nervous system, 36; diseases of circulatory system, 25; diseases of respiratory system, 51; diseases of digestive system, 132; parasites, 47; age, 87; stillborn, 104; and other diseases, 91; total, 929. In the villages of the peasantry the ideas and methods in sanitary matters are elementary in the extreme. In the towns things are passable. The rainfall for the year 1906–07 was 104·45 inches. Rain fell on 292 days throughout the year. The mean monthly temperature was 78·3° F.; maximum for the year 90° F. in November; minimum, 63° F. in March.

MARYLEBONE HEALTH SOCIETY.—The second annual meeting of this society was held at the Town Hall, Marylebone-lane, W., on March 9th, Lord Robert Cecil being in the chair. He was supported by a number of residents in the borough. The report shows that satisfactory progress has been made during the year in the matter of "health visiting." As is well known, the work is largely directed to the prevention of infant mortality and the prevention of the spread of tuberculosis, and is effected by the personal visiting of the homes of the poor by ladies who are interested in the cause. It is obvious from the report that to engage the mothers' confidence is an important prelude to their conversion to a better sanitary ideal and this is attempted by a system of "tea-talks" which are less formal than ordinary lectures and are proving successful in their aim. The work is greatly strengthened by the "Infant Consultations" at the St. Marylebone Dispensary, at which 110 infants have attended during the year, of whom only three have died, and the general progress of the others has been good. There are 15 ladies voluntarily visiting the poor dwellings in Marylebone, and it is hoped that more will join them. The society has done equally good work with patients suffering from tuberculosis, visiting many whose condition had not been notified to the medical officer of health and instructing them in their personal hygiene. The committee, recording with regret the resignation of Mr. A. Wynter Blyth both as medical officer of health and chairman of the executive committee, pays a tribute to his invaluable help in the past.

THE MEDICAL OFFICER OF HEALTH OF BRIGHTON.—Dr. Duncan Forbes, medical officer of health of Cambridge, was on March 5th elected by the Brighton town council to succeed Dr. A. Newsholme as medical officer of health of the borough at a salary of £600 per annum. There were in all 37 applicants for the position.

HEREDITY AND MORAL RESPONSIBILITY.—A series of lectures will be delivered at St. Edward's House, 22, Great College-street, Westminster, on Fridays, March 13th, 20th, and 27th, and April 3rd and 10th, at 6 P.M., by the Rev. Father Waggett who is a trained biologist as well as a theologian. The subject of the lectures is Heredity or Natural Inheritance in Relation to Moral Responsibility and the Doctrine of Sin. The lectures are for men only and the question will be discussed from the physiological point of view and also from that of the different religious questions which appear to be involved.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Death Certificates (Charges) Bill.

A BILL designed "to amend the Births, Deaths, and Marriages Act, 1836, for the purpose of reducing the charges for death certificates in certain cases" has been introduced into the House of Commons by MR. GILL. It has been read a first time. The measure has the formal support of MR. SHACKLETON, MR. BELL, MR. THORNE, MR. JAMES HASLAM, MR. WILKIE, MR. BOWERMAN, MR. STEADMAN, MR. BARNES, MR. KELLEY, MR. GEORGE ROBERTS, and MR. WILLIAM WILSON.

Public Health Officers Bill.

SIR WALTER FOSTER'S Bill "to amend the law relating to the qualification and tenure of office of medical officers of health and for other purposes" has been printed. Sir Walter Foster states in the memorandum that the main objects of this Bill are to insure that none but those properly qualified shall be appointed as medical officers of health or sanitary inspectors, and to give all such officers and inspectors similar security in their tenure of office to that enjoyed by Poor-law medical officers and metropolitan medical officers of health. Clause 1 proposes to enact that after Sept. 29th, 1910, no person shall be appointed a medical officer of health unless he is a duly qualified medical practitioner, and unless (a) he is registered on the Medical Register as the holder of a diploma in sanitary science, public health, or State medicine under Section 21 of the Medical Act, 1886; or (b) he has for three consecutive years before the commencement of this Act served as a medical officer of health of a district or combination of districts with a population, according to the last published census, of not less than 50,000; or (c) the Local Government Board consents to his appointment.

It is further proposed that after the same date a person shall not be appointed a sanitary inspector unless (a) he is the holder of a certificate of such body as the Local Government Board may from time to time approve that he has by examination shown himself competent for the office; or (b) he has for three consecutive years before the commencement of this Act served as a sanitary inspector of a district or combination of districts with a population according to the last published census of not less than 20,000; or (c) the Local Government Board consents to his appointment.

As the law stands no qualification is required for a sanitary inspector except in London, and as a general rule a medical officer of health or sanitary inspector is appointed from year to year only and thus has no true security of tenure. Poor-law medical officers and metropolitan officers of health are not appointed for limited periods only, and are removeable only by, or with the consent of, the Local Government Board. Accordingly Clause 2 has been framed to amend the law with regard to the tenure of office. It runs as follows: "(1) A medical officer of health or sanitary inspector shall not hold office nor be appointed for a limited period only, and shall be removeable only subject to an appeal to the Local Government Board. (2) This section shall apply to every medical officer of health or sanitary inspector, whether appointed before or after the commencement of this Act, and notwithstanding any contract to the contrary."

Except in London, urban sanitary authorities have no legal power to appoint more than one sanitary inspector. It is desired to extend the metropolitan powers to all urban sanitary districts. In London the sanitary inspector is so called by law, but outside London the law names

Communications, Letters, &c., have been received from—

A.—Association of Certificated Dispensers, Lond., Hon. Secretary of; Argylls, Ltd., Lond.; Dr. N. H. Alcock, Lond.

B.—Mr. Harold Barwell, Lond.; Dr. F. G. Bushnell, Brighton; Dr. F. A. Bainbridge, Lond.; Birmingham General Hospital, House Governor of; *British Dental Journal*, Lond., Editor of; Mr. E. Baker, Birmingham; Dr. R. W. S. Barraclough, Bournemouth; Mr. C. Birchall, Liverpool; Mr. E. W. Blasius, Lond.; British Oxygen Co., Lond., Secretary of; Bayer Co., Lond.; Dr. C. Ballabene, Berlin; Messrs. Boulton and Paul, Norwich; *Bury Times*, Manager of; The Borough of St. Marylebone Health Society, Lond., Hon. Secretary of; British Association for the Advancement of Science, Lond., Assistant Secretary of; Mr. W. G. Burcombe, Lincoln.

C.—Dr. Maurice Craig, Lond.; Dr. J. Cropper, Chepstow; Croydon, Medical Officer of Health of; Mr. Arthur R. Chorley, Leeds; Mr. Cuthbert E. A. Clayton, Manchester; Dr. R. Caton, Liverpool; Mr. J. T. Critchell, Lond.; Mr. Thomas R. D. Carruthers, Edinburgh; Messrs. J. and A. Churchill, Lond.; Canadian Department of Agriculture, Ottawa, Veterinary Director of; Messrs. Cassell and Co., Lond.; Canterbury Borough Asylum, Medical Superintendent of; Mr. F. W. Clarke, Chorlton-cum-Hardy; Messrs. W. Clark and Son, Dunfermline; Carlisle Corporation, Clerk to the; Messrs. Clarke, Son, and Platt, Lond.; C. K. F.; Messrs. Corbyn, Stacey, and Co., Lond.

D.—Mr. F. Diemer, Lond.; Messrs. W. Duff and Co., Lond.; Mr. T. Dixon, Lond.; Mr. E. Darke, Lond.; Mr. J. Dunlop, Lond.; Devon County Asylum, Exminster, Clerk to the; Mr. Loudon M. Douglas, Edinburgh; Dr. J. Gray Duncanson, Lond.; Messrs. Down Bros., Lond.; Mr. W. Douglas, Goudhurst.

E.—Mr. W. Edmunds, Lond.; Electromobile Co., Lond.; East Sussex Hospital, Hellingley, Clerk to the; Eccles and Patricroft Hospital, Secretary of; Messrs. Elliott and Fry, Lond.; Dr. E. A. Elder, Blackburn.

F.—Mr. A. C. D. Firth, Lond.; Messrs. J. S. Fry and Sons, Bristol; F. E. S.; Dr. G. W. H. French, Lond.

G.—Dr. George F. Grant, Lond.; Great Northern Railway Co., Lond., Chief Passenger Agent of; Dr. A. H. Garvin, Ray Brook, U.S.A.; Dr. M. H. Gillies, Teeswater, Canada; Dr. G. A. Gibson, Edinburgh; Mr. C. H. Garland, Lond.

H.—Rev. S. H. Harvard-Watts, Hurstpierpoint; H. G.; H. S.; Dr Beatson Hird, Birmingham; Hunterian Society, Lond., Hon. Secretary of; Dr. P. Tetens Hald, Copenhagen; Mr. Frederick J. Hanbury, Lond.; Hampstead General Hospital, Lond., Secretary of; Messrs. Haasenstein and Vogler, Cologne; Mr. J. Hart, Lond.; Dr. William J. Howarth, Derby.

I.—Messrs. Ingram and Royle, Lond.; India, Under Secretary of State for, Lond.; Incorporated Society of Medical Officers of of Health, Lond., Secretary of.

J.—Mr. Robert Jones, Liverpool; *The Journal of the American Medical Association*, Chicago; Dr. Watkin W. Jones, Worthing; Dr. Robert Jones, Claybury; Mr. H. Emlyn Jones, Lond.

K.—Mr. W. Henry Kesteven, Lond.; King Edward's Hospital Fund for London, Hon. Secretaries of; Dr. John Knott, Dublin; Captain E. Blake Knox, R.A.M.C., Meerut; Kensington, Medical Officer of Health of; Kent County Council, Maidstone, Clerk of.

L.—Mr. H. K. Lewis, Lond.; London and County Motor Co., Lond., Secretary of; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of; Mr. F. W. Lowndes, Liverpool; Local Government Board, Lond., Medical Officer of; Local Government Board for Scotland, Edinburgh; Leicester Infirmary, Secretary of; London County Council, Education Department, Executive Officer of; Mrs. L. Longfield, Enniskean.

M.—Dr. E. Murphy, Cork; Maltine Manufacturing Co., Lond.; Dr. M.; Mr. R. Mosse, Berlin; Dr. D. R. Mitchell, Pontypridd; Mountain Ash Urban District Council, Director of Education; Mr. W. R. Meyer, Hurstpierpoint; Montgomery County Council, Welshpool, Clerk to the; Messrs. Maple and Co., Lond.; Dr. G. S. Moore, Huddersfield; Messrs. Peter R. McQuie and Son, Liverpool; Dr. R. O. Moon, Lond.; Miss Mapother, Lond.; Metropolitan Convalescent Institution, Governors to the; Messrs. J. Maxwell and Son, Dumfries; Macclesfield General Infirmary, Secretary of; Dr. F. C. Martley, Dublin; Manchester Medical Society, Hon. Secretary of; Mr. P. E. McElligott, Sheffield; Manchester Medical Agency.

N.—Dr. David Nabarro, Lond.; Dr. Lucien Nass, Vincennes; Mr. G. P. Newbolt, Liverpool; Messrs. Newton and Co., Lond.; Mr. John S. Nicholas, Knowle; North London or University College Hospital, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; *Newcastle Daily Chronicle*, Manager of.

O.—Dr. James Oliver, Lond.; Dr. F. M. Oliver, Lond.

P.—Dr. C. T. Parsons, Lond.; Mr. H. W. H. Palmer, Haslemere; Physician, Porthleven; Fleet-Surgeon A. M. Page, R.N., Plymouth; Messrs. Peacock and Hadley, Lond.

R.—Mr. Thomas Reeves, Brighton; Messrs. Reitmeyer and Co., Lond.; Royal Microscopical Society, Lond., Secretaries of; Royal Sanitary Institute, Lond., Secretary of; Royal Society of Medicine, Otological Section, Lond., Hon. Secretary of; Royal National Sanatorium for Consumption, Bournemouth, Secretary of; Royal South Hants Hospital, Southampton, Secretary of; Royal Meteorological Society, Lond., Assistant Secretary of; Mr. Richmond Roche, Lond.; Royal Society of Medicine, Lond., Secretary of.

S.—Dr. A. Sharp, Nottingham; Sir James Sawyer, Birmingham; Smeddle Kennedy Motors, Newcastle-on-Tyne, Manager of; Messrs. Spiers and Pond, Lond.; Star Engineering Co., Wolverhampton; Messrs W. H. Smith and Son, Stafford; Dr. William T. Shanahan, Sonyea; Mr. G. Seymour Stritch, Dublin; Dr. Frank C. Shrubsall, Lond.; Messrs. G. Street and Co., Lond.; Stepney Spare Motor Wheel, Llanelly, Manager of; *Selling Magazine*, New York, Advertising Manager of; Sanitas Electrical Co., Lond.; St. George's-Nauheim Institute, Lond., Director of; Scholastic, Clerical, &c., Association, Lond.; Dr. Fred. J. Smith, Lond.; Dr. D. Lloyd Smith, Frodsham.

T.—Mr. J. Tweedy, Stockton-on-Tees; Torbay Hospital, Torquay, Secretary of; Dr. A. H. Thomas, Boroughbridge; T. D; Mr. F. C. Truchses, Philadelphia, U.S.A.; Taunton and Somerset Hospital, Secretary of; Torquay Borough Education Committee, Clerk to the; Miss Mary Flint Taylor, M.B., Lond.

V.—Mr. F. O. W. Vogel, Leipzig; Victoria, Inspector-General of the Insane; Mr. Arthur E. Vaizey, Bocking.

W.—Mr. Frank A. Watkins, Lond.; West Kent General Hospital, Maidstone, Secretary of; Dr. R. S. Wainewright, Beckenham; Sir W. Whitla, Belfast; Mr. G. Baillie Weaver, Newport; Worcestershire County Council, Worcester, Director of Education; Messrs. J. Wright and Co., Bristol; *Worthing Gazette*, Manager of; West Bromwich District Hospital, Secretary of; Dr. E. Croft Watts, Farnborough; Mr. Herbert Lane Webb, Lond.

Z.—Mr. Carl Zeiss, Jena.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. A. Anderson, York; Abertillery Urban District Council, Clerk to the; A. B., Lond.; Messrs. Allen and Hanburys, Lond.; A. A.; A. D.; A. D.; Apothecaries' Hall of Ireland, Dublin, Secretary of.

B.—Mr. H. Bennett, Builth Wells; Mr. W. P. Blumer, Sunderland; Messrs. G. Back and Co., Lond.; Mr. P. Benham, Lond.; Messrs. Bates, Hendy, and Co., Lond.; Dr. T. Bromilow, Rushden; Blackburn Corporation, Accountant to the; Dr. W. H. Bishop, Wylam-on-Tyne; Birmingham Corporation, Clerk to the; Mr. S. Bucciarelli, Rome; Dr. A. R. Berrie, Hetton-le-Hole.

C.—Dr. C. S. Crichton, Redhill; Mr. A. W. S. Curties, Burwash; Mr. J. Chronnell, Hindley; C. H. O; Carnarvonshire, &c., Infirmary, Bangor, Treasurer of; Messrs. J. and A. Carter, Lond.; Cardiff Infirmary, Secretary of; Miss E. Cuvellier, Wickham Market; Messrs. A. Constable and Co., Lond.

D.—Mr. H. Davies, Pontypridd; Mr. G. T. de Fraine, Aylesbury; Dr. J. W. Dalgliesh, Sutton; Miss Daniel, Epsom.

E.—Miss F. E. Turle Evans, Lond.; Eustace Miles Restaurant Co., Lond., Manager of; E. F. H.; E. L., Liverpool; E. L. R.; East Suffolk Hospital, Ipswich, Secretary of; E. K. C.; E. R. I.; Messrs. Evans, Sons, Lescher, and Webb, Liverpool; E. C.; E. W S.

F.—Dr. G. Findlay, Brailes; F. K. T.

G.—Dr. Stanley Gill, Liverpool; Mr. J. Gordon, Fearn; Mr. J. W. Griffin, Birmingham; Mr. G. Gregory, Bath; The Ghyll Retreat, Cockermouth, Medical Superintendent of; G. A. S.

H.—Mr. W. E. Harrison, Ipswich; Mr. J. W. Harbinson, Brighton, Australia; H. E. G.; Hastings and St. Leonards Hospital, Secretary of; Dr. G. S. Halton, Newcastle, Staffordshire; Messrs. Hardy and Co., Manchester; Mrs. J. Harvey, Nonington; Mr. P. Harper, Lond.; H. E. L.; H. F. W.; H. S. B J.; H. B.; Mr. F. E. Heubeck, Owmaman.

I.—Incorporated Institute of Hygiene, Lond., Secretary of; Ingham Infirmary, South Shields, Secretary of.

J.—Mr. H. W. James, Avebury; Mr. T. R. Judson, West Derby; J. H. R.; J. W. C. H.; J. S. L.; J. W. E. C; J. E. R.; J. D.; Mr. F. S. Jackson, Aberdovey; Mr. Y. M. Jones-Humphreys, Cemmaes.

K.—Mr. C. Knowles, Blackburn; Messrs. Knoll and Co., Lond.; Mr. H. E. Kinsella, Chorley; Mr. J. M. King, Willingham; Dr. W. W. Keen, Alger; Messrs. R. A. Knight and Co., Lond.

L.—Mr. A. Leckie, Lond.; L. P.; Lanark County Council, Hamilton, Clerk to the; L. S. P.; L., Old Southgate; Mr. W. W. Linney, West Croydon; Mr. R. T. Lang, Lond.; Mr. L. F. Leslie, Evesham.

M.—Dr. A. W. Mackay, Inverness; Mr. T. K. Mulcahy, Limerick; Dr. J. Merson, Hull; Messrs. Menzies and Co., Edinburgh; Dr. H. C. Maudsley, Melbourne; Mr. A. H. McCandlish, New Ferry; M. R.

N.—North British Advertising Agency, Lond., Secretary of; North Riding Infirmary, Middlesbrough, Secretary of.

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W.—Dr. A. J. Whiting, Lond.; Dr. W. N. W. Watson, Birmingham; Mr. H. Wood, Llanbedr; Rev. R. J. Williams, Liverpool; Mr. N. C. Whitfeld, Hereford; Dr. R. Stenhouse Williams, Liverpool; Mr. W. F. A. Walker, Dinas Mawddwy; West London Hospital, Secretary of; Mr. H. B. Wilkinson, Blackadon; Worcestershire County Council, Worcester, Clerk to the; Mr. J. Williams, Bradford; W. H. G.

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only be obtained by a laborious examination of the District records. I may explain, however, that all accidents due to power machinery and other special causes, about one-third of the total number, are investigated on the spot by the certifying surgeon. The surgeon reports to the inspector who then decides whether a further inquiry on his part is necessary. A vast number of the reported accidents are of a trivial character, and even if an investigation of each were possible it could seldom, from the nature of most of them, result in any preventive measures being taken.

Beri-beri on Merchant Vessels.

Mr. G. J. COOPER asked the President of the Board of Trade whether any scientific inquiry was being made by the Board into the cause of beri-beri; and, if not, whether he would consider the advisability of making a grant either to the Royal Society or the School of Tropical Medicine, to be expended in experimental research to discover the specific organism or toxin causing this disease.—Mr. KEARLEY replied (by written answer): The Board of Trade has been in communication with the Royal College of Physicians of London on the subject of beri-beri on board merchant ships and the matter is now before a special committee of Fellows of the College. On receipt of the committee's report the Board of Trade will consider whether any, and if so, what further steps should be taken.

Mr. COOPER further asked whether, as deficiency of nitrogenous food, overcrowding, and defective sanitation were conditions which, if combined, had been found favourable to the development of beri-beri, he would consider the advisability, when directing inquiries into the deaths from this disease of Chinese or Indian lascars on British ships, that these conditions should be reported upon as well as the adequacy and cost of the food supplied daily.—Mr. KEARLEY answered: Yes, sir; the suggestion made in my honourable friend's question shall be borne in mind.

The Supply of Milk in London.

The London County Council (General Powers) Bill was read a second time.

Mr. COURTHOPE then moved that an instruction should be given to the committee which would deal with the Bill that all clauses dealing with the milk-supply except the model milk clauses should be struck out of the Bill. He said that in making this motion he was acting on behalf of the Central Chamber of Agriculture and other bodies. There must be uniformity of local legislation, and in order to secure that uniformity they must move on the basis of model milk clauses, for the reason that they had already been inserted in a hundred private Acts, including those of all the London boroughs. Some other authorities had other clauses dealing with the subject of milk-supply. Power of inspection outside their own area had been given to local authorities, and it was that jurisdiction outside their own area which had caused great inconvenience to the agricultural community. At first it was thought that the purity of the milk-supply could be secured by enforcing sanitary conditions in the cowsheds and dairies. However, the powers under the Dairies, Cowsheds, and Milkshops Order of 1899 had not been found to be sufficient. This Bill sought to place on the farmer the whole responsibility for the state of the milk on its arrival at the place to which it was consigned. It would be said on behalf of the County Council that the impurity took the form of cow-dung and for that the agriculturists were responsible, but tobacco pipes, tobacco, and tea leaves were also found in the milk. The milk churns were often left open at the London termini, where the milk became polluted, and where there was a good deal of thieving of the milk and consequent adulteration. Agriculturists reasonably objected to being burdened with the responsibility for these things. The railway companies had refused to accept any responsibility. The agricultural community had no wish to avoid inspection. The dairyman was already responsible to the local authority in his area and if this Bill were passed he would be made responsible to the London County Council. He admitted that the position of London, into which 50,000,000 or 60,000,000 gallons of milk were brought every year, was unique. However, the President of the Local Government Board had promised legislation on the subject this year and there was therefore all the more reason for resisting piecemeal legislation now.

Mr. HICKS-BEACH seconded the motion.

Mr. GUINNESS said that the London County Council, being unable to obtain an assurance from the President of the Local Government Board that he would introduce a general measure dealing with this question, had felt that it was necessary to propose an extension of the model clauses. If the right honourable gentleman would give an assurance that he would introduce legislation which would insure a supply of pure milk and would also take into consideration the special position of London, the County Council would be relieved of the necessity of proposing special legislation. The County Council held that the model clauses did not go far enough. It was not sufficient to check the supply of tuberculous milk. They wanted also to keep out dirty milk. They approved of the machinery of the model clauses but sought to extend their application. In order to insure a cheap supply the Council was anxious not to throw any undue burden on the local authorities and therefore they had kept the whole power of inspection in the hands of the County Council. They did not propose to take any inquisitorial powers and they felt certain that no clean farmer would be penalised in the least by their clauses. A large portion of the population of London had to depend upon small shops and under present conditions that supply was very insanitary. The state of affairs now existing in London was very dangerous. In Finsbury it was found that 32 per cent. of the samples of milk which had been examined contained pus and 40 per cent. contained dirt. Mr. A. E. Harris, medical officer of health of Islington, last year examined the contents of 34 successive churns of milk at Finsbury Park station and found that no fewer than 33 contained excremental matter. Under present conditions it was quite impossible to discover where contaminated milk came from and so the farmer got off with impunity. It was no use, he submitted, that the metropolitan borough councils should be enabled to proceed against the retailers of milk in London unless some authority—and the London County Council seemed to be the only possible one—was enabled to go to the railway stations and find out what milk was dangerous before it was distributed. The trouble of this dirty milk arose from the fact that in a large number of districts the Dairies, Cowsheds, and Milkshops Orders were not in force. No fewer than 324 sanitary authorities had made no regulations and in other cases no enforcement was insisted upon. The reports of medical officers of health in different counties showed the dangerous condition of things which existed and the filthy and revolting conditions of the cowsheds in many places. A number of the sanitary authorities from whose districts milk was sent to London did not seem to care how many people in the metropolis had their health affected by a poisonous supply. The infantile mortality in London, he contended, was fostered by a contaminated milk-supply, and in the interests of a sanitary milk-supply it ought to be possible for the local authorities in London to step in and to take the place of those sanitary authorities in the country who neglected their duties.

Mr. BURNS (the President of the Local Government Board) said that in addition to the London County Council Bill two other Bills (the Widnes Corporation Bill and the Blackburn Corporation Bill) dealt more or less with the same subject in a similar way. As they were down on the notice paper for consideration that evening he would express the views of the Government upon all three together. The Government took no exception to the instruction moved by the honourable Member for Rye (Mr. Courthope) although it did not identify itself with all the objects and motives which might have influenced the honourable Member and the interests on whose behalf he acted. The time had come when they ought to have a larger, better, and cleaner milk-supply, especially in the interests of the children in large towns. He accordingly intended to bring in a general Bill this session dealing with the milk-supply of the country. The question had become a national one. He believed that the public could be protected without handicapping the farmer or harassing the dairyman and that the interests of the progressive farmer and the clean and enterprising dairyman should lead them to coöperate in insuring for their trade cleanly and scientific conditions. The Bill which he proposed to bring in would seek to secure cleanliness, purity, and reliability in the milk-supply and to remove the evils of overlapping jurisdiction and would deal with the question of compensation in certain cases, with the conditions of valuation, the price to be paid, and a number of other matters. He believed that there was an increasing recognition of the value of milk as an article of diet both for young and old, but he feared that the speech of the honourable Member for Bury St. Edmunds (Mr. Guinness) was rather of a character to make people say with Eccles in *Caste*, "Milk, milk; I would rather have a drop of cold refreshing gin." The Government would take into consideration the need of London for exceptional treatment on account of its exceptional character and size. The milk-supply of London could not be satisfactorily controlled unless the central body had greater control than it now had, not only over milk but over a number of things. He would assure the Members for Blackburn and Widnes and the Members who represented the London County Council that nearly all that each of them sought would be embodied in the Government Bill along with other matters which they had not mentioned. He hoped the motion of the Member for Rye (Mr. Courthope) would be carried without a division.

Mr. HARWOOD-BANNER was afraid that the right honourable gentleman had squared the agricultural interests to the prejudice of the interests of localities.

Mr. BURNS: You will not say so when you see the Bill.

The motion for the instruction was agreed to without a division.

When the Blackburn and Widnes Corporation Bills had been read a second time instructions to the committee were also agreed to striking out all clauses dealing with milk-supply other than the model milk clauses.

MONDAY, MARCH 9TH.

Phosphorus in Matches.

Mr. T. P. O'CONNOR asked the Secretary of State for the Home Department whether, in view of the deaths from poisoning of women and children from consuming phosphorus taken from match heads, he would state whether any record of these cases was kept; and, if so, how many deaths had occurred during the year 1907 from this cause.—Mr. GLADSTONE answered: The deaths returned by coroners' juries as resulting from poisoning by phosphorus from matches are shown in the Registrar-General's annual reports. The figures for 1907 have not yet been ascertained. The Registrar-General informs me that in 1905 six deaths were attributed to poisoning from phosphorus matches, five of the victims being children under three years of age and one a girl of 12 years.

Mr. T. P. O'CONNOR further asked whether the right honourable gentleman had any information to the effect that the sale of phosphorus matches was strictly prohibited in Norway and Sweden but that the manufacture in those countries was still permitted for export to this country.—Mr. GLADSTONE replied: My information is that the sale of lucifer matches containing white or yellow phosphorus is forbidden in the countries mentioned, but not the manufacture for export.

Legislation in regard to Milk.

Mr. WATT asked the President of the Local Government Board whether in the forthcoming legislation dealing with milk-supplies the Bill will include Scotland.—Mr. BURNS answered: This point has not at present been settled. It will be a matter for the Secretary for Scotland.

Mr. WATT asked the Secretary for Scotland whether he would introduce some system of inspection which would enable the large towns of Scotland to inspect the farms from which their milk-supplies came.—Mr. SINCLAIR said, in reply: I cannot give my honourable friend any assurance at present as to the attitude of the Government, but he is aware that a Bill dealing with this question has been introduced by a private member and it is hoped that some opportunity for discussion may arise which may help to mature it.

Vaccination of Borough Employees in Hampstead.

Mr. BOWERMAN asked the President of the Local Government Board whether he could say how many of the employees of the Hampstead borough council had been vaccinated within the past six years; whether he was aware that the fee charged for each employee was 5s., and that they were vaccinated by a doctor who was, and had been, a member of the council at the time; and whether, seeing that the council employed a member of its own body to do this work, he proposed to take any, and what, action in the matter.—Mr. BURNS replied: I am informed that the borough council have never made any condition as to the vaccination of their employees and have no record of the number vaccinated during the last six years. I find, however, that during the last epidemic of small-pox in 1901 one of the employees who had not been vaccinated died from the disease, and hence three of the committees of the borough council thought it desirable that the muscle and appears to play an active part in metabolism; possibly it forms a stage in the transformation of sugar into fat or the production of sugar from proteid. The calorie value of lactic acid is almost equal to that of sugar and it may be expected therefore that its oxidation will occur in those tissues—namely, the muscles, which are the chief source of body energy. Hopkins and Fletcher have found that such is the case and that in the presence of oxygen frog's muscle can oxidise lactic acid. This mechanism is probably of great physiological importance, although during excessive muscular activity it is inadequate to deal with the large amounts of lactic acid formed and the acid appears in the urine. Several grammes of lactic acid have been obtained from the urine of patients shortly after an epileptic fit. And it seems almost certain that the occurrence of lactic acid noticed by Zweifel in eclampsia was due to the eclamptic convulsions, since he has not proved the presence of lactic acid in the urine before the onset of the convulsions. The observation of Longridge that in eclampsia the alkalinity of the blood is diminished does not support Zweifel's view that eclampsia is an acid intoxication caused by lactic acid, for Cohnstein has found that severe muscular exercise is capable of lowering the alkalinity of the blood. Further, much larger amounts of lactic acid than those found in eclampsia by Zweifel have been injected into the blood streams of animals without causing toxic symptoms. Finally, it may be pointed out that even in carbon monoxide and prussic acid poisoning the muscles as well as the liver are damaged and the appearance of lactic acid is due mainly to interference with the oxidation of lactic acid in the muscles.

These facts lead, I think, to the conclusion that lactic acid is never the cause of acid intoxication in man and that its appearance in the urine is either the result of excessive production by the muscles or is secondary to the failure of the liver to convert ammonia into urea; its occurrence is not due to deficient oxidation of lactic acid by the liver.

THE ACETONE BODIES.

Lactic acid is known to be normally formed in metabolism, but there has been much discussion as to whether this also holds good for the acetone bodies. There are many facts which render it highly probable that β-oxybutyric acid is a normal metabolic product. Knoop's experiments on the oxidation of aromatic compounds of the lower fatty acids in the body show that oxidation can occur in the β position; and Dakin has found that β-oxybutyric acid is probably formed when ammonium butyrate is oxidised *in vitro*. It is known also, from the observations of Schwarz and Waldvogel, that the tissues are able fully to oxidise considerable amounts of β-oxybutyric acid given by the mouth. On the other hand, diacetic acid has never been found in normal urine; traces of an iodoform-yielding substance have frequently been obtained in normal urine, but the iodoform reaction is yielded by so many substances other than acetone that it is doubtful whether acetone occurs normally in urine. The tissues seem unable to burn up acetone when given by the mouth, since the bulk of it can be recovered from the breath and urine, and it seems improbable that acetone is formed in normal metabolism. The fact, noted by Satta, that the iodoform-yielding substance in normal urine is uninfluenced by carbohydrate food points to this conclusion.

Although the chemical relationship of these bodies is very close, the failure to obtain diacetic acid from β-oxybutyric acid *in vitro* had raised doubts as to whether diacetic acid and acetone were really derived in the body from β oxybutyric acid. Dakin has shown, however, that diacetic acid and acetone are readily obtained by the oxidation of ammonium butyrate with hydrogen peroxide.

The view that the acetone bodies arise from fat has been largely developed by Rosenfeld, Waldvogel, Hirschfeld, and Geelmuyden. Waldvogel showed that a meal of proteid during a period of starvation lessened the output of acetone bodies; Geelmuyden found that the addition of large amounts of fat to the diet increased the acetonuria; and, finally, Rosenfeld observed that the acetone bodies appeared in the urine of healthy men on a full diet of proteid and fat if carbohydrates were withheld. In man the appearance of the acetone bodies in the urine is usually the result either of a deficiency of carbohydrate food or, as in diabetes, of inability of the tissues to utilise carbohydrates, and, according to Hirschfeld and Geelmuyden, very small amounts of carbohydrate (50 to 100 grammes) suffice to abolish the acetonuria of starvation.

There seems to be no doubt that when carbohydrate is withheld, and still more in starvation, the consumption of fats is excessive, and the view has been put forward that the tissues, unequal to the strain thus put upon them, fail to oxidise the fats completely and that β-oxybutyric acid passes into the blood and urine. If this view is correct, a diet of fat only should still further increase the strain on the tissues and should largely increase the excretion of β oxybutyric acid; Geelmuyden found that such was the case in a man who lived for several days on large quantities of oil and a little vinegar. On the other hand, many observers have found that the addition of fat in starvation had little or no influence upon the acetonuria. In the careful experiments of Joslin on a healthy starving man 100 grammes of butyric, stearic, or palmitic acid did not increase the output of acetone bodies, although examination of the fæces showed that the bulk of the fatty acid was absorbed. He also quotes the following figures from Rosenfeld:—

Total Acetone Bodies in Urine.

Day.	Starvation.	190 grammes of butter daily.	800 grammes of meat daily.
1	0·09 grm.	0·08	0·016
2	0·3 "	0·23	0·012

In other cases the increased output of acetone bodies was trifling in comparison with the additional intake of fat, a result in accordance with von Noorden's dictum that fat given to a starving man does not increase the total consumption of fat, but that the fat of the food is used instead of the body fat. Admitting then that the acetone bodies are derived from fat, and that in starvation the consumption of fat is increased, the inconstancy of the results obtained on a diet of fat indicates that the tissues of a healthy man can deal with large quantities of fat, and that it may not be safe to assume that the acidosis of starvation is the direct result of the excessive consumption of fat.

The facts, moreover, are capable of a totally different interpretation. The acidosis of starvation can be abolished by the administration of quite small amounts of carbohydrate, amounts so small that the energy which they supply to the body is slight and cannot greatly lessen the consumption of fat. In may be that in starvation acidosis occurs not because the consumption of fat is excessive, but because carbohydrate is absent, and the addition of carbohydrate may abolish acidosis not only by supplying energy to the body but also by modifying the metabolism of the cells. We know very little of the complex mechanism of metabolism, and it is quite conceivable that the presence of carbohydrate or its products is essential to the carrying out by the cell of some of its oxidative processes, including the complete oxidation of fat. And there is some evidence that the metabolism of fat may be made to follow its normal course by the administration of substances other than carbohydrate. Satta has studied the effect of a number of substances which lessen acidosis, and which he calls "anti-ketoplastic." These bodies include tartaric and citric acid. He found that 40 grammes of citric acid given daily greatly lessened the acidosis of starvation. The results of Baer and Blum are more conclusive. They examined the effect of glutaric and the homologous dicarboxy acids upon the acidosis of phloridzin glycosuria, and some of their results are shown in the following table:—

Day.	Total nitrogen.	Sugar.	Acetone.	β-oxybutyric acid.
1	5·9	14·8	209 mgr.	1·49 grm.
2	6·2	18·0	465 "	2·29 "
3*	3·1	7·5	49 "	0·18 "
1	8·2	13	288 mgr.	1·78 grm.
2	8·0	11	323 "	2·73 "
3†	1·5	< 1	106 "	0 "

† 7 grm. adipic acid.

† 10 grm. glutaric acid.

They consider that the retention in the body of sugar, nitrogen, and acetone bodies can be excluded and that glutaric and other homologous acids modify the nitrogenous

Lowestoft Hospital.—House Surgeon, unmarried. Salary at rate of £80 per annum, with board, lodging, and washing.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

Maidstone, West Kent General Hospital.—Assistant House Surgeon, unmarried. Salary £80, with board, lodging, and washing.

Manchester, University of.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

Merthyr Tydfil, Borough of.—Medical Inspector of School Children. Salary £200, advancing to £300.

Middlesbrough, North Riding Infirmary.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

Mountain Ash Urban District Education Committee.—School Medical Inspector. Salary £250 per annum.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, W.C.—Registrar. Salary £150 per annum.

Newcastle-upon-Tyne Dispensary.—Resident Medical Officer. Salary £250, with residence.

New Hospital for Women, Euston-road.—Three Senior Assistants (females).

Plymouth, South Devon and East Cornwall Hospital.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

Royal Free Hospital, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Resident House Surgeon for six months. Board, &c., provided.

Royal National Orthopædic Hospital, Great Portland-street, W.—House Surgeon, unmarried. Salary £250 per annum.

Royal Navy, Medical Department.—Examination for not less than 15 Commissions.

St. Mary's Hospital, Paddington, W.—Medical Officer in Charge of the X Ray Department. Salary £100 per annum.

Southampton, Royal South Hants and Southampton Hospital.—House Surgeon, also House Physician. Salaries £100 per annum respectively, with rooms, board, and washing.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

Stafford, Staffordshire General Infirmary.—Assistant House Surgeon. Salary £52 per annum, with board, residence, and laundry.

Stockton-on-Tees Education Committee.—Assistant to the Medical Inspector of School Children. Salary £200 per annum.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Torquay Education Authority.—Assistant School Medical Officer. Salary £150 per annum, rising to £210.

Torquay, Torbay Hospital.—House Surgeon. Salary £100 per annum, with residence, board, and washing.

West Bromwich District Hospital.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

West London Hospital and Post-Graduate College, Hammersmith-road, W.—Clinical Assistants.

Westminster General Dispensary.—Resident Medical Officer. Salary at rate of £120 per annum, with rooms, gas, coal, and attendance.

Worcestershire Education Committee.—Inspector of School Children and Midwives. Salary £400 per annum, with travelling expenses. Also Two Assistant Inspectors. Salary £175 per annum, with travelling expenses.

Worthing, Borough of, and Rural District of East Preston, Combined Sanitary District.—Medical Officer of Health. Salary £500 per annum.

The *Chief Inspector of Factories*, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Killane, in the county of Wexford; at Drumcollogher, in the county of Limerick; at Kingscliffe in the county of Northampton; at Ederney, in the county of Fermanagh; at Castletown, in the county of Caithness; at Carrickmacross, in the county of Monaghan; at Haddenham, in the county of Cambridge; and at Week St. Mary, in the county of Cornwall.

Births, Marriages, and Deaths.

BIRTHS.

Atkinson.—On March 1st, at Church-street, Saffron Walden, the wife of Dr. H. W. Atkinson, of a daughter.

Butler.—On March 7th, at Romagna House, Otley, Yorkshire, the wife of Somerset E. M. Butler, L.R.C.P. & S. Irel., of a daughter.

Hemming.—On March 6th, at Bishop's Waltham, Hants, the wife of Claude P. Hemming, M.R.C.S., L.S.A., of a daughter.

Hobbs.—On March 6th, at Burke House, Beaconsfield, the wife of Geoffrey Charlstrom Hobbs, L.R.C.P., L.S.A., of a daughter.

DEATHS.

Bickersteth.—On March 7th, at 2 Rodney-street, Liverpool, Edward Robert Bickersteth, F.R.C.S., in his 80th year.

Dowson.—On March 8th, at the residence of her son, Dry Street Farm, Langdon Hills, Essex, Elizabeth Martha, widow of the late Edward Dowson, M.D., of 117, Park-street, Grosvenor-square, aged 75.

Granger.—At 2, Grosvenor-terrace, Glasgow, on March 8th, Maria Sophia Carmichael, widow of the late Dr. John Ross Granger, in her 60th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PUBLIC TELEPHONE CALL OFFICE AS A FACTOR IN THE SPREAD OF DISEASE.

Under the above heading we published an annotation in our issue of July 27th, 1907, p. 240, drawing attention to the dangers which might arise from dirty telephone apparatus and call boxes. A correspondent has sent us a letter containing a number of concrete instances in which he alleges that he has found dirty instruments. We do not publish the full addresses but we shall be happy to send them to the National Telephone Company. Our correspondent says:—

> Being obliged to make continual use of public call offices, the writer has felt on several occasions that the dirty condition of the apparatus made its use extremely risky. A few instances of unsatisfactory conditions may serve as examples. 1. Call box, E.C.: Instrument very dirty; box apparently never swept out judging by the collection of rubbish in it, including about sixpence in coppers, which could be seen on striking a match. 2. Call office, —— station: Apparatus very dirty; mouthpieces dripping condensation from breath of previous users; smell disgusting. 3. Call office at shop, ——, Kent: Apparatus dirty and dripping condensation as above. 4. Call offices, —— station, platform: Apparatus dirty; smell so disgusting that the writer went elsewhere. 5. Call office, —— road, N.E.: Instrument dirty; smell disgusting. 6. Call box, —— station: As above. On the occasions when the writer has used call offices at the following places the condition of the apparatus was unsatisfactory, the vulcanite mouthpieces frequently containing débris with a more or less bad odour: Chatham, Deal, Croydon, Harlesden, Kilburn, Lewisham, Catford, Beckenham, Bromley (Kent), Southampton, Bournemouth, and London, W., London, S.W., and London, E.C., many cases. Only two instances are in mind where an attempt was made to keep the apparatus really clean and to disinfect the call box, this out of a series of several thousand calls. A notice with regard to this unsatisfactory state of affairs in your valuable paper might lead to an improvement.

THE PRESCRIBING OPTICIAN.

A correspondent has forwarded to us a little pamphlet entitled "A Few Facts You Ought to Know." This is issued by S. Leighton and Son, spectacle specialists, New Market Entrance, Lancaster. Messrs. Leighton and Son commence by saying: "It is a curious fact that whilst most people will call in a doctor when they experience the least pain or ache, or consult a lawyer when in doubt on a trivial legal matter, they will defer seeking the services of an optician until the intensity of the eye strain becomes unbearable." From this sentence it is evident that Messrs. Leighton consider that an optician is the proper person to consult for eye strain. The extent of Messrs. Leighton's knowledge of ophthalmic optics may be gauged from the following sentence: "Long sight is that condition of vision when the rays come to a focus in front of the retina." After this all the flummery about the ophthalmometer, the ophthalmoscope, and the "retinoscope" may be discounted, but no doubt many persons into whose hands Messrs. Leighton's pamphlet may fall will believe that they are competent to treat errors of refraction.

LAY MEDICINE.

We extract the following gem from our contemporary the *Star* of March 10th. The credulity of many persons concerning their own or other people's health is amazing and the confusion between sarsaparilla and sal prunella is delightful.

> A Sure Cure for Quinsey when at the Point of Breaking.—First suck a piece of sarsaparilla ball, obtainable at any chemist's. Then take a pound of ordinary currants and make two poultices. Place one on the throat as hot as possible, and when that is cold put on the other. This I know is a sure cure for quinsey, as I have tried it myself.

THE THOMPSON POCKET ELECTRIC LAMP.

We have not seen a more compact or smaller secondary battery than that which is contained in this pocket electric lamp. Our measurements of the cell were as follows: height 2¾ inches, width 1¾ inches, and depth ¾ inch. The weight of the complete apparatus is a little over half a pound (8½ ounces). The cell contains the usual lead plates immersed in dilute sulphuric acid. The cell is further packed with an acid-proof absorbent material resembling glass wool so that the risk of spilling the acid is reduced to a minimum, and, in fact, the cell may be inverted without loss of acid. This alone is a convenient feature of the lamp. A maximum charge gives from four to six hours' continuous light. The accumulators may be easily recharged from the main continuous current, a 5-candle-power lamp being used as a resistance on the 100-volt circuit and an 8-candle lamp on the 200-volt circuit. The light is remarkably bright and steady. Altogether the lamp is a decided improvement on the ordinary miniature searchlight-lamps in which the energy is consumed by diabetic patients, it seems quite possible that the intake of proteids yielding much leucin may appreciably influence the degree of acidosis, and experiments carried out from this standpoint might be of considerable value in showing which proteids are the most suitable in diabetes. I have already referred to the work of Satta and of Baer and Blum on the influence of citric and glutaric acids in lessening acidosis. These substances should be of extreme value in diabetes in which carbohydrate is not available, and through the kindness of Dr. Norman Moore, Dr. Hurtley and I have had the opportunity of studying the effect of citric and glutaric acids upon the output of acetone bodies in a diabetic patient. The results of giving 20 grammes of citric acid daily for a week are shown in the following table :—

Day.	β-oxybutyric acid.	Acetone and diacetic acid.	Total estimation as β-oxybutyric acid.
1	10·83 grm.	3·19 grm.	15·38
2	5·88 "	2·43 "	9·35
4	1·64 "	0·93 "	2 96
6	2·03 "	1·19 "	3 73 *
8	4·58 "	1·02 "	6 03
10	4·51 "	1·61 "	6·81
12	7·13 "	·59 "	10·83

* 20 grammes citric acid daily.

Similar effects were obtained by the use of glutaric acid, and while not laying too much stress upon the results of one or two experiments, these figures seem suggestive; if they can be uniformly obtained, the employment of citric acid and other substances may render the treatment of acidosis much more hopeful than has hitherto been the case and may delay the onset of coma.

It is well known that in starvation even a severe acidosis is consistent with fair general health, and it is not uncommon for a diabetic patient to excrete for months large quantities of β-oxybutyric acid without showing any symptoms of poisoning. But it does not follow, therefore, that a prolonged acidosis is not harmful to the tissues, although their appearance may be long delayed; the grave metabolic disturbances which usher in diabetic coma probably represent the final defeat of the tissues in their struggle to eliminate the acids, which they produce, and to preserve intact their normal metabolism and chemical constitution. Our knowledge of the pathology of diabetic coma is very limited, but apart from the clinical symptoms definite changes occur in the blood and urine, and I may briefly refer to them before proceeding to discuss their possible explanation. The onset of coma is usually preceded for a day or two and accompanied by a fall in the output of the acetone bodies, the excretion of β-oxybutyric acid may sink from 15 grammes or more to as little as one gramme, and the acetone and diacetic acid may be either absent or present only in traces. Some estimations by Folin of the total amount of acetone in the urine before and during coma show this very clearly and confirm the qualitative observations of West, Wolpe, and others. The large excretion of β-oxybutyric acid in coma observed by Magnus Levy is only observed after the administration of sodium carbonate and does not seem to occur when coma takes its normal course.

The decreased excretion of acetone in the breath also indicates that the production of acetone bodies is actually lessened and that the kidneys are not unable to carry out their functions. The fall in the output of sugar and nitrogen, the fall of body temperature, and the lessened intake of oxygen all point to a decline in the total metabolism. Equally characteristic features of coma are the diminished alkalinity of the blood and its diminished content of carbonic acid.

From these facts Stadelmann, and later Magnus Levy, drew the conclusion that the organic acids produced in diabetes combine with so much alkali in the blood that not enough is left to take up the carbonic acid from the tissues; carbonic acid, therefore, accumulates in the tissues and finally poisons them. Diabetic coma is, in fact, due to poisoning by carbonic acid. But Beddard, Pembrey, and Spriggs found that even in cases in which the alkalinity and CO_2 content of the blood were very low, the blood when shed was able to take up a normal amount of carbonic acid, and they concluded that the capacity of the blood in diabetic coma to take up carbonic acid is not impaired. Again, if Stadelmann's view is correct the tension of carbonic acid in the tissues should be very high and the CO_2 tension of the saliva or urine should also be high, since the tension of carbonic acid in these fluids closely approximates to that of the secreting tissue cells; in point of fact, Beddard, Pembrey, and Spriggs found that the CO_2 tension of the urine was not raised. In the face of their observations it is very difficult to believe that the theory of the overloading of the tissues with carbonic acid offers an adequate explanation of diabetic coma.

A fundamental objection to this view is that the primary morbid alteration is assumed to occur in the blood instead of the tissues, whereas the composition of the blood is ultimately regulated by the tissue cells and the causation of diabetic coma lies almost certainly in their abnormal metabolism. It is not easy, however, to form a clear conception of the way in which the organic acids produced by the tissues eventually disturb their metabolism. Acid intoxication, in the strict sense of the term—that is, poisoning by hydrogen ions—never occurs, since the tissues never lose their alkaline reaction; the term is justifiable, however, if it is used to describe the metabolic disturbances resulting from the abnormal production of acids in the body or from the administration of mineral acids accompanied by a fall in the alkalinity of the blood and tissues. The tissues are very sensitive to even a slight diminution in their alkalinity, and the acute intoxication produced by mineral acids is believed to be due to a fall in the alkalinity of the blood and tissues or, in other words, to a diminution in the concentration of hydroxyl ions relative to the hydrogen ions; this has been proved to occur as far as the blood is concerned. The close similarity between the symptoms of acute acid intoxication in animals and those of diabetic coma naturally suggests that the latter is also an acid intoxication. And Magnus Levy considers that the amount of β-oxybutyric acid present in the blood and tissues in diabetic coma is more than equivalent to the quantity of mineral acid required to produce symptoms of acid intoxication in animals; his calculations were based upon the lessened alkalinity of the blood and tissues in coma.

Moore has shown that the blood, in virtue of its phosphates and carbonate, can take up large amounts of acid or alkali without appreciable alteration in its reaction; this is effected by alterations in the relative amounts of mono- and di-sodium phosphate and of sodium carbonate. It is possible that as long as the blood can take up the acids produced by the tissues no symptoms of intoxication arise, but that if the protective mechanism provided by the phosphates becomes inadequate and the alkalinity of the blood falls, the tissues can no longer get rid of the acids which they produce and their accumulation in the cells brings metabolism to an abrupt end.

On the other hand, Benedikt, making use of physical methods, has shown that in conditions other than diabetes the alkalinity of the blood may be lower than that ever observed in diabetic coma, without the appearance of symptoms of intoxication. These results constitute a serious objection to the view that diabetic coma is an acid intoxication. We do not know, however, that the condition of the tissues can be inferred from the alkalinity of the blood. It may be that the tissues take up alkali from the blood to combine with the acids which they produce, and that the decreased alkalinity of the blood is a secondary phenomena. Possibly, also, too much stress has been laid upon the analogy between diabetic coma and experimental acid-intoxication. Acute mineral acid intoxication lasts only a few hours or days, and the conditions may be very different in diabetes, in which a prolonged acidosis lasting for months or even years ultimately ends in coma. In the latter condition there is a continuous drain upon the alkalies and alkaline earths of the body, since the formation of ammonia is insufficient to combine with all the acid excreted. In the acidosis of diabetes the excretion in the urine of calcium and magnesium, probably also of sodium and potassium, is abnormally large. Part of the calcium is derived from the bones, but the observations of Gottein show that the muscles also probably lose calcium. He found that animals fed on a diet rich in calcium stored it up in the bones and muscles, whereas on a diet poor in calcium both these tissues yielded calcium to the urine. There is also evidence

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture-Demonstration:—Mr. H. Evans: Congenital Dislocation of the Hip-Joint.

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Dr. Rankin: Chorea.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).

TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).

FRIDAY.—3.30 P.M., Lecture:—Dr. A. Morison: On Cardio-pulmonary Murmurs, their Diagnosis and Signification.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Dr. Collier: Torticollis and the Tics.

FRIDAY.—3.30 P.M., Lecture:—Dr. F. Buzzard: Acute Infection of Brain and Membranes.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: On the Treatment of Skin Diseases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.

WEDNESDAY.—4 P.M., Lecture:—Dr. Grey: Demonstration of X Ray Examination of Cases of Disease of the Chest.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Poynton: Rheumatism in Children under Five Years.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 12th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 6	29·23	S.W.	0·22	91	52	37	45	45	Raining
" 7	29 72	W.	0·07	57	46	41	39	42	Fine
" 8	29 73	W.	0 02	84	56	41	46	46	Cloudy
" 9	29·41	W.	0·05	80	49	43	43	46	Cloudy
" 10	29·30	W.	0·04	81	50	41	42	45	Cloudy
" 11	29 70	N.W.	0·04	76	47	41	40	42	Cloudy
" 12	30 00	N.E.	...	62	44	38	38	40	Cloudy

During the week marked copies of the following newspapers have been received:—*Hartford Evening Post (U.S.A.), Liverpool Post, Preston Guardian, Tobacco Weekly Journal, Electricity, Evening News, Daily Dispatch, Westminster Gazette, Aberdeen Journal, Standard, Birmingham Daily Post, Faversham News, Newcastle Weekly Chronicle, Referee, Daily Telegraph, Aberdeen Journal, Birmingham Dispatch, Yorkshire Observer, School Guardian, Western Mercury, Glasgow Weekly Citizen, Catholic Times, &c.*

The Lettsomian Lectures

ON

TUBERCULOSIS OF THE KIDNEY,

AND

MALIGNANT DISEASE OF THE CÆCUM.

Delivered before the Medical Society of London on Feb. 3rd and 17th, and March 2nd, 1908,

BY CHARTERS J. SYMONDS, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO, AND JOINT LECTURER ON SURGERY AT, GUY'S HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 17th.

TUBERCULOSIS OF THE KIDNEY (*continued*).

MR. PRESIDENT AND GENTLEMEN,—In the first lecture I placed before you cases illustrating the early signs of renal tuberculosis and showed the condition of the kidney when removed. Except in one there was no enlargement to be felt, and in the instance where this occurred it appeared somewhat suddenly as a final symptom (Case 4).

Before offering some comments upon the points raised by these cases a word must be said of that form of renal tubercle which gives rise to a tumour. The large, moveable, painless, tuberculous kidney is too well known to need any but a passing reference. The cases are fairly common and those that have come under my notice have all given a history of attacks of pain extending over one to three years. In a typical case operated upon in 1902 and quite well in 1908 there had been frequent micturition in the early stages and then repeated attacks of pain. As the tumour enlarged the vesical symptoms ceased. The tumour could be seen moving on respiration, was lobulated, painless, and resembled a hydronephrosis. There were very little pus and albumin in the urine and no increase of urine or pus after an attack. The general health of these patients is on the whole good and they are able to work. These cases resemble hydro- or pyonephrosis in the length of the history, the character of the pain, the moveable and lobulated character of the tumour. I call attention to this, not as an early form of renal tuberculosis but as one where the diagnosis can now in all probability be settled by an examination of the urine.

Before considering the question of treatment I would call attention to certain of the early symptoms. Amongst these renal colic is perhaps the most interesting of all the initial signs of renal tubercle. The exact resemblance to that produced by a calculus cannot be better exemplified than in Case 2. Here was a man of 46 years, though not up to hard work yet looking in good health, seized with severe renal colic. And not only did the three attacks thus closely resemble calculous disease but the likeness was made still closer by the vesical irritation which followed. In Case 1, a young lady, aged 20 years, the long interval between the attacks—one year—points once more to the necessity of careful and routine examination of the urine if we are to discover and treat tubercle early. When renal colic occurs it would seem to indicate that excavation has taken place, whether in one small focus, as in Case 1, or in several, as in Case 2. I mean it suggests more than miliary tubercle and would support the decision to operate. This symptom was absent in Case 3, where the ureter was affected, so that this latter condition may exist without spasmodic pain. Regarding the value of renal colic as an indication of the stage and distribution of tuberculosis, it must have occurred at a very early stage in Case 1, for when the kidney was removed two years later the original focus was small. On the other hand, in Case 2, where the first attack occurred four months before removal, the specimen shows that the disease must have been in existence for a long time—two years or more. The curious abdominal attacks preceding by some two years the vesical symptoms in Case 4 must be grouped under this head.

Albuminuria, one of the early signs of renal tuberculosis, has perhaps not attracted sufficient attention. The association with vesical irritability especially should lead at once to an examination of the urine for bacilli, and again when the amount of albumin is more than can be accounted for by the pus. In Case 4 the cystoscope pronounced the kidney and ureter free from disease but the large amount of albumin led us to fear bilateral renal infection. That it came from one side was proved by its disappearance after nephrectomy. The amount of albumin does not appear to bear any uniform relation to the extent of disease, nor apparently to the form which it takes. Thus in Case 1, with the tuberculous process limited to the lower pole, the albumin was at times abundant. In Case 3, with far more extensive disease but without excavation, the albumin was never excessive, though always more than could be explained by the pus. This is the main point as regards albumin—the proportion to the pus. The contrast was most marked in Case 4, where the pelvis of the kidney was obliterated and the tuberculous foci were shut off from the ureter. In Case 2, with destruction of the lower third of the kidney and recent miliary tubercle, the albumin was never abundant. The fact that miliary tubercle is a painless condition, and that extensive destruction may take place without pain, intensifies the importance of a bacteriological examination of the urine when albumin is present without a general cause being found.

Vesical and urethral irritability without implication of the bladder were in one case (Case 3) the only symptoms up to the time of operation. There was just a suspicion of right renal infection, but only with the aid of the cystoscope was accurate diagnosis possible. This symptom in another case (5) had existed for more than a year, and at one time was thought to be a reflex effect of hæmorrhoids, which were in consequence removed, but without benefit. It was sufficient to limit this patient's activities and it will be remembered that the next symptom was hyperpyrexia without any localising sign. Perhaps the cystoscope might have indicated the kidney affected and saved the laparotomy, but the case occurred in 1897 before I was personally acquainted with the value of this method of examination.

As might be expected when the bladder is involved, the vesical irritability is more pronounced, and so no doubt it is, but, on the other hand, as shown by Case 4, the vesical irritation may be quite moderate where marked tuberculosis exists. In more than one instance of renal tubercle, without vesical disease, it was this symptom that alone compelled attention. That the bladder is tolerant of tuberculous pus is shown by several cases. In some the infective material must have entered the bladder for two years without causing irritation; in others probably for a longer period; while in other cases I have seen quantities of almost pure pus passed with little vesical irritation. This point is worth noting in view of the possibility of this complication being unduly urged as an argument for immediate operation.

At what period in the course of renal tuberculosis does vesical irritation arise and to what is this symptom due? An examination of the specimens in the light of the history of these cases shows that renal tuberculosis may reach an advanced stage without causing vesical symptoms. For example, in Case 2, and probably also in Case 3, the renal condition had existed some time before the urethral pain arose. It would appear, then, that this symptom, when persistent, indicates advanced disease of the kidney. Again, it is to be noted that in all the cases operated upon the ureter was involved and that where the cystoscope was employed the lips of the orifice were everted and swollen and in one studded with tubercles. It is probable that the persistent irritation indicates extensive ureteric infection. That the mere fact of ureteric infection is in itself not the cause is shown by the disappearance of the pain after nephrectomy. The passage of the urine down a narrowed channel appears to be the explanation of this pain. Evidently a small plug of mucus will be sufficient to cause severe colic, as it did in Case 2. The above reasoning is sufficient to show the importance of this symptom, as indicating, when persistent, advanced disease and pointing to the necessity of early nephrectomy. The condition of the ureter probably explains the observation that vesical irritation is more marked in tubercle than in calculus. The importance of a bacteriological examination of the urine when these symptoms exist is obvious. It may be necessary to examine several specimens, as the bacilli may be few in number, and here the superiority of an electric-driven centrifuge becomes apparent.

Of hæmaturia as an initial symptom I have seen, or more correctly recognised, only one instance. A man, aged 37 years, was admitted into Guy's Hospital under my care on

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[1] Lecture I. was published in THE LANCET of March 21st, 1908, 833.

Arris and Gale Lecture

ON

THE PATHOLOGY OF ACID INTOXICATION.

Delivered before the Royal College of Surgeons of England on March 16th, 1908,

BY F. A. BAINBRIDGE, M.A., M.D. CANTAB.,
M.R.C.P. LOND., D.SC. LOND.,

DEMONSTRATOR OF PHARMACOLOGY, ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.

MR. PRESIDENT AND GENTLEMEN,—I wish to thank you for the honour which you have conferred upon me in inviting me to lecture here to-day. Acid intoxication, or, to use a wider term, acidosis, is merely one aspect of disordered metabolism, and our knowledge of its pathology has progressed to a large extent side by side with our knowledge of metabolic processes as a whole; it seems desirable, therefore, to discuss acidosis rather as a phase of metabolism than as a separate pathological entity. Without attempting to cover the whole subject, I propose in the time at my disposal chiefly to consider the results of the more recent investigations. It is necessary at the outset to draw a distinction between acidosis and acid intoxication. The essential feature of acidosis is the occurrence of certain organic acids in abnormal amount in the blood and urine; the most important of these acids are lactic and β-oxybutyric acids, and their estimation in the urine furnishes the most accurate means of measuring the intensity of the acidosis. The term acid intoxication should be limited to conditions in which, in addition to acidosis, toxic symptoms, referable to the organic acids, make their appearance. Acidosis may be accompanied by diminution of the alkalinity of the blood, and the urinary excretion of ammonia is usually increased. Even in acidosis, however, the alkalinity of the blood remains remarkably constant, though it may be temporarily disturbed by a sudden production of acid; and a normal alkalinity of the blood may coexist, as Magnus Levy has shown, with a considerable degree of acidosis. And neither the total excretion of ammonia in the urine nor the ammonia coefficient (i.e., the proportion of the total nitrogen excreted as ammonia) necessarily or even usually corresponds to the *degree* of the acidosis.

It is true that in acidosis the output of ammonia may reach a very high figure; in diabetes the daily excretion is often 3·5 grammes, and the excretion of 10 to 12 grammes has been recorded by Stadelmann, while the ammonia coefficient may rise as high as from 20 to 40. There is no reason, however, to believe that the tissues specially produce ammonia in order to neutralise the organic acids which are present; ammonia is normally formed by the tissues in considerable amount, and the organic acids merely combine with it and so prevent the liver from converting it into urea. In severe acidosis the limited amount of ammonia produced in the body is inadequate to combine with all the organic acids, so that the excretion of alkalies and alkaline earths becomes excessive; if the acidosis diminishes these valuable bases are retained in the body until their excretion has fallen to the normal level, the output of ammonia does not sink *pari passu* with the lessened output of organic acids. Satta has published some figures which clearly illustrate this fact:—

Day.	Total nitrogen.	Nitrogen as NH_3.	Percentage of NH_3.	β-oxybutyric acid.
1	12·93	2·1 grm.	16·2	8·24 grm.
2	11·42	1·83 „	15·4	0·46 „
3	8·93	1·17 „	13·1	0·18 „

It is clear, therefore, that even in acidosis the ammonia excretion may be fallacious and that an implicit belief in the value of the ammonia quotient is not free from danger. In a fasting woman, studied by Bönniger and Mohr, the following figures were obtained:—

Fast day.	Total nitrogen.	Total NH_3.	Percentage of NH_3.	β-oxybutyric acid.
3rd.	6·59	0·49	6·12	8·4 grm.
9th.	5·40	1·33	20·23	8·2 „
11th.	5·16	1·09	17·38	6·2 „
16th.	4·06	1·24	30·57	17·6 „

Such figures indicate that for the correct interpretation of ammonia analyses several factors must be taken into consideration. Fohn has shown that a healthy man placed on a diet poor in nitrogen but of adequate caloric value may excrete from 10 to 12 per cent. of his total nitrogen as ammonia, and a high ammonia coefficient has long been known to accompany the acidosis of starvation, the highest ammonia coefficient ever recorded (namely, 66 per cent.) having been obtained by Nabethan in a fasting woman. The high ammonia coefficient observed in pernicious vomiting of pregnancy is in all probability the result of partial starvation, as is evidenced by the beneficial effects of carbohydrate food and the very low output of total nitrogen in the urine. And it should be clearly recognised that when the nitrogen intake is low a high ammonia coefficient may have no pathological significance.

In very extensive disease of the liver, also, the excretion of ammonia may rise quite apart from acidosis. Weintraud has found a high coefficient in extreme cirrhosis of the liver and the excessive output in acute yellow atrophy may be accounted for in the same way. But a very small fraction of healthy liver suffices to carry out normally the conversion of ammonia into urea. Pearce and Jackson, using hæmolytic sera, found that extensive necroses of the liver had no effect upon the excretion of ammonia relative to the total nitrogen; and in the experiments of Underhill and Kleiner with hydrazine the urine remained normal notwithstanding the intense fatty degeneration of the liver cells. Clinical observations also show that extensive disease of the liver may be present, for example, in eclampsia without any corresponding alteration in the excretion of ammonia, and that only in almost complete disorganisation of the liver does the ammonia coefficient rise appreciably.

These considerations have a direct application to the acidosis caused by lactic acid, since its appearance in the urine is often regarded as dependent upon disease of the liver, which consequently fails to oxidise the lactic acid. This belief rests partly upon experimental, partly upon clinical, evidence. Minkowski found that after removal of the liver in geese the urine contained large quantities of ammonium lactate, but as Leathes points out lactic acid is a normal intermediate product of metabolism, and when the ammonia fails to be converted into urea it combines with lactic acid, and therefore the latter escapes oxidation. A similar explanation also accounts for the appearance of lactic acid in the experiments of Salaskin and Galeski on the removal of the liver in dogs, but in addition the animals showed tetaniform convulsions, and, as we know, convulsions or violent muscular exercise cause lactic acid to appear in the urine, quite apart from disease of the liver. Moreover, neither the extensive injury to the liver produced by hydrazine poisoning nor the interference with its functions caused by Eck's fistula is followed by the appearance of lactic acid in the urine.

In man lactic acid occurs in the urine in acute yellow atrophy and occasionally in extreme cirrhosis or cholæmia; there is unfortunately no satisfactory method of estimating lactic acid in the urine, but the amount excreted in these diseases appears never to be very large. It is significant that lactic acid occurs in those diseases in which the ammonia excretion rises when the liver is so damaged that it can no longer form urea, and that the excretion of ammonia appears to be larger than that of lactic acid. It may fairly be concluded, I think, that lactic acid occurs in the urine in cholæmia or acute yellow atrophy, not because the liver fails to oxidise it, but because, as in Minkowski's experiments, it combines with ammonia and so escapes into the urine; and the acidosis due to lactic acid is merely a "secondary" acidosis devoid of practical importance. This view is fully borne out by our general knowledge of the metabolism of lactic acid. It is normally present in the blood and in

The Lettsomian Lectures

ON

TUBERCULOSIS OF THE KIDNEY,

AND

MALIGNANT DISEASE OF THE CÆCUM.

Delivered before the Medical Society of London on Feb. 3rd and 17th, and March 2nd, 1908,

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LECTURE II.[1]

Delivered on Feb. 17th.

TUBERCULOSIS OF THE KIDNEY (*continued*).

MR. PRESIDENT AND GENTLEMEN,—In the first lecture I placed before you cases illustrating the early signs of renal tuberculosis and showed the condition of the kidney when removed. Except in one there was no enlargement to be felt, and in the instance where this occurred it appeared somewhat suddenly as a final symptom (Case 4).

Before offering some comments upon the points raised by these cases a word must be said of that form of renal tubercle which gives rise to a tumour. The large, moveable, painless, tuberculous kidney is too well known to need any but a passing reference. The cases are fairly common and those that have come under my notice have all given a history of attacks of pain extending over one to three years. In a typical case operated upon in 1902 and quite well in 1908 there had been frequent micturition in the early stages and then repeated attacks of pain. As the tumour enlarged the vesical symptoms ceased. The tumour could be seen moving on respiration, was lobulated, painless, and resembled a hydronephrosis. There were very little pus and albumin in the urine and no increase of urine or pus after an attack. The general health of these patients is on the whole good and they are able to work. These cases resemble hydro- or pyonephrosis in the length of the history, the character of the pain, the moveable and lobulated character of the tumour. I call attention to this, not as an early form of renal tuberculosis but as one where the diagnosis can now in all probability be settled by an examination of the urine.

Before considering the question of treatment I would call attention to certain of the early symptoms. Amongst these renal colic is perhaps the most interesting of all the initial signs of renal tubercle. The exact resemblance to that produced by a calculus cannot be better exemplified than in Case 2. Here was a man of 46 years, though not up to hard work yet looking in good health, seized with severe renal colic. And not only did the three attacks thus closely resemble calculous disease but the likeness was made still closer by the vesical irritation which followed. In Case 1, a young lady, aged 20 years, the long interval between the attacks—one year—points once more to the necessity of careful and routine examination of the urine if we are to discover and treat tubercle early. When renal colic occurs it would seem to indicate that excavation has taken place, whether in one small focus, as in Case 1, or in several, as in Case 2. I mean it suggests more than miliary tubercle and would support the decision to operate. This symptom was absent in Case 3, where the ureter was affected, so that this latter condition may exist without spasmodic pain. Regarding the value of renal colic as an indication of the stage and distribution of tuberculosis, it must have occurred at a very early stage in Case 1, for when the kidney was removed two years later the original focus was small. On the other hand, in Case 2, where the first attack occurred four months before removal, the specimen shows that the disease must have been in existence for a long time—two years or more. The curious abdominal attacks preceding by some two years the vesical symptoms in Case 4 must be grouped under this head.

Albuminuria, one of the early signs of renal tuberculosis, has perhaps not attracted sufficient attention. The association with vesical irritability especially should lead at once to an examination of the urine for bacilli, and again when the amount of albumin is more than can be accounted for by the pus. In Case 4 the cystoscope pronounced the kidney and ureter free from disease but the large amount of albumin led us to fear bilateral renal infection. That it came from one side was proved by its disappearance after nephrectomy. The amount of albumin does not appear to bear any uniform relation to the extent of disease, nor apparently to the form which it takes. Thus in Case 1, with the tuberculous process limited to the lower pole, the albumin was at times abundant. In Case 3, with far more extensive disease but without excavation, the albumin was never excessive, though always more than could be explained by the pus. This is the main point as regards albumin—the proportion to the pus. The contrast was most marked in Case 4, where the pelvis of the kidney was obliterated and the tuberculous foci were shut off from the ureter. In Case 2, with destruction of the lower third of the kidney and recent miliary tubercle, the albumin was never abundant. The fact that miliary tubercle is a painless condition, and that extensive destruction may take place without pain, intensifies the importance of a bacteriological examination of the urine when albumin is present without a general cause being found.

Vesical and urethral irritability without implication of the bladder were in one case (Case 3) the only symptoms up to the time of operation. There was just a suspicion of right renal infection, but only with the aid of the cystoscope was accurate diagnosis possible. This symptom in another case (5) had existed for more than a year, and at one time was thought to be a reflex effect of hæmorrhoids, which were in consequence removed, but without benefit. It was sufficient to limit this patient's activities and it will be remembered that the next symptom was hyperpyrexia without any localising sign. Perhaps the cystoscope might have indicated the kidney affected and saved the laparotomy, but the case occurred in 1897 before I was personally acquainted with the value of this method of examination.

As might be expected when the bladder is involved, the vesical irritability is more pronounced, and so no doubt it is, but, on the other hand, as shown by Case 4, the vesical irritation may be quite moderate where marked tuberculosis exists. In more than one instance of renal tubercle, without vesical disease, it was this symptom that alone compelled attention. That the bladder is tolerant of tuberculous pus is shown by several cases. In some the infective material must have entered the bladder for two years without causing irritation; in others probably for a longer period; while in other cases I have seen quantities of almost pure pus passed with little vesical irritation. This point is worth noting in view of the possibility of this complication being unduly urged as an argument for immediate operation.

At what period in the course of renal tuberculosis does vesical irritation arise and to what is this symptom due? An examination of the specimens in the light of the history of these cases shows that renal tuberculosis may reach an advanced stage without causing vesical symptoms. For example, in Case 2, and probably also in Case 3, the renal condition had existed some time before the urethral pain arose. It would appear, then, that this symptom, when persistent, indicates advanced disease of the kidney. Again, it is to be noted that in all the cases operated upon the ureter was involved and that where the cystoscope was employed the lips of the orifice were everted and swollen and in one studded with tubercles. It is probable that the persistent irritation indicates extensive ureteric infection. That the mere fact of ureteric infection is in itself not the cause is shown by the disappearance of the pain after nephrectomy. The passage of the urine down a narrowed channel appears to be the explanation of this pain. Evidently a small plug of mucus will be sufficient to cause severe colic, as it did in Case 2. The above reasoning is sufficient to show the importance of this symptom, as indicating, when persistent, advanced disease and pointing to the necessity of early nephrectomy. The condition of the ureter probably explains the observation that vesical irritation is more marked in tubercle than in calculus. The importance of a bacteriological examination of the urine when these symptoms exist is obvious. It may be necessary to examine several specimens, as the bacilli may be few in number, and here the superiority of an electric-driven centrifuge becomes apparent.

Of hæmaturia as an initial symptom I have seen, or more correctly recognised, only one instance. A man, aged 37 years, was admitted into Guy's Hospital under my care on metabolism in such a way that sugar is either not formed from proteid or is burnt up by the tissues, and that the increased supply of energy thereby obtained prevents the formation of the acetone bodies. These observations are extremely suggestive and may not only furnish a clue to the means by which carbohydrate food abolishes acidosis but also throw some light on the interaction of the various food products within the cell. But, whatever may be its explanation, there is no doubt that the acidosis of starvation results from a lack of carbohydrate. Waldvogel has suggested that in diabetes acidosis is due to an impaired oxidative power of the cells of the tissues. There is, however, no definite evidence that the acidosis of diabetes differs essentially in its origin from that of carbohydrate starvation in healthy individuals except that the starving man can utilise any sugar which is formed in the body from proteid, whereas the diabetic patient is unable to do so. From this point of view diabetes is a condition of prolonged carbohydrate starvation, and the importance of the acidosis lies in the fact that it ultimately leads to acid intoxication and coma. According to Külz coma is the natural termination of diabetes, and the more severe the acidosis the more rapid the course of the disease. It is most desirable, therefore, to ascertain what are the more immediate precursors of the acetone bodies and how far the acidosis can be influenced by diet or in other ways.

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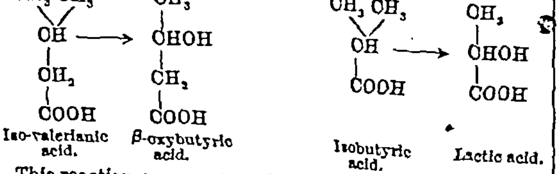
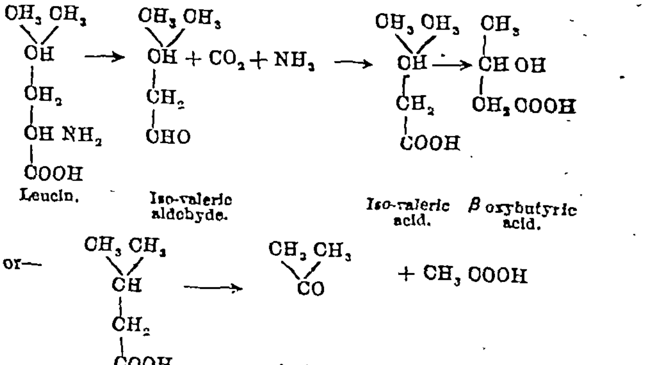
[1] Lecture I. was published in THE LANCET of March 21st, 1908, p. 833.

A considerable body of facts bearing on this question has been obtained but partly on account of the wide spontaneous variations in the urinary excretion of diabetic patients from day to day, partly on account of the difficulties inherent to metabolic observations on man, the results are not always concordant or easy to interpret. In the first place it appears that the bulk of the β-oxybutyric acid is derived fairly rapidly from ingested food. Allard found that an occasional "fast day" markedly lessened the output of acetone bodies and that the beneficial effect lasted for several subsequent days. In the case of a severe diabetic in nitrogenous equilibrium, a fast-day reduced the excretion of β-oxybutyric acid from 17·3 grammes to 2·9 grammes; the ammonia fell from 5·8 grammes to 3·1 grammes. Equally definite results were obtained in other cases. Secondly, there is no doubt that the lower fatty acids notably and quickly increase the output of the acetone bodies. This was first demonstrated by Schwarz for butyric, cupric, and iso-valerianic acids and has been repeatedly confirmed; and the conversion of these acids into β-oxybutyric acid occurs so readily and supplies so little energy to the body that their exclusion from a diabetic diet seems desirable. Some light has been thrown on the chemical changes involved in this process by the observations of Baer and Blum. They administered a number of fatty acids to severe cases of diabetes, kept on a uniform diet, and found that 20 grammes of iso-valerianic acid increased the output of β-oxybutyric acid from 1·5 grammes to 9·8 grammes, whereas isobutyric acid yielded lactic acid. They conclude that a split occurs at the β-carbon atom and that a methyl group separates off, leaving a straight chain acid.



This reaction represents a chemical process which has not hitherto been observed in the body. It is highly probable, however, that β-oxybutyric acid is formed not only from the lower but also from the higher fatty acids. The modern conception of fat katabolism is that the saturated fatty acids derived from the food or from the fat depôts in the body are converted by the liver into fatty acids with several unsaturated linkages; these unsaturated fats then pass to the muscles where their oxidation is completed. Fatty acids with three double bands have been found constantly in the liver by Hartley, and the fat of the heart muscle appears to be of the same nature. Although the liver can probably form β-oxybutyric acid most of the energy of the body is furnished by the muscles, and it is reasonable to suppose that the final stages in the oxidation of fat, whose combustion supplies so much energy, is carried out chiefly in the muscles. It is quite possible that the breakdown of the unsaturated fatty acids does not occur by the oxidation of one or two carbon atoms at a time, but that the fat molecule, rendered unstable by the presence of several double linkages, suddenly breaks up into a number of fatty acids of comparatively small molecular weight. If butyric acid is one of these acids the rapid production of β oxybutyric acid from higher fats is easily intelligible and the speedy increase of the acetone bodies, when oleic or stearic acid is given to diabetic patients, may be thus interpreted. Apart from butyric acid, however, the rest of the fat molecule appears to undergo complete oxidation. Although fats are the most important source of the acetone bodies the advance in our knowledge of proteid metabolism has again brought into prominence the possible formation of β oxybutyric acid from proteid. It is now believed that during digestion the proteid molecule is largely broken down and that the products—chiefly amino acids—are again synthesised by the tissue cells. Lang has shown, also, that the various tissues have the power of denitrifying amido acids, leaving a simple fatty acid. It is possible, therefore, that the final stages of fat and proteid katabolism may proceed along similar lines. There is, at any rate, definite evidence that leucin can give rise to the acetone bodies. Dakin has shown that when leucin is oxidised *in vitro* by hydrogen peroxide, acetone, iso-valerianic aldehyde, iso-valerianic acid, and ammonia are produced. And Strecker long ago found that in the presence of alloxan iso-valerianic acid is formed from leucin. Alloxan probably exists normally in the liver, and Strecker's observation may have some bearing on the work of Embden, Almagia, and Salomon. They perfused the surviving liver of dogs with blood, to which various proteid derivatives had been added, and estimated the amount of acetone formed. The perfusion of normal blood yielded small amounts of acetone, and the addition of alanin, glycocoll, and glutaminic acid was without effect. But when leucin or iso-valerianic acid was added to the blood they obtained a considerable quantity of acetone, and β-oxybutyric acid was still more effective. Their method of estimating acetone is open to criticism, since so many substances give the iodoform reaction, and it is not certain that they obtained acetone by the perfusion of normal blood. But when leucin was added to the blood, acetone was actually isolated as dibenzylacetone. Finally, Borchardt in the case of a normal man deprived of carbohydrate and Baer and Blum in a diabetic patient found that leucin increased the output of both acetone and β-oxybutyric acid.

The conversion of an amido acid into the aldehyde of the lower acid, with loss of ammonia, is a very general reaction, and the next stage may be the splitting of a methyl group and the formation of β oxybutyric acid, and finally of acetone. The production of acetone in Embden's experiment is a little difficult to understand, unless β-oxybutyric acid is an immediate product, since, as far as is known, acetone is not normally formed in the body; possibly the transformation of leucin normally ceases with the formation of β-oxybutyric acid, and the production of acetone in the perfusion experiments is not strictly physiological. The probable sequence of the chemical reactions may be represented thus:—



The different proteids vary greatly in the amount of leucin which they yield on hydrolysis. Muscle proteid has not been analysed, but casein yields 10 per cent. of leucin, egg albumin and gliadin (of wheat) 6 per cent., and gelatin only 2 per cent.

When one considers the large amount of proteid often was still limited, and the marked improvement in others, still further support the operative treatment.

Nephrectomy in tuberculosis may be considered as a primary or a secondary operation. In general a patient can bear removal, a preliminary nephrotomy being used for those cases too ill to bear the full operation and for those where it is not possible to estimate the secreting value of the opposite kidney with accuracy. In advocating early nephrectomy so soon as destructive disease has been recognised, either by the usual clinical evidence or by the use of these newer methods referred to, certain questions arise, answers to which are afforded by the cases related in the first lecture.

Is tuberculosis of the bladder a contra-indication to nephrectomy? The answer lies in the reply given by the cystoscope as to the distribution of the vesical infection. When the disease is situated round the ureteric orifice of the affected side, the other appearing normal, and a clear efflux is visible, removal of the kidney is clearly the right practice. In Case 1 with fairly extensive vesical infection complete recovery has followed nephrectomy, and in Case 4, where the tuberculous infection was some distance from the ureteric orifice, there is every prospect of complete recovery. Looking to the recoverability of vesical tubercle I see no objection to nephrectomy, even with multiple foci in the bladder, provided one kidney is healthy, or at least so far as can be discovered. It is obviously difficult to be quite sure on this point, seeing that miliary tuberculosis is painless and that the changes in the ureteric orifice do not occur, as far as I am aware, till the ureter is involved. If examination with the cystoscope is not available prolonged vesical and urethral irritation with painful micturition must not be taken as proof of vesical tubercle. These symptoms may indicate ureteral infection only.

Does slight disease of the other kidney—an amount indicated by a few bacilli and a little albumin in the urine collected from this side—contra-indicate nephrectomy where the other is obviously tuberculous? Two main considerations arise here—the distress caused by the obviously affected kidney and the curability of renal tuberculosis. When one kidney is practically destroyed and contributing little urine, is causing pain, and disturbing the rest, its removal is surely justifiable. If both kidneys are enlarged then operation is out of the question. If renal tuberculosis, taken in the early stages, is recoverable, then the removal of a cause depreciating the general health must contribute to recovery. On this view nephrectomy comes under the general question of the surgery of generalised tubercle where removal of a suppurating focus promotes recovery in others, as for example, amputation of a tuberculous knee for the relief of pulmonary disease. Again, the removal of further infection is obviously a sound practice and indeed is essential if the other kidney is to recover at all. There is therefore it seems to me good reason for removing an obviously tuberculous kidney, causing local and general symptoms, even when the other kidney is infected, but in an early stage, provided also that the general condition of the patient justifies such a course. If the ureteric orifice of the sounder kidney indicated disease of the ureter then any operation, except perhaps nephrotomy, for the relief of pain, would be out of the question.

Ureterectomy.—The next important question is as to whether the ureter should be removed at the time of the nephrectomy or later, or left altogether. To leave a tuberculous ureter seems at first sight to be illogical and as likely to determine further infection. Looking to the cases recorded in the first lecture it will be seen, however, that complete recovery of a tuberculous ureter may take place after the kidney has been removed. In Case 1, with coincident bladder infection, the ureter was not removed as a primary step with the kidney in order not to prolong the operation and the narcosis, seeing that in the recent attack of renal colic the urine had been scanty. This young lady is apparently quite well and is certainly free from all signs of ureteral or vesical tubercle. In Case 2 an opportunity was obtained of examining the ureter nine months after the nephrectomy. Here the ureter was removed to relieve the loin sinus, to which, however, it did not contribute, for the upper end was closed. The ureter was still thicker than normal but not nearly so large as at the time of the nephrectomy. The microscopical section showed remnants of a tuberculous process quite distinctly but no active changes. The slight hectic temperature, to relieve which the ureterectomy was performed, was unaffected by its removal. Though in itself harmless it is quite possible that such a ureter might set up infection in the lymph glands. On the other hand, there are cases where the ureter is the cause of persistent symptoms. In Case 5 the ureter was found large and rigid and was left. Persistent vesical irritation suggested tuberculosis of the bladder or of the remaining kidney. Removal of the ureter was followed by complete recovery. This was done in 1898 and the patient is still enjoying the best of health. The ureter shows dilatation of the channel, with suppuration and thickening of the wall. In Case 3 the ureter was removed at the same time as the kidney, and recovery was more rapid than in most of the others. In this case urethral irritation was the only symptom complained of, and I am inclined to think might have persisted had the ureter not been removed.

While, therefore, it may be said to be established that a tuberculous ureter may recover, and mostly *does* recover, I am myself inclined to the view that the better practice is to remove it, if possible, at the same time as the kidney. It is particularly desirable to do so when there is coincident disease of the bladder and when the ureter is found to be enlarged and rigid. Where the wall is less diseased and retains its supple characters spontaneous recovery is more certain to occur. In conclusion, while advocating coincident removal of the ureter as calculated to promote more rapid recovery it must be admitted that ureterectomy is not essential to ultimate recovery, and that it must be postponed for further consideration whenever the additional strain on the patient might be injurious. As regards the removal it need not prolong the operation to any serious extent if performed as I suggest.

Removal of the ureter.—A few particulars may not be out of place with regard to this matter. The incision is best made so as to separate the muscles below the anterior superior spinous process, as in the operation for appendecectomy. The peritoneum is raised and with it goes the ureter, so that this structure must be sought on the anterior wall of the cavity and close to the spine. Being thickened, it can as a rule be easily felt, and indeed is not difficult to find when normal. When removal follows immediately upon nephrectomy great assistance is obtained by pulling upon the lumbar end, the tight band being recognised at once. Later the ureter is drawn tight by the lumbar scar, lies nearer the spine, and may cost a little time in the finding. The best plan of dealing with the ureter is after separating it down to the bladder to open the channel by an incision going half way through the wall. The vesical end is now curetted and rubbed with pure carbolic acid, the undivided half thus being used to keep the parts in view. Then a catgut ligature is applied and the division completed. I have usually inserted a small rubber drain surrounded with a layer of gauze, but this is, I believe, unnecessary if the end be dealt with as above described. In secondary ureterectomy if there be a loin sinus this should be enlarged and the end detached by the finger working with that from below. If the loin incision has closed, I think it a better practice to reopen this region than to divide the muscles in front, as a stronger abdominal wall results.

What position should incision and drainage occupy in the treatment of renal tuberculosis? It may be necessary to make a preliminary nephrotomy, either because the patient is too ill to bear removal or to make more certain as to the secreting value of the opposite kidney. The value of this measure was well illustrated by Case 5, where the general infection with rigors, &c., was relieved by drainage, making a subsequent nephrectomy almost free from anxiety. In Case 4 the question was important, for here there was sudden enlargement of the kidney with escape of pus into the bladder, hectic fever, and rapid decline of the general health. However, as these symptoms were of short duration the full operation was carried out.

When uncertainty exists as to the value of the opposite kidney preliminary nephrotomy will afford much information, especially in those cases where the ureter is not obstructed. When the destruction is found to be extensive extirpation can be carried out at once, but where there is uncertainty the removal may be postponed and the comparative values of the kidneys ascertained by collecting the urine from the loin and the bladder. If the general condition does not improve we may have to rest content with nephrotomy leaving a loin sinus. If, however, as is more often the case, improvement results, how soon may the kidney be removed? That there is no immediate hurry from the fear of vesical infection is well shown by Case 5, in which the kidney was that if the acidosis lessens the fixed bases are spared and retained in the body and the ammonia excretion remains high. It is of importance, too, to bear in mind in this connexion the observations of Forster, Lewin, and others that animals whose diet is ash-free, but otherwise normal, soon show signs of perverted metabolism, and that death ensues in a few weeks. The symptoms are chiefly referable to injury to the central nervous system and were regarded by Bunge as the result of an acid intoxication.

Obviously even a trifling daily loss in bases, a loss so small as almost to escape observation, may in course of time rob the tissues of much of their bases; and the excretion of bases in the diabetic patients studied by Magnus Levy was much larger than those of normal individuals. Observations on the total intake and output of bases in diabetes are lacking but it seems very probable that there is a gradual depletion of the alkalies in the tissues, and that a point is ultimately reached when the alkali content of the tissues is insufficient for normal metabolism and symptoms of intoxication occur. It is possible, of course, that the gradual loss of alkali simply lessens the amount of base available for the neutralisation of acid, and that the ultimate result is an acid intoxication due to the diminished alkalinity of the tissues. On the other hand, it is not fair to assume that a deficiency of alkali is synonymous with a relative acidosis. Although we do not know how or why inorganic bases are essential to the bioplasm, their importance for normal metabolism is a matter of common physiological knowledge, and no one imagines that calcium, for instance, the presence of which is necessary for the normal contraction of the muscles, acts solely in virtue of its being a base. It seems to me extremely probable that the lack of some or all of the bases may primarily disturb the course of metabolism, quite independently of the alkalinity of the tissues; and after all the alkalinity of the tissues does not depend solely upon their inorganic constituents, since the proteins can apparently act either as weak acids or as bases. On this view, even the diminished alkalinity of the blood in coma may be interpreted as due to a final effort on the part of the tissues to satisfy their need for base. It is not sufficient to supply the body with sodium carbonate, and the value of the treatment of diabetes with alkali might be much greater if all the bases required by the body were administered to diabetic patients. An accurate knowledge of the amount and character of the bases present in diabetic tissues would also be of extreme value.

POST-ANÆSTHETIC ACETONURIA.

Acetonuria occurs in children in a variety of conditions, but I can only refer briefly to one—namely, the acetonuria following anæsthesia. It seems to have been first noticed by Becker in 1895; he examined 251 cases and found acetone or diacetic in 167. The condition appeared to be independent of the nature of the anæsthetic or the duration of the anæsthesia and was more severe in cases of pre-existent acetonuria. While children were the most liable, adults were not exempt. These observations have been generally confirmed by English and American writers, although most of them regard chloroform as the anæsthetic most likely to cause acetonuria. In the majority of cases acetonuria is the only symptom, but occasionally definite toxic symptoms occur and death may ensue. The most characteristic symptoms are intense thirst, vomiting, restlessness, and finally coma; air-hunger has been observed in some cases. The amount of acetone in the urine may reach a high percentage; Beesley found from 20 to 60 milligrammes per 100 cubic centimetres, an amount comparable to that in fairly severe diabetes. β-oxybutyric acid has sometimes been estimated and in one case Waldvogel obtained 2·5 grammes in 24 hours. Although the literature of the subject is extensive, no estimations seem to have been made either of the alkalinity of the blood or the ammonia excretion in the urine. Post mortem the liver has been constantly found to exhibit intense fatty infiltration with patches of necrosis, and Telford observed fatty change in the cardiac and other muscles.

The interest of post-anæsthetic acetonuria lies in the appearance of symptoms of acute intoxication in certain cases and in its relation to other forms of acetonuria. The power of the anæsthetics to interfere with metabolism as a whole, and their toxic action upon protoplasm are well known. Our knowledge of their exact mode of action is scanty, but, broadly speaking, they inhibit metabolic processes, as is indicated by Loewry's observation that they diminish the intake of oxygen by the tissues; and Moore and Roaf consider that they lessen the metabolic activity of the tissues by combining with the tissue proteins. The metabolic disturbance caused by anæsthesia is usually trivial, because the anæsthetic speedily leaves the tissue when the anæsthesia comes to an end. The severe toxic symptoms which occasionally follow anæsthesia can only be explained, I think, by assuming that the anæsthetic remains in combination with certain tissues, since doses of anæsthetics which are too small to induce anæsthesia if frequently repeated will produce similar metabolic disturbances in animals. The varying susceptibility or "idiosyncrasy" of different individuals to the action of all poisons, including anæsthetics, must be acknowledged, even though it cannot be explained. If it be admitted that occasionally the anæsthetic remains in combination with the tissues the occurrence of acetonuria is the inevitable outcome of their lessened oxidative capacity. Post-anæsthetic acetonuria is, in fact, closely analogous to phosphorus poisoning, in which the oxidative capacity of the tissues is primarily damaged. The inhibition of metabolism by anæsthetics results in the incomplete combustion of fat and β-oxybutyric acid and its products appear in the urine, and the failure of the muscles to burn up fat leads to its accumulation in both the muscles and the liver. Fatty infiltration of the liver can occur with remarkable rapidity and there seems to be no reason to believe that when symptoms of intoxication occur after anæsthesia the liver was previously diseased. Equally severe fatty infiltration of the liver may be found in other conditions, not only without the appearance of toxic symptoms but even without any acetonuria.

Although the acetonuria depends upon the imperfect combustion of fat by the tissues, it is by no means clear that the toxic symptoms are due to the acetonuria. I have found in other conditions in which no symptoms of acid intoxication were present, an amount of acetone equal to that observed in the cases of post-anæsthetic intoxication. Unfortunately, nothing is known as to the alkalinity of the blood and the excretion of ammonia in these cases, and the facts at our disposal are insufficient to exclude acid intoxication. But it does not seem probable that the toxic symptoms following anæsthesia are due to an acid intoxication. The toxic action of anæsthetics is known from animal experiments to affect not only the oxidation of fat but metabolism as a whole, and closely resembles that of phosphorus. In both cases acetonuria occurs and the liver shows morbid changes, and whatever may be the significance of post-anæsthetic intoxication it seems unjustifiable to refer the symptoms either to the liver or to the acetonuria.

I ought, perhaps, to allude to carbohydrate starvation as a factor in post-anæsthetic acetonuria. Waldvogel pointed out that patients who took carbohydrate freely before and after operation seemed to be less liable to acetonuria. And it is probable that post-anæsthetic acetonuria may sometimes arise solely from carbohydrate starvation, especially in those cases in which, owing to fever or vomiting, but little food is taken for some days before operation. The metabolism of children appears to be less stable than that of adults, and they react very quickly to a lack of carbohydrate, possibly because their reserve supply is relatively small. But it is obvious that, apart from previous carbohydrate starvation, the tissues, poisoned by the anæsthetic and unable to utilise fats (and possibly proteids), will speedily use up the available carbohydrate in the body, and a plentiful supply of carbohydrate, not only when symptoms of intoxication occur after anæsthesia but also as a routine preventive measure before operation, appears to be the rational treatment of post-anæsthetic intoxication. It must be remembered, however, that there is no absolute proof that in these circumstances the metabolism of carbohydrate is normally carried out; the frequency of glycosuria, in fact, points in the opposite direction.

INTERNATIONAL PRIZE FOR OPHTHALMOLOGY.—The Royal Hungarian Minister of the Interior has offered the sum of 1000 crowns as a prize to the author of the best work on the Etiology of Trachoma. All work which is original, whether in manuscript or published for the first time in 1907 or 1908, will be eligible for the competition, provided it is in English, Hungarian, French, or German, and that it is received by Dec. 31st, 1908, at latest by the Minister of the Interior, Belügyministerium, Budapest, Hungary. The jury will be appointed by the Minister and its verdict will be announced at the inaugural sitting of the forthcoming International Congress of Medicine.

bacteria are "picked up" by the leucocytes, but it seems never to have been proved that this process is *always* pernicious to the bacteria. It cannot be denied—what is emphasised by several authors—that the rôle of phagocytosis as a factor of immunity is still without clinical confirmation. The next assumption is that experiments on phagocytosis made *in vitro* are adequate expressions of the phagocytic processes in the organism. It is said, for instance, that the more virulent the bacteria are in the organism the more the leucocytes decline to take them up. But the opsonic doctrine does not in any way pay attention to the virulence of the bacteria.

We will now discuss the value of the estimations of the opsonic index. At our disposal we have a series of tuberculo-opsonic indices, measured both on healthy persons and on patients suffering from lupus. These estimations were made from Jan. 21st to July 16th, 1907. After this date we estimated no opsonic index but still continued the inoculations with T.R.

We arranged our experiments in the following way. The blood was as a rule withdrawn between 10 A.M. and 12 noon. The slides were "put up" some hours later. The next day they were counted by one of the assistants of the laboratory, Mrs. Maar, who had been trained for a month in the counting. All the slides with the exception of those from two days were counted by Mrs. Maar. When once counted a slide was never counted over again even if the result seemed to us to be ever so unlikely. Before Mrs. Maar received the slides we always mixed slides from patients with others from healthy persons in such a way that she never knew to whom the slides which she was counting belonged. This was done in order to avoid the immensely great risk of self-suggestion in estimating the opsonic index which no counter can get rid of if he or she knows to whom the slide which is being counted belongs.

It is known that Sir A. E. Wright is accustomed to "pool" the serum from several persons and in this pooled serum to count 100 leucocytes, which count he then reckons as unity. We have not done this, as it did not seem to us sufficiently exact; instead of this we reckoned as unity the average phagocytic count of, usually six, healthy persons—i.e., we used six healthy sera and counted in each the number of bacteria contained in 100 leucocytes, which is, of course, equivalent to the number of bacteria contained in 600 leucocytes. The resulting number of bacteria divided by 6 was taken as unity, for we always counted 100 leucocytes in each slide of blood obtained either from a patient or a healthy person. We did this in order to get exactness as far as possible. We also in some cases pooled the six sera after the manner of Sir A. E. Wright, and in this table we see in the first column the phagocytic count in 100 leucocytes of the pooled serum of six persons and in the second the phagocytic count in 600 leucocytes divided by 6.

I.	II.	I.	II.	I.	II.
221...	170	246...	244	206...	209
194...	110	176...	140	174...	192
141...	121	158...	157	145...	133
211...	143	144...	203	228...	255
186...	224	151...	260	361...	316
195...	229	218...	169	199...	214
212...	218	172...	149	224...	193
151...	152	272...	317	244...	334
154...	159	140...	145	138...	161
377...	242	221...	247	178...	246
212...	198	141...	123	97...	95

Of course, Column I. ought to correspond to Column II., but as we saw that it was not the case we chose the more difficult estimation of the 600 leucocytes as being more exact. As an average the content of tubercle bacilli in each leucocyte was from 2 to 4.

It seems quite clear that the basis of the use of opsonic index determinations must be the exactness with which the opsonic index is determined in healthy persons. This "opsonic index of the healthy" has exactly the same value as any other unit of measurement.

Here where we are speaking about exactness we wish to emphasise that the opsonic doctrine is a doctrine of numerical observations. Numbers can only be judged scientifically in accordance with the "theory of observation" (law of error). With regard to this theory, referring to the special authors,[1] we only wish to call to the mind three chief points which may hereafter be of some use to us.

1. If we have two groups of homogeneous observations and if we wish to know with what exactness the observations are made, it is necessary not only to determine the mean of each group but also the "mean error."[2] The mean in itself gives no idea of the exactness. This is easy to be seen from the following example. If an observer examines a serum six times, and each time finds the index to be 1·00, the mean of the six indices is 1·00. If another observer examines the same serum also six times and finds the indices to be 1·4, 1·2, 1·0, 1·0, 0·8, 0·6, the mean is also 1·00, but the exactness is far less (i.e., the mean error is greater). As it is not possible to use the mean as a measure of the exactness it is also impossible to use the "extreme limits" ("the greatest variations" between the indices of series of observations) as a measure of exactness. Suppose we have two series of observations of the same exactness, one with 10 observations, the other with 1000 observations. Then there will be in the last series more higher and lower results than in the first series with only 10 observations. By estimating the exactness by "the greatest variation" the last series would seem to be of a less value than the first, in spite of the fact that the exactness of the two series is the same.

2. Where an observer has a mean of a series of observations which are repetitions (observations in which many disturbing causes unknown to the observer and of small individual effect neutralise one another in the mass) he is only absolutely sure that a new observation is influenced by a predominant cause (for instance, in our examination T.R.) if this observation deviates from the mean more than four times the mean error (in the positive or the negative direction).

3. A series of observations will distribute themselves in a typical way according to the law of error. The distribution is as follows: (mean error = μ in percentage of mean); within a distance in positive or negative direction of—

½ μ from the mean fall 383 pro mille
1 μ " " " " 683 " "
2 μ " " " " 954 " "
3 μ " " " " 997 " "
4 μ " " " " 999·94 "

We have 673 times determined the tuberculo-opsonic index of healthy adults—219 times from 15 healthy men and 454 times from 33 healthy women. We found that the mean of these 673 indices was 1·00,[3] and that the mean error of the individual estimation was 0·19. If the healthy persons have a constant index this mean error (0·19) is like the mean error of the measure method. If the indices of the healthy persons are not constant this mean error comprehends as well the error by the measuring as the error depending on the not constant indices. The mean error of the measure method (i.e., how exact it is possible to estimate on the whole the indices) has only a theoretical interest. The mean error that also pays regard to the possible variations in the indices of the healthy person has the practical interest. As our investigations covered a period of five months, and as it, *a priori*, is likely that the exactness grows with the time (i.e., with the greater experience), we have divided these indices into four groups, each of 30 days. At the same time we have distinguished between males and females.

TABLE I. (*Males*).

Period.	Number of opsonic indices.	Mean.	Mean error.	μ in percentage of mean.
I.—Jan. 21st to Feb. 24th ...	47	1·04	0·23	0·22
II.—Feb. 25th „ April 8th ...	97	0·97	0·19	0·20
III.—April 9th „ May 18th ...	47	0·98	0·16	0·16
IV.—May 21st „ July 16th ...	28	1·01	0·16	0·16

TABLE II. (*Females*).

I.—Jan. 21st to Feb. 24th ...	80	0·99	0·23	0·23
II.—Feb. 25th „ April 8th ...	108	1·04	0·18	0·17
III.—April 9th „ May 18th ...	135	1·00	0·17	0·17
IV.—May 21st „ July 16th ...	131	1·00	0·17	0·17

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[1] Bowley: Elements of Statistics, p. 261, *London*, 1901. (The book requires a good deal of mathematical knowledge.) Herman Olsen in Brauer's *Beiträge zur Klinik der Tuberculose*, I. Supplementband, p. 24-35, gives a quite popular sketch of the chief points of the law of error.

[2] Bowley calls it "error of mean square" or "standard deviation," loc. cit., p. 285.

[3] That the mean index of healthy people is 1·00 is a simple consequence of the way in which the unity is estimated.

Feb. 20th, 1907, with a history of frequent micturition for five weeks, beginning quite suddenly with hæmaturia. He passed large quantities of blood for three weeks, and when admitted he had pain at the end of the penis and along the urethra, increased on micturition. Nothing was found on examination of the bladder by sound or cystoscope. The man at first passed urine every few minutes with great pain. There were some pus and albumin in the urine with tubercle bacilli. In three weeks with ordinary treatment the symptoms were much relieved and he could hold his urine for an hour. On March 15th he had the first injection of tuberculin and regularly attended under Dr. J. W. H. Eyre for this purpose as an out-patient. In six months this man had grown so stout and well as to be quite unrecognisable. All symptoms had long disappeared and the urine was free from pus and bacilli. I have no proof that this was renal tuberculosis but the clinical history suggests ulceration of the summit of a pyramid.

A routine examination of the urine for tubercle bacilli when small quantities of albumin and pus are found without renal or vesical symptoms, but associated with ill health and anæmia, will no doubt in the future discover many cases of early tuberculosis of the urinary tract. There can be little doubt that tubercle bacilli were present in Cases 1 and 2 long before the attacks of renal colic. The next point in the investigation of such a case is to discover if possible which kidney is affected by means of the cystoscope, or segregation, or other methods. The ureteric orifice will not exhibit characteristic changes till the ureter itself is affected. It may therefore be impossible to be quite sure which kidney is affected, as catheterism of the ureter is generally admitted to be dangerous in the presence of infection, and segregation is not completely to be relied upon. In the absence of localising evidence for treatment we must rely upon general methods and tuberculin injections, and it will be valuable in the future to know how far such treatment is successful. There seems no reason why renal tubercle taken early should not recover, and it is probable that among the cases of slight albuminuria treated on hygienic lines with good effect there have been instances of tuberculosis.

How long are we justified in waiting after tuberculosis has been localised in one kidney? That there is no necessity for immediate nephrectomy is shown by the cases recorded in the first lecture. The two complications—viz., infection of the bladder and of the other kidney on the one hand and dissemination of tubercle on the other—are certainly long delayed, and in many cases, extending over some years, never occur. Where, therefore, the tubercle bacilli are few in number, the albumin and pus variable and often small in amount, and where vesical irritation is quite bearable, the bladder healthy, and the ureteric orifice normal, postponement is justifiable, and how far complete recovery can be brought about under such conditions has yet to be ascertained. When the ureteric orifice shows positive evidence of disease operation should no longer be delayed.

Is the condition of the kidney any guide to expectant treatment? Roughly, there are two forms of renal tuberculosis: that where the products of destruction are retained, giving rise to a painless moveable tumour in the presence of good general health, and that where the products escape and the kidney, though somewhat enlarged, as in Case 3, may not be so clinically. In both the ureter is involved. In the first the bladder is less likely to be infected, though the vesical irritation may be quite as troublesome as in some of the second class.

These being the facts, which kidney gives the most favourable prognosis? An answer demands a more complete acquaintance with the later history of both classes of cases than we possess, especially of the second. The tumour cases, being so obvious, have been observed and spontaneous recovery, either by caseation or escape of the contents, is known to occur. So far as I know we must wait for the later history of the second group treated without operation. There is good reason for believing that cicatrisation of even extensive disease may occur, as in Case 2, leaving much of the kidney healthy. On the other hand, the danger of vesical and renal infection point to this variety causing more danger than that where the products are encysted.

Attention has been called to the well-established observation that both kidneys are rarely affected at the same time. Renal tuberculosis is in fact generally unilateral. The recognition of this distribution of the disease is of prime importance in considering surgical treatment, and therefore the means at our disposal for ascertaining the incidence of the disease become of the greatest moment. In a great many cases the clinical evidence is sufficient; there is pain on one side, as in Cases 1, 2, and 4. Again, there is, in addition, in the acute type, enlargement of one kidney. In Case 3 these signs were absent, and except for the newer methods of investigation operative treatment would have been delayed. It is beyond the scope of this lecture to enter into an examination of the value of segregation, cryoscopy, cystoscopy, &c. These questions have been recently discussed before the society, and it is sufficient to acknowledge the essential help afforded by cystoscopy in the management of these cases. Of the various methods this certainly seems the most reliable, but demands, like similar modes of investigation, constant practice, and most of us will have to rely for interpretation and guidance upon those specially skilled in the use of the cystoscope. It is easy enough to recognise gross changes and to see a calculus, but to pronounce from the appearance of the ureteric orifice one or other kidney in a sufficiently morbid state as to demand its removal requires more than a casual acquaintance with this mode of examination.

The diagnostic value of cystoscopy can hardly be exaggerated in renal and vesical tuberculosis. Without the information afforded by this method more than one operation referred to in these lectures would have been delayed or abandoned. The cystoscope, in fact, has become as essential in investigating diseases of the kidney and bladder as the ophthalmoscope in diseases of the fundus oculi and brain or the laryngoscope in diseases of the larynx. Though not the only method of determining the condition of the kidneys it seems to be the most satisfactory. When I look at my nephrectomies, in the "nineties," for instance, and even up to 1905, the routine practice was to ascertain by opening the abdomen the condition of the opposite kidney. Before I had decided for myself to put aside the abdominal route it was very convenient to explore through the incisions made for nephrectomy. When the loin route was decided upon it became my routine practice to make an opening through the opposite rectus and examine the kidney. In one instance bilateral cystic disease was found, only one kidney giving clinical evidence of enlargement. In another a horseshoe organ was found and operation abandoned in both. I do not mean that in every case such exploration was necessary. When, for instance, the kidney formed a large tumour containing pus, and clinically it was pretty clear that it secreted little or no urine, the abdominal exploration was dispensed with. When the cystoscopic examination cannot be made by an expert, abdominal exploration still remains the best means of obtaining the requisite knowledge. There are conditions, too, where the cystoscopic appearances must be doubtful, or even misleading, as in Case 4 reported in these lectures, where the ureteric orifice gave no indication that the kidney was tuberculous. Yet the ureter and kidney must have been diseased in October when the second examination was made, for the appearances of the kidney when removed in November showed advanced tuberculosis.

In the Roentgen rays, again, we have a method that may guide us as to the condition of the opposite kidney in tuberculosis. A man, aged 37 years, under my care in Guy's Hospital, in 1906 complained of pain in the right kidney suggestive of calculus, supported by the presence of pus in the urine. There had been a history of pain in the left side some years before and it was possible that the kidney was destroyed. The x rays showed a large shadow on the left side only—i.e., the painless side—and the case suggested a reno-reflex pain. On opening this loin a hard calcareous mass was found, being the relic of a kidney shrunk to half its size. After dividing a thin and wasted ureter the relic of this kidney came away without ligaturing or dividing any vessels; they had completely atrophied. Unfortunately, a cystoscopic examination was not made. This man is now ill with tuberculosis of the remaining kidney. My experience is not sufficient to say how far the cystoscope would have guided the operative treatment in such a case. To be complete such an examination should have negatived all surgical interference, for the man suffered no inconvenience from the cretaceous kidney. The right-sided pain was due, no doubt, to tuberculous disease.

TREATMENT.

In reviewing the treatment of the cases referred to it will be seen that the kidney was removed in each instance. The appearance presented by the kidneys will, I think, be admitted to have fully justified the course adopted. Moreover, the speedy recovery of the patients, where the disease tuberculosis tends to lower the index. We have not found such a specific serum in lupus patients and this brings us to put the question, *Is there any such specificity at all?* or would the ratio between the two sera—normal or pathological—always work out like $\frac{1 \cdot 00}{1 \cdot 00}$ if they were counted with sufficient exactness?

2. As far as we know there does not exist any curve of immunity based on *daily* index estimations for one or more weeks before the first inoculation and *daily* index estimations after the beginning of the inoculation as long as this is continued. The reason why Sir A. E. Wright has not made such a curve is probably because his clinical material consists of out-patients attending a polyclinic; patients of this description, however, are not suitable for such examinations. This may also be the reason why he has not examined whether, and if so how much, the phagocytic power, when the curve is taken *in toto* (the "positive" and "negative" phases added), has risen. Commonly the authors of articles on the subject are content with speaking about the "positive" and "negative" phases.

We will now examine our material with regard to the question of the influence of T.R. on the curves *in toto* and we will use for this purpose the patients whose indices are shown in the accompanying curves. The arrows in the curves indicate the day of injection. We have always used new tuberculin (Koch) T.R. and the fractions indicate fractions of one milligramme T.R. The curves of the ten patients which we can use are the Curves 1–10.[11] In one case (Curve 1) the patient had received a single T.R. injection one and a half months before the first inoculation. Curve No. 11 (i.e., Case 1) cannot be used in this examination, as the indices of this patient were not determined before the first injection. We wish to state explicitly that none of these patients suffered from pulmonary tuberculosis. A glance at the accompanying curves and Table IV. will make it clear that the conditions in the individual cases are so different that it is necessary to treat the whole material summarily in order to get a decisive answer.

TABLE IV.

No.	Number of opsonic index before first inoculation.	Number of opsonic index after first inoculation.	Mean before first inoculation.	Mean error before first inoculation.	Mean after first inoculation.	Mean error after first inoculation.
1	7	34	0·97	0·14	1·01	0·24
2	16	80	1·03	0·28	1·01	0·24
3	15	79	0·99	0·26	1·03	0·24
4	16	76	1·05	0·30	1·16	0·29
5	16	79	1·25	0·48	1·21	0·30
6	16	84	1·17	0·31	1·04	0·24
7	16	23	1·12	0·27	1·20	0·25
8	16	12	0·93	0·18	1·17	0·34
9	8	75	1·00	0·16	1·03	0·21
10	10	9	0·84	0·33	0·96	0·32
11	0	44	—	—	1·01	0·23

We find then by looking at these curves before and after the first T.R injection that the mean opsonic index and the mean error are on the average 1·06 and 0·29 before the injection, whereas after the injection they are respectively 1·08 and 0·28. Apparently, no conclusion can be drawn from these figures. Still it must be taken into consideration that the mean opsonic index 1·06 is derived from only 136 observations and therefore is not so exact as the mean opsonic index 1·08 derived from 551 observations. Further, the result 1·06 dates from the first period where the exactness was the least, while 1·08 originates from the last three periods. If we now instead of 1·06 use 1·03, which we found above to be the mean of 408 indices from lupus patients not treated with T.R., the following question suggests itself: Is the difference between 1·03 and 1·08 so great that it can be correctly described as a rise? It can be calculated mathematically[12] that there is a probability of 995 against 5 that there is a rise.

Concerning the question of the "negative phase" a glance at the curves will show days on which the opsonic indices after injection of T.R are sometimes lower and sometimes higher than the index before the injection. No general rule is to be found. We are therefore obliged to treat also this question summarily, choosing from the curves such injections of T.R. as are made between two immediately consecutive index estimations. In other words, the indices which we use were determined on two consecutive days, and directly after the blood was taken for the first index estimation the T.R. injection was given. We have 36 such injections and we will now compare the sum of the 36 opsonic indices before the injection with the sum of the 36 opsonic indices after the injection, and get in this way an expression of the effect of T.R 24 hours after the T.R. injection.

The mean of 35 indices before injection = 1·08.
" " " after " = 0·99.

Mathematically, it can be calculated that the probability of a fall is 5 against 1, and with this probability our material then seems to prove the "negative phase."

3. We have seen that our examination may serve to prove the truth of Sir A. E. Wright's doctrine of the rise and fall after T.R. if we treat it summarily. On the other side, we must say that the index estimations have been of no help at all for the treatment of our patients. Where we have faced the individual case the effect of T.R. on the opsonic index has been so uncertain that the indices have been of no practical value to us at all.

When we now at last compare our result with those which we find in the literature at our disposal it will be seen that in important points we are of a different opinion. Bulloch found from 150 opsonic indices of 150 patients suffering from lupus a mean = 0·75. We found no difference between healthy persons and lupus patients. With regard to some of these 150 indices Bulloch found that cases with an index below 0·7 were not benefited by the Finsen treatment, while on the other side cases with an index higher than 0·9 were cured by the light treatment. We have divided our patients—as far as we have been able to judge the course of the disease—into two groups like the two just-named groups of Bulloch. In both groups we found an average index = 1·00. Bulloch and many with him think they may make use of one single index estimation and conclude from it with regard to the condition of the patients. Bulloch says that an index below 0·8 is rare or pathological. Many agree with him or put the limits at 0·7. But they do not pay any attention to the above-named law of error which asserts that it is not safe to draw any conclusion where there is not a difference greater than four times the mean error of the mean in the positive or the negative direction. This means that if Bulloch always worked with the same mean error (0·07) the limits would be 1·25 and 0·69—namely, 0·97 ± (4 × 0·07). Only outside these limits he is quite sure that an index is pathological. With regard to Lawson and Stewart, for instance, the limits would be 1·62 and 0·53—namely, 1·05 ± (4 × 0·13). This goes far to show that the one author is not allowed to use the limits of another. The same is the case with regard to the negative phase. When an observer before an injection finds the opsonic index = *a* and after the injection finds it = *b*, if *b* is smaller than *a*, most authors call it "negative phase" without asking if *b* is so much smaller than *a* that such a conclusion is legitimate. The case is exactly the same when the subject in question has a rise in the phagocytic power. As a rule the observer has estimated only one or two opsonic indices before the vaccination and still he speaks about rise without having proved that the indices before the injection—when these indices have been determined over a tolerably long period—are not exactly like the indices after the injection. It must be clearly understood that the necessity for taking the mean error into consideration is the more imperative in proportion as the greatest and smallest tuberculo-opsonic indices are very near 1. If we had met with indices that were from ten to 20[13] times the normal index one had perhaps been allowed

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[11] These ten curves are shown under Cases 2, 3, 4, 5, 6, 8, 12, 13, 14, and 15. There is no systematic connexion between the numbering of the cases and the numbering of the curves. The number of each curve is in every instance shown in the right-hand bottom corner.

[12] Mr. Iversen, a mathematician, has calculated these figures and has kindly gone through the manuscript.

[13] In cerebro-spinal meningitis it is said (Miss Alice Taylor: THE LANCET, July 6th, 1907, p. 16) that indices = 40 (forty) are met with. If this is not caused by an agglutination of the bacterial emulsion by the serum the deviation from the normal (= 1) is here so enormous that a higher or lower degree of exactness is without any significance.

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How long are we justified in waiting after tuberculosis has been localised in one kidney? That there is no necessity for immediate nephrectomy is shown by the cases recorded in the first lecture. The two complications—viz., infection of the bladder and of the other kidney on the one hand and dissemination of tubercle on the other—are certainly long delayed, and in many cases, extending over some years, never occur. Where, therefore, the tubercle bacilli are few in number, the albumin and pus variable and often small in amount, and where vesical irritation is quite bearable, the bladder healthy, and the ureteric orifice normal, postponement is justifiable, and how far complete recovery can be brought about under such conditions has yet to be ascertained. When the ureteric orifice shows positive evidence of disease operation should no longer be delayed.

Is the condition of the kidney any guide to expectant treatment? Roughly, there are two forms of renal tuberculosis: that where the products of destruction are retained, giving rise to a painless moveable tumour in the presence of good general health, and that where the products escape and the kidney, though somewhat enlarged, as in Case 3, may not be so clinically. In both the ureter is involved. In the first the bladder is less likely to be infected, though the vesical irritation may be quite as troublesome as in some of the second class.

These being the facts, which kidney gives the most favourable prognosis? An answer demands a more complete acquaintance with the later history of both classes of cases than we possess, especially of the second. The tumour cases, being so obvious, have been observed and spontaneous recovery, either by caseation or escape of the contents, is known to occur. So far as I know we must wait for the later history of the second group treated without operation. There is good reason for believing that cicatrisation of even extensive disease may occur, as in Case 2, leaving much of the kidney healthy. On the other hand, the danger of vesical and renal infection point to this variety causing more danger than that where the products are encysted.

Attention has been called to the well-established observation that both kidneys are rarely affected at the same time. Renal tuberculosis is in fact generally unilateral. The recognition of this distribution of the disease is of prime importance in considering surgical treatment, and therefore the means at our disposal for ascertaining the incidence of the disease become of the greatest moment. In a great many cases the clinical evidence is sufficient; there is pain on one side, as in Cases 1, 2, and 4. Again, there is, in addition, in the acute type, enlargement of one kidney. In Case 3 these signs were absent, and except for the newer methods of investigation operative treatment would have been delayed. It is beyond the scope of this lecture to enter into an examination of the value of segregation, cryoscopy, cystoscopy, &c. These questions have been recently discussed before the society, and it is sufficient to acknowledge the essential help afforded by cystoscopy in the management of these cases. Of the various methods this certainly seems the most reliable, but demands, like similar modes of investigation, constant practice, and most of us will have to rely for interpretation and guidance upon those specially skilled in the use of the cystoscope. It is easy enough to recognise gross changes and to see a calculus, but to pronounce from the appearance of the ureteric orifice one or other kidney in a sufficiently morbid state as to demand its removal requires more than a casual acquaintance with this mode of examination.

The diagnostic value of cystoscopy can hardly be exaggerated in renal and vesical tuberculosis. Without the information afforded by this method more than one operation referred to in these lectures would have been delayed or abandoned. The cystoscope, in fact, has become as essential in investigating diseases of the kidney and bladder as the ophthalmoscope in diseases of the fundus oculi and brain or the laryngoscope in diseases of the larynx. Though not the only method of determining the condition of the kidneys it seems to be the most satisfactory. When I look at my nephrectomies, in the "nineties," for instance, and even up to 1905, the routine practice was to ascertain by opening the abdomen the condition of the opposite kidney. Before I had decided for myself to put aside the abdominal route it was very convenient to explore through the incisions made for nephrectomy. When the loin route was decided upon it became my routine practice to make an opening through the opposite rectus and examine the kidney. In one instance bilateral cystic disease was found, only one kidney giving clinical evidence of enlargement. In another a horseshoe organ was found and operation abandoned in both. I do not mean that in every case such exploration was necessary. When, for instance, the kidney formed a large tumour containing pus, and clinically it was pretty clear that it secreted little or no urine, the abdominal exploration was dispensed with. When the cystoscopic examination cannot be made by an expert, abdominal exploration still remains the best means of obtaining the requisite knowledge. There are conditions, too, where the cystoscopic appearances must be doubtful, or even misleading, as in Case 4 reported in these lectures, where the ureteric orifice gave no indication that the kidney was tuberculous. Yet the ureter and kidney must have been diseased in October when the second examination was made, for the appearances of the kidney when removed in November showed advanced tuberculosis.

In the Roentgen rays, again, we have a method that may guide us as to the condition of the opposite kidney in tuberculosis. A man, aged 37 years, under my care in Guy's Hospital, in 1906 complained of pain in the right kidney suggestive of calculus, supported by the presence of pus in the urine. There had been a history of pain in the left side some years before and it was possible that the kidney was destroyed. The x rays showed a large shadow on the left side only—*i.e.*, the painless side—and the case suggested a reno-reflex pain. On opening this loin a hard calcareous mass was found, being the relic of a kidney shrunk to half its size. After dividing a thin and wasted ureter the relic of this kidney came away without ligaturing or dividing any vessels; they had completely atrophied. Unfortunately, a cystoscopic examination was not made. This man is now ill with tuberculosis of the remaining kidney. My experience is not sufficient to say how far the cystoscope would have guided the operative treatment in such a case. To be complete such an examination should have negatived all surgical interference, for the man suffered no inconvenience from the cretaceous kidney. The right-sided pain was due, no doubt, to tuberculous disease.

TREATMENT.

In reviewing the treatment of the cases referred to it will be seen that the kidney was removed in each instance. The appearance presented by the kidneys will, I think, be admitted to have fully justified the course adopted. Moreover, the speedy recovery of the patients, where the disease

MODERN METHODS OF TREATING INFECTIVE CONDITIONS OF THE THROAT.

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AS late medical superintendent of an infectious diseases hospital in which throat conditions of an infective or at least a bacterial character were of everyday occurrence I have for many years been exercised as to the best methods of combating such conditions, both from the curative and preventive points of view. Practice in this matter may be said to consist chiefly in the application of antiseptics by means of gargle, swab, spray, or douche, and practice varies in intensity from the squeamish use of a very mild gargle to the intrepid employment of a strong germicide under an anæsthetic. From both the preventive and curative points of view the annihilation, or at least the inhibition of growth, of the causal organism or organisms in such conditions is obviously the first thing at which to aim.

It is well known that what occurs in the case of true diphtheria bacilli during their growth on the fauces and throat—the formation, absorption, and circulation of toxic products—can also occur in the case of various staphylococci, streptococci, pneumococci, yeasts, and the like. We have not as yet for the latter conditions a mode of attack from within such as we have in the use of diphtheria antitoxin, except the use of antistreptococcic serum which I am of opinion is of decided value in many infective throat diseases. We are therefore compelled to rely upon methods which destroy the local toxin-factory or weaken its operatives so that their output is lessened. This is of especial importance in scarlet fever—a disease which I have long held to be strictly analogous to diphtheria in its pathology, there being a local bacterial factory in the throat from which toxin is distributed throughout the system to produce the secondary manifestations of the disease—lymphadenitis, nephritis, otitis, rheumatism, &c. It appeared to me, therefore, that as complete a test as possible, primarily bacteriological, of the value of the various antiseptics commonly used for the "disinfection" of the throat and of the various methods of applying these antiseptics would be of considerable interest. My first idea for the bacteriological test was to plant artificially some easily recognisable bacillus like the bacillus prodigiosus on the fauces and then to treat it with various solutions and note its diminution or disappearance. But on consulting Professor S. Delépine of the Public Health Laboratory, Manchester, whose kindness to anyone venturing on original investigation is notorious, I found that this had been tried with unsatisfactory results and that not the least objection to it was that it had at times resulted in unpleasant consequences to the subject. Obviously, as was pointed out to me, much more valuable results could be obtained by the observation of the behaviour of some bacterium actually growing on the throat than of some extraneous organism which might find the throat *per se* an undesirable residence. It was accordingly decided that I should endeavour first to find a throat which possessed fairly uniform bacterial contents and for this purpose I took swabs of a few throats for examination by Professor Delépine. The swab, which was of the kind ordinarily used in the diphtheria outfit at the health office, was rubbed gently first over one anterior pillar of the fauces and then over the other; it was then immediately labelled and sent off for examination, care being taken to send none at week-ends or during holidays when the delay would cause multiplication of organisms.

The method adopted by Professor Delépine for the examination of these swabs was to make an emulsion from each one in 5 cubic centimetres of sterile water, and from this to make a further dilution enabling agar plate cultures at 37° C. to be made containing $\frac{1}{5}$th, $\frac{1}{50}$th, $\frac{1}{500}$th, and $\frac{1}{5000}$th of the whole. The swabs were obtained under as nearly as possible similar conditions. They were not packed in ice to prevent or to lessen multiplication *in transitu*, but as all were sent in precisely the same manner the variations obtained are, I think, fairly attributable to the causes assigned. Care was taken to use the same amount of pressure on the mucosa when using the swabs, for any variation would naturally result in the swab picking up more or fewer bacteria in its journey. Some part of the variation in the results obtained is undoubtedly due to a difference in the amount of pressure employed, a matter naturally most difficult to control. Quantitative bacteriological work is at best an uncertain thing but the results obtained indicate that in these experiments the care taken in collection and examination has not been thrown away. Most of the colonies obtained were those of streptococci and not staphylococci as had been anticipated.

The first throats examined were those of three hospital nurses, in the first of which (Nurse G) I had a month previously excised a portion of one tonsil. All presented apparently normal fauces and the divergent results obtained are probably the consequence of the atmosphere to which they were exposed—that of a scarlet fever ward containing occasionally diphtheria, rhinorrhœa, otorrhœa, cervical abscesses, &c.—the usual accompaniments of scarlet fever.

	Swab No.	Staphylococcus.		Total colonies.
		Aureus.	Albus.	
Nurse G...	1	325	0	134,600
	2	75	165	1,320
	3	0	0	3,784
	4	0	25	97,000
Nurse M...	5*	0	2783	20,316
	6	0	25	966
	7	0	0	12,750
	8	0	616	10,330
Nurse E...	9†	—	—	—
	10	0	0	5,750
	11	0	0	59,250
	12	0	0	140,000

* Uvula accidentally swabbed in addition.
† Despatched wrongly and only examined for diphtheria bacilli.

These throats had to be abandoned for experimental purposes but the results are nevertheless interesting, if for nothing else at least for showing what a happy hunting-ground for microbic life the fauces are. It was accordingly decided to select a throat not so liable to accidental contamination. Swabs Nos. 13 to 17 were taken from the throat of an office clerk, aged 22 years, in good health and a non-smoker. The first three and the last were taken at 11 o'clock in the morning and No. 16 at 4 in the afternoon. In the case of the last named the tongue was very slightly touched with the swab, which probably accounts for the increased number of organisms present. Swab No. 17 was from one side of the fauces only. The results obtained were as follows:—

Swab No.	Staphylococcus aureus.	Staphylococcus albus.	Others.
13	0	0	300,000
14	0	0	200,000
15	0	0	430,000
16*	0	0	725,000
17†	0	0	64,250

* Tongue accidentally touched. † One side of fauces only.

Thus all the swabs contained a large number of organisms, and though there was considerable variation between them this was not so great as in the previous cases. Excluding Nos. 16 and 17 the average bacterial content of the swab was about 300,000. There was thus plenty of room for full appreciation of the diminution which it was anticipated would follow the application of antiseptics.

The organisms classed as "others" were streptococci which in the untreated throat were found along with the micrococcus tetragenus. After treatment the micrococcus tetragenus greatly predominated, showing that the streptococci were more easily eliminated by the reagents employed. It was accordingly decided to use this as the test-throat.

Gargling was the first method adopted and it may be remarked that the subject was an adept at this. After the use of the antiseptic the throat was invariably gargled once thoroughly with sterilised water, on Professor Delépine's advice, in order to prevent any of the antiseptic adhering to the swab and thus interfering with growth of the micro-organisms. A curious result was at once noted—namely, that after the use of the gargles staphylococcus albus frequently appeared and rarely staphylococcus aureus, although both of these had been absent prior to gargling. The only theory one could form to account for this was that the gargling process had forced the tissues and the bacteria attached to them out of their normal situation removed five months after incision and drainage, and yet complete recovery ensued. The time for nephrectomy has arrived when the general condition has improved and one is satisfied as to the adequacy of the opposite kidney.

Is it possible to excise a tuberculous focus if recognised sufficiently early? This, I believe, has been done, though I have no reference to the cases. In favour of this being accomplished I would refer to Case 1 as typical of the common site of early deposit—viz., in the lower pole, and to the obvious limitation of the disease for some time. Though the specimen shows extensive miliary infection of the lower third it is all fairly recent and suggests that had the condition been recognised at the time of the first attack of pain two years before, excision of the focus might have been carried out. A skiagram taken of this case three months before nephrectomy, showed an opacity in that part of the kidney where the focus was found, so that there is every reason to expect further guidance from this method of investigation. To be successful the ureter must, I expect, be free from infection, for though it recovers after nephrectomy it remains to be seen whether this will happen while urine continues to pass along the channel. The after treatment by tuberculin was carried out persistently in Case 1 from February to December, 1907, and was followed by complete disappearance of symptoms and of bacilli from the urine, and one may conclude by cure of the tuberculosis of the bladder and ureter. The opsonic index chart made by Dr. Eyre shows a persisting high index nearly all the time. In Case 3 tuberculin was not employed after the operation, partly because the ureter had been removed as well and partly because recovery progressed so satisfactorily. In Case 4 the unknown tuberculous kidney probably determined the failure of the tuberculin. The index in this case was often low. The treatment is still proceeding and the patient is gaining ground. There can be no doubt as to the value of this method of treatment, especially for vesical tuberculosis, and there seems no reason why it should not be valuable in early renal disease, especially when tubercle bacilli are found in the urine without vesical irritation. Where, as in miliary renal tuberculosis, the ureteric orifices are normal and there is no unilateral pain, it remains, together with hygienic measures, the only and best curative agent.

The object of these two lectures has been to review a personal experience in the light of the newer methods of diagnosis without going into the whole question or into statistics. To myself the importance of some of the early signs of tubercle has certainly only of late become recognised and I trust these lectures may be of service to others, especially those in general practice. I have related cases somewhat fully, giving at least all essential points in order that those who hear or read these lectures may be able to form their own opinions on the treatment adopted and on the suggestions put forward.

The early recognition of renal tuberculosis and the radical treatment by nephrectomy become of great importance, according as to whether it is held that such disease is recoverable or not. By recovery is meant cicatrisation of a focus, leaving the greater part of the kidney healthy; not disappearance of symptoms by total destruction of the kidney. The pathology of tubercle, especially as seen in the lung, would lead us to expect that spontaneous recovery of limited foci may take place. In the early stages there are no local symptoms of disease, nor in many cases is there ill-health. It is by the routine examination for bacilli in urine containing small amounts of pus and albumin that the earlier stages will be recognised. At this stage, when it may not be possible to localise the incidence of the infection by cystoscopic or other means, treatment by hygienic methods and by tuberculin hold out great prospects of success. As already mentioned I have little doubt that many cases of slight albuminuria, treated with success, have been examples of tubercle. There seems to be no reason why spontaneous cicatrisation of tuberculous lesions should not occur in the kidney as in other organs.

When, however, renal tuberculosis has advanced so far as to determine local symptoms, as pain, vesical irritation, a lumbar tumour, or gives rise to marked pyuria and albuminuria, is there any prospect of recovery with preservation of more or less healthy renal substance? I am not in a position to answer my own question, for the evidence from the post-mortem room is not in my possession, but I am inclined to think the information available is scanty, if existing at all. Perhaps this question may cause more attention to be paid to the subject and bring forward the pathological facts on which alone sound treatment can be based. In this connexion I would again refer to the specimen removed from Case 2. It exhibits cicatrisation in the lower pole of the kidney, the miliary infection being apparently quite recent. When local symptoms have developed the probability is that a progressive destruction of the kidney has set in and that no good will come of delay. That this destructive process may go on either steadily, with comparatively little general disturbance, or be interrupted by brief periods of acute illness, as in Case 1, seems no justification for a purely expectant treatment. If the outcome is to be a final destruction of the organ the rational treatment, it seems to me, is to cut short the illness by removal as soon as progressive disease has been recognised. To base a reason for delay upon the well-known unilateral character of the disease and the long resistance of the bladder and kidney to infection is to lose sight both of the fact that recovery means the final destruction of the kidney itself and of those cases where the spread of infection can be traced from one kidney to the other.

On every ground then early nephrectomy is indicated as soon as the destructive process has been localised and this may be on the first visit of a patient who has retained his weight and working power up to that moment. When a kidney shows so much healthy tissue as that removed from Case 1 a sense of regret at the sacrifice must be experienced. A close examination shows, however, wide miliary infection of the lower end, an amount of disease that could not be excised and would not have recovered spontaneously. Moreover, the ureter was tuberculous. The best guide to nephrectomy in the absence of a renal tumour or profuse pyuria is the cystoscope, and my experience teaches that when the ureteric orifice shows characteristic changes renal disease is beyond recovery and the sooner the organ is removed the better.

OBSERVATIONS ON THE OPSONINS, WITH SPECIAL REGARD TO LUPUS VULGARIS.

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PART I.

AMONG all the modern investigations on immunity perhaps no one deserves so much attention as Sir A. E. Wright's doctrine of opsonins. If this doctrine is shown to be correct every medical man who has a laboratory at his disposal will be in a much better position than before to treat many chronic infectious diseases against which the clinicians were previously more or less helpless.

Recognising the immense importance of this doctrine the Finsen Light Institute at Copenhagen decided to make the opsonic doctrine and especially the opsonins in cases of lupus vulgaris the object of a lengthy series of investigations. These investigations, which in our hands have not led to any practical result, are presented here, as we think that our experiences may form a link in the present investigations on the opsonins and their clinical value. We tried to find out if it were possible by tuberculin therapy guided by opsonic estimations to produce such an effect on patients suffering from lupus that the disease would either disappear or be relieved, light or x-rays being also sometimes used in the treatment. We divided the work between us in such a way that Dr. Reyn had charge of all the clinical investigations (examinations of the patients, injections of T.R., &c.), while Dr. Kjer-Petersen did all the laboratory work—namely, the estimation of the opsonic index.

I.—*The Opsonic Index.*

Before proceeding to the detailed account of our investigations we have to offer some criticisms on two assumptions which seem to be very important with regard to the opsonic doctrine. The first assumption is that phagocytosis is the most important or at least a very essential link in the resistance of the organism against infection. We know that each tablet is small and, in my opinion, the manufacturers have been well advised in proceeding on these lines. The pharmacist who crowds a large amount of antiseptic into one lozenge will not find his preparation appreciated, even if it be tolerated. Surely it is an easy matter to distribute the same amount in two or three lozenges and instruct the patient to take them more frequently.

The fact that the mouth, fauces, and pharynx are well supplied with muscles is frequently lost to sight, as is also the fact that certain very complicated movements are involved in the act of deglutition. A brief *résumé* of the processes of mastication and deglutition may not therefore be out of place here. Prior to actual swallowing—i.e., whilst the morsel is anterior to the isthmus of the fauces—it is turned over and over by the muscles of the lips, tongue, and cheeks, and is bandied about from one part to another of the oral cavity. The front of the tongue is then pressed against the back of the upper incisors, the back portion of the tongue is heaved up with a wave-like motion, and the now moistened bolus is carried, as it were, on the crest of the wave, through the isthmus of the fauces, the pillars of which first open apart to allow of its passage and then contract so as to partition off the buccal from the pharyngeal cavity. At the moment of "heaving" of the tongue certain other complicated actions take place by means of which the pharyngeal is shut off from the laryngeal channel. The constrictors of the pharynx immediately grasp the food morsel, the velum palati is elevated, and the orifices of the Eustachian tubes, which are probably closed during the resting or inactive condition of the pharynx, are now opened. The act of deglutition is finally completed by the passage of the morsel into the œsophagus and the onset of peristaltic action.

This semi-dissertation on the physiology of deglutition is not without important indications for treatment of buccal, faucial, and pharyngeal conditions. When the mouth is opened for douching, swabbing, or gargling, the parts, particularly the fauces, are at once thrown into an unnatural position, and many of these bacterial hiding-places are at the same instant covered up and protected from contact with the reagent applied. Moreover, the reagent can only be in contact with the parts to which it is applied for an inconsiderable period, and probably what little good results from such unnatural methods is effected by the reagent left on the parts mingling afterwards with the saliva and being carried in the manner just described to other parts. When lozenges or soluble tablets are used the mouth, fauces, &c., are not forced into any artificial position; the reagent dissolved in saliva and carried along by the muscular movements of deglutition flows for a considerable period over the surfaces to which it is desired to apply it; and what is of the greatest importance in diseases of these parts associated with the presence of bacteria the antiseptic is enabled by these muscular movements to follow the bacteria to their anatomical lairs.

I therefore wish to enter a strong plea for the elaboration of the lozenge treatment of mouth and throat diseases, to say nothing of other diseases where one wishes to give to a patient a drug to be taken, for example, during business hours, on journeys, &c. The dry concentrated form of drug meets many of these requirements and has many advantages, but it has this amongst other disadvantages, that the patient gulps it down whole (particularly if it be disagreeable) and it may lie for some time adhering to the stomach or intestinal wall where, if it be at all of an irritant nature, it is bound to produce discomfort and ill-effects on the mucosa. In the form of a palatable lozenge none of these bad effects need be feared. Further than this, I am a great believer in what physiologists term the "summation of stimuli" and I cannot help the thought that heroic drugging would seldom be necessary if some such means as the one suggested were adopted for the administration of frequent small doses of medicine. However, this is rather a digression.

Knowing the powerful germicidal effects of formaldehyde and observing the excellent results recorded of it by Dr. Daus[1] in acute follicular tonsillitis, mumps, acute submaxillary gland inflammation, and even in middle-ear disease, and the very good report of Dr. Piorkowski of the Bacteriological and Physiological Institute of Berlin, I determined to test these formamint tablets on the same lines as those on which gargles, &c., had been tested. I met with the most encouraging results. In a swab taken immediately after the sucking of one formamint tablet no bacteria whatever appeared, even in the dilution of one-fifth of the emulsion; in a swab taken ten minutes afterwards 35 micro-organisms grew, and in one taken 30 minutes afterwards 150 were present. There was, moreover, a total absence of staphylococci in all three swabs, the organism simulating the micrococcus tetragenus being the only one to resist the remedy and appearing in the two later swabs. This result is a little inconsistent with that obtained on swabbing with 1 in 200 formalin (*vide supra*) so that I repeated it in part with the following result. The patient's throat was first tested in order to get the bacterial contents of the anterior faucial pillars and the posterior pharyngeal wall. Next he was instructed to suck two formamint lozenges—one every half hour—and then to gargle with sterilised water. The fauces and pharynx were then examined and the results are shown in the following statement:—

Colonies Capable of Growth on Agar Plates at 37° C.

		Total colonies.	Staphylococcus albus.	Tetrads.	Streptococci.
1. Anterior Pillars	Before...	7500	0	900	8000
	After ...	80	45	0	15
2. Posterior Pharynx	Before...	965	650	0	200
	After ...	80	70	0	0

These results must be classed as distinctly excellent. I next proceeded to test two of the B.P. lozenges.

Swab C 1 was taken precisely as the other swabs, a few minutes after the slow sucking of trochisci eucalypti gummi, B.P., the throat being gargled immediately afterwards with sterilised water. The colonies yielded were: staphylococcus aureus, none; staphylococcus albus, none; total colonies, 6600.

Swab C 2 was taken after similar treatment with trochisci acidi carbolici B.P. and yielded: staphylococcus aureus, none; staphylococcus albus, 1500; total colonies, 41,000. The chief organism found was a tetracoccus closely resembling the micrococcus tetragenus.

The difference between these two lozenges is in my opinion due to the astringent action of the eucalyptus in closing up microscopic hiding-places for bacteria.

Clinical results.—These have been obtained chiefly in connexion with scarlet fever, diphtheria, "hospital throats," and the like. In no class of case is the hygiene of the mouth and throat of more importance than in scarlet fever. Left alone, many a case of this disease, simple at the onset, drifts into the septic variety; the organisms accompanying the specific one (whatever that may be) begin to flourish and invade accessory parts, setting up otorrhœa, rhinorrhœa, post-scarlatinal diphtheria, cervical lymphadenitis, &c. The most important line of treatment, therefore, in scarlet fever is, in my opinion, to keep the mouth and fauces in a condition unfavourable to the growth of these organisms. In the case of fauces already septic swabbing and douching are essential to remove the mucous and exudation which are almost always present. *It is useless to apply any curative until this has been done.*

In the septic or anginous variety of scarlet fever the tonsils and soft palate are œdematous and covered with mucous, and the condition is usually accompanied by ichorous nasal discharge. In such cases there are generally present some ulcers difficult to localise at first and most commonly situated in the angles between the uvula and palatal arches. Treatment is most difficult in these cases on account of the pain necessarily associated with it. But my experience has been that the best method is to begin with a very thorough cleansing of the parts, wrapping the child firmly in a blanket, using a mouth-gag if necessary, and swabbing first of all with some weak antiseptic such as 1 in 1600 hydrargyri perchloridum made up with a little glycerine and tinctura lavandulæ composita, then douching with the same solution, and afterwards putting the patient on to a liberal supply of formamint tablets. If the child can be encouraged to take these it will not be necessary to repeat the forcible swabbing and douching more than a very few times, and indeed the less it is done the better, for an ulcerated part cannot be expected to heal if we use measures that are bound to remove some, or perhaps all, of the newly formed epithelium which is growing over the ulcer. The swabbing, as the bacteriological examination already quoted shows, removes most of the presumably causative bacteria, and the mild antiseptic contained in the tablets

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[1] Medizinische Klinik, 1906, No. 16.

It is seen from these two tables that we in the first period worked with a smaller exactness than later. Further, it is clear that there is no essential difference between the two sexes.

We wish now to see how these indices from healthy people correspond with the above-named law of error. In Table III. (where the number in the parentheses indicates the number calculated according to the law of error) we see the distribution.

TABLE III.

Within $\frac{1}{2}\mu$ ... (0·90–1·09): 268 = 39·8 per cent. (38·3 per cent.).
" 1μ ... (0·81–1·19): 489 = 72·4 " (68·3 ").
" 2μ ... (0·62–1·38): 643 = 95·5 " (95·4 ").
" 3μ ... (0·43–1·57): 669 = 99·4 " (99·7 ").
" 4μ ... (0·24–1·76): 673 = 100 " (99·994 ").

The nice correspondence is here evident and suggests that none of the observations have been influenced by a predominant cause, but only by the small individual causes which neutralise each other.

If we now inquire how the question about the exactness is answered by the different authors we at once meet with two difficulties. The one is that the authors never use this law of error already mentioned; the other is that they do not always state the exact arrangement of their investigations (for instance, whether they count 50 or more leucocytes, whether they use pooled serum or not, &c.). Many authors believe that Dr. William Bulloch[4] is right when he states that the tuberculo-opsonic index of healthy persons lies between 0·80 and 1·20. Even if this were correct it seems clear that not all observers are allowed to use the limits stated by Dr. Bulloch as limits to their own indices. The opsonic technique is a difficult one and *a priori* it is very unlikely that everybody at once can work with the same degree of exactness as Dr. Bulloch. In order that the determinations made by another observer may be of any value he must convince others, or at least himself, that he works with the same exactness as Dr. Bulloch. We also find in the literature of the subject the most different opinions with regard to the value of the opsonic index of persons in good health. Dr. Bulloch quotes Dr. R. H. Urwick—with what right we are going to see—as an author whose indices "correspond closely" with his own. In a paper by Potter[5] the indices of healthy people seem to be like those of Bulloch, but in a recent paper[6] Potter writes that the variations of the opsonic index are very great. W. Jensen[7] seems to believe that his own serum always has the index = 1. On the other side we find communications on higher indices. North[8] has found variations from 25 per cent. to 200 per cent. Dr. David Lawson and Dr. Ian S. Stewart[9] examining the blood of 25 healthy persons found opsonic indices of 1·40 in one person, 1·20 in five, 1·10 in five, 1·00 in seven, and 0·90 in seven.

It is clear that all examinations regarding the determinations of the indices of healthy persons (i.e., the estimation of the unity) in the hand of the individual observer must be made without the influence of any predominant cause (i.e., on a homogeneous material). We saw above that if an essential condition changed during the observations these would not become repetitions, and the numbers would not in that case correspond to the law of error. Such an example we have in Bulloch's series of 66 healthy indices. We find (the number in the parentheses indicating the number calculated according to the law of error)—

Within $\frac{1}{2}\mu$ ... ... 62·1 per cent. (38·3 per cent.).
" 1μ ... ... 80·3 " (68·3 ").
" 2μ ... ... 92·4 " (95·4 ").
" 3μ ... ... 100 " (99·9 ").

We see that Bulloch within $\frac{1}{2}\mu$ nearly has the double amount of the calculated (62·1 instead of 38·3). It is also very easy to understand by looking on his indices, where 26 (i.e., one-third of his whole material) have the value 1·00 in spite of the fact that between 0·80 and 1·20 there are 41 different values which the indices might have. In one way or the other a predominant change has been introduced in his experiments and therefore his indices lose their value as a basis for the estimation of the healthy index (i.e., the unity). Moreover, it seems strange that Bulloch never obtains indices higher than 1·20 or lower than 0·80. He uses his own serum as control. His serum must therefore on some day or other have an index = 0·80. If he now by chance on this particular day examined a normal person whose serum had the index = 1·20 this normal person's index would work out as $\frac{1\cdot 20}{0\cdot 80} = 1\cdot 50$.

We have seen above that in our 673 healthy persons we found a mean of 1·00 and a mean error = 0·19. It might be of interest to estimate the same figures for some other authors. Bulloch:—(34 healthy males) mean = 0·97, mean error = 0·07; (32 healthy females) mean = 0·97, mean error = 0·09. Urwick: (20 healthy persons) mean = 1·005, mean error = 0·11. Lawson and Stewart: (25 healthy persons) mean = 1·05, mean error = 0·13. Shaw: (seven healthy persons) mean = 0·98, mean error = 0·19. Bulloch seems, therefore, not to be justified in saying that he counts with the same exactness as Urwick; neither does the exactness of Lawson and Stewart seem to be exactly like Bulloch's. Our estimation of Dr. C. J. Shaw's mean error is only approximate, as he does not state all his indices. But as most of the authors have the same wrong view as to the way in which to state the exactness of their method it is worth while to quote him verbatim:[10]

> The average tuberculo-opsonic index of the six healthy control cases for five consecutive days was 1·07, the average for each case being 0·98, 0·97, 1·32, 1·06, 1·01, and 1·11, showing a variation between 0·97 and 1·32. This average index agrees with the results obtained by other observers in healthy persons.
>
> Urwick, in 20 cases, found the average index to be 1·006, while Bulloch in 84 cases found an index of 0·96, and in Lawson and Stewart's 25 cases the average was 1. The total variation 0·35 is less than that found by Bulloch in the 84 cases he examined. Urwick states that there is little variation in the index of a healthy person from day to day. I found considerable daily variations in some cases, though the observations were made as far as possible under the same conditions. The greatest amount of variation recorded between two consecutive observations was 0·3. In one control case, however, a record so low as 0·68 was obtained on one occasion.

The author just named uses the average (the mean) and the greatest variation as an indicator of his exactness, which, as we saw above, is quite wrong. Considering that this is the way in which most of the authors judge their exactness most people will agree that this fundamental question in the opsonic doctrine rests on a weak foundation. Until other authors determine their exactness in the same way in which we have done it (i.e., from a sufficiently great amount of material and taking regard to the law of error) it might perhaps be an open question if their fault is not as great as ours.

We now leave the opsonic indices of healthy persons and proceed to examine the indices of the lupus patients in the same way.

For the purpose of getting a general view we want to see what answer our material gives to the following questions. 1. How great is the tuberculo-opsonic index of lupus patients not treated with T.R.? 2. Does the treatment with T.R. produce a rise of the index curves *in toto* and a fall (the negative phase) after the individual injection? 3. Is it possible to use the indices as a guide to our treatment of lupus patients with T.R.?

Our material consists of 408 opsonic indices from adult lupus patients (23 males and 92 females) who either had not been treated with T.R. at all or at least had not yet had it at the time when these indices were determined. Some of these indices are to be found in the curves given in this article. We have also 551 opsonic indices from patients treated with T.R.; all these are to be found in the curves.

1. The 408 opsonic indices from lupus patients who have not had T.R. show a mean = 1·03 and a mean error = 0·25. The distribution is—

Within $\frac{1}{2}\mu$ ... (0·90–1·16): 177 = 43·4 per cent. (38·3 per cent.).
" 1μ ... (0·77–1·29): 298 = 73·0 " (68·3 ").
" μ ... (0·51–1·55): 393 = 96·3 " (95·5 ").
" 3μ ... (0·25–1·81): 405 = 99·3 " (99·7 ").
" 4μ ... (0·02–2·07): 407 = 99·8 " (99·9 ").

The typical distribution is not quite as good (too many cases within $\frac{1}{2}\mu$ and 1μ and 1 index outside 4μ) as in healthy persons, among whom we (as stated above) found a mean opsonic index = 1·00 and a mean error = 0·19, but still the figures go far enough to show that there is in our cases no essential difference between healthy persons and lupus patients. This is a very important fact as one of the chief points in Wright's theory is that the serum of tuberculous patients has a specific action, which in localised let nature complete the cure unaided. The continuance of those troublesome nasal discharges following on scarlet fever, diphtheria, measles, and the like is due in the majority of cases to improper prolongation of treatment.

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[4] Transactions of the Pathological Society, vol. lvi., Part III., 1905, p. 339.

[5] Journal of the American Medical Association, 1905.

[6] New York Medical Journal, 1907, p. 1143.

[7] Congrès International de la Tuberculose, 1905.

[8] New York Medical Journal, 1907, p. 1143.

[9] THE LANCET, Dec. 9th, 1905, p. 1579.

[10] THE LANCET, May 11th, 1907, p. 1287.

Upper Gloucester-place, N.W.

ACQUIRED DIVERTICULA OF THE SIGMOID FLEXURE,

CONSIDERED ESPECIALLY IN RELATION TO SECONDARY PATHOLOGICAL PROCESSES AND THEIR CLINICAL SYMPTOMS.

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(Concluded from page 850.)

CLINICAL ASPECTS.

THE clinical importance of these diverticula needs no further emphasis than that given by the number and gravity of the collected cases; yet it is only since Graser's communication in 1898 that the consequences of false diverticula of the sigmoid flexure have been seriously considered by the operating surgeon. But the time has come when no resourceful surgeon can afford to overlook the incidence of such cases; indeed, it is to the surgeon that we shall mainly look for an increase of our facts concerning them. It is by the "pathology of the living," as Moynihan happily phrases it, that we shall attain a proper clinical perspective with regard to them. One is almost constrained to think that we morbid anatomists have been a little slow in our appreciation of the pathological "possibilities" of acquired diverticula; certainly priority of observations rests almost entirely with our surgical colleagues. The foregoing pathological summary makes it scarcely necessary to attempt a detailed clinical differentiation of the various types of case; indeed, it would not be easy, for there would necessarily be much overlapping. But the great majority of the cases present themselves to the clinician in one of the four following ways, a few points concerning which yet remain to be mentioned.

1. *Inflammatory trouble, more or less acute, in the left lower abdomen (left-sided "appendicitis," sigmoiditis, peri-sigmoiditis, epiploic appendicitis, diverticulitis, peri-diverticulitis).*—Inflammatory cases of this type constitute a large and important group. Many of them are clinically identical with the various types of inflammation of the vermiform appendix (Nothnagel (54)[*]), except for the fact that the trouble is on the left side. So strong is the resemblance that in Bland-Sutton's case (No. 57) the question of transposition of viscera was carefully considered. Moreover, just as we are familiar with many cases of appendicitis which clear up entirely, there can be no doubt that this may happen in cases of "diverticulitis," and this latter, as we have seen, is very frequently indeed a true "epiploic" appendicitis. Such cases, coming neither to operation nor necropsy, are difficult to verify; yet a number of very suggestive ones have been put on record (Mayo (48), Patel (56), D'Arcy Power (14), and others). Moreover, the history of earlier inflammatory troubles noted in some of the cases proves the point. In the study of sigmoiditis (of which diverticula are becoming increasingly recognised as an important and frequent cause) the existence of cases which clear up is established beyond doubt (Tuffier (72)). Patel, indeed, says: "Peut-être un jour sera-t-on en droit de dire que, dans presque tous ces cas décrits sous le nom de sigmoidites, il s'agit de véritables *diverticulites*, absolument comme l'appendicite a été substitutée peu à peu à la typhlite." We may therefore hope to learn to recognise them as accurately, if not as frequently, as we do the analogous cases in the right iliac region. Georgi (21) emphasises the fact that in most cases there is at first marked inflammation of the diverticulum without symptoms. When these occur, the earliest are a little pain, aggravated by constipation, in the neighbourhood of the sigmoid flexure, and some sensitiveness to pressure; in marked cases a tumour is to be felt.

Left-sided tumour and abscess formation is a striking feature. In 63 cases a tumour was felt in 20 and abscess formation occurred in 23, though not in all cases giving rise to tumour, for the reasons given above. Georgi has further pointed out that with considerable pus formation there may be but little pain and no pyrexia.

In cases of sigmoiditis a characteristic tumour is often felt; it is elongated, sausage-shaped, tender, and often ill-defined; it may be moveable or fixed, lying a little above Poupart's ligament (frequently parallel with it). Shortly after the occurrence of abdominal symptoms referable (more or less definitely) to this quarter of the abdomen, this swelling may be made out: it may disappear, rapidly or gradually, or may increase, with signs of pus formation.

So far, the correct diagnosis of diverticular inflammation has apparently only once been suggested (by Mayo, Case 42). The suggestion would only be reasonable in a patient of middle age or older and who was the subject of marked or former constipation. Inflammatory trouble of the above kind occurring in such a patient would at the best render a diagnosis of *diverticulitis* very uncertain; it would be much easier to label a case *sigmoiditis*, one of the commonest causes of which is constipation (Capasso (8)).

The chief conditions to be considered in differential diagnosis would appear to be (*a*) ordinary appendicitis with left-sided symptoms; (*b*) pelvic inflammations; (*c*) ovarian cysts with strangulation or inflammation; (*d*) actinomycosis of the sigmoid flexure; and (*e*) syphilitic and tuberculous pericolitis. This list does not exhaust the possible sources of error; diagnoses of pancreatic, ovarian, and cæcal tumours have each been made. There seems to be a tendency to accept too readily tuberculosis as the cause of some of these non-malignant strictures of the sigmoid flexure; and F. S. Kidd (41), in discussing the differential diagnosis of these hyperplastic tuberculous cases, does not even mention the stenosis of diverticular origin.

2. *Intestinal obstruction.*—When acute this is probably due to secondary involvement of a coil of small intestine (Cases 59 and 50), and the initial cause is practically undiagnosable except at operation, where, however, its recognition may be of considerable importance. Chronic obstruction of the small intestine, of which my case, No. 51, is the only example, must also be similarly difficult as regards diagnosis. When obstruction occurs it is usually chronic, or recurrent, or acute upon chronic. It is generally localisable to the sigmoid region (to the ileo-cæcal in Case 80), and nearly always leads to a diagnosis of carcinoma. In the 25 cases in which there was stenosis of the bowel, in at least 12 the diagnosis of carcinoma was made, either before or at the operation; but in many the diagnosis is not mentioned. In England this mimicry of carcinoma has been referred to by Monsarrat (49), but Moynihan (51) alone has given it the emphasis which its importance deserves. The differential diagnosis from malignant disease is extremely difficult. Very advanced age, a comparatively recent constipation, marked cachexia and blood in the stools, all favour strongly the presence of carcinoma; while long-standing constipation, the absence (after repeated examinations) of blood from the stools, and slight cachexia together with any evidences of pus formation would suggest the possibility of a peri-diverticulitis; entire absence of constipation may occur with either condition, and blood has been found in the stools in at least one case of diverticular origin (No. 59). Many observers (Bland-Sutton (4), Gordinier and Sampson (22)) have no doubt that "cures" of cancer in this region have been due in some cases to the fact that the lesion has been one of simple inflammation and probably diverticular; Tuffier (42) quotes a very striking case. The proceedings may be greatly modified by a correct diagnosis at the time of operation. In some cases regarded as malignant further measures have been abandoned or a merely palliative operation (e.g., colotomy) performed, the amount of adhesion being regarded as a bar to more radical proceedings. These may, of course, be impossible whether the adhesions be due to simple inflammation or to malignant disease, but in one or two cases microscopic examination has revealed the absence of malignant disease and a radical operation has been then successfully carried out.

3. *Perforative peritonitis.*—Cases of this kind, in which the site of perforation is undiscoverable at the laparotomy, occur from time to time in the experience of every surgeon. It will scarcely be necessary to say now that a routine examination of the sigmoid region should always be made, with especial care if the age and previous history render the presence of diverticula in the least degree possible.

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[*] The parenthetical figures throughout the article relate to the bibliography at the end.

to hope that the deviations were so far from the normal that these indices with certainty fell outside the range of errors, even if the mean error were a little greater or smaller. But now the tuberculo-opsonic index is very seldom twice as great or twice as small as the normal, that is to say, that the observations are so delicate that it seems hopeless to attempt to draw any inference without paying attention to the law of error.

To argue from our examination of the value of the tuberculo-opsonic index to the value of the index estimation might not be altogether fair, because the process of determining the tuberculo-opsonic index seems to be very difficult. Still, a great deal of the sources of errors quoted above keep their validity against other index estimations. And it seems to be a legitimate requirement that in the future this process must be worked with much more conformity of results and much more precision than has been the case hitherto.

A good deal would be gained if all investigators would agree to a systematic procedure the chief points of which for instance might be as follows: (1) the observer who counts a slide shall not be allowed to know to which patient the slide belongs; (2) in all cases the same number of leucocytes shall be counted; (3) the unit index shall always be determined in the same way—namely, by the use of pooled serum from at least six healthy persons and with 600 leucocytes counted; (4) the indices shall be determined to two places of decimals and the exact magnitude of the index shall be named even when the indices are exhibited as curves; (5) conclusions shall be drawn only from curves based on observations in which the indices before the vaccination were determined daily for one or two weeks; (6) the conclusions shall be drawn from a sufficiently great amount of material and shall be in conformity with the law of error; and (7) an opsonic immunity-curve corresponding to each individual bacterial type shall be made as an example. No systematic method of this kind has been adopted up to the present, but instead thereof we find scattered throughout opsonic literature a number of papers which are very incongruous in their foundation and in the value of their material. Until a programme like the one just proposed is generally adopted, and until we (when the investigators follow this programme) have got an undeniable proof of the reality of Sir A. E. Wright's doctrine of the opsonic index, we think it safer to dissuade practitioners from using these very troublesome determinations as a clinical method. We then would have more time to give Sir A. E. Wright's vaccinations a clinical trial to the extent which they require. The fact that a vaccination therapy is very seldom guided by daily index estimations seems to us a silent admission of the possibility of being able to vaccinate without determining the indices.

In concluding this section of our paper Dr. Kjer-Petersen wishes to express his most hearty thanks to Sir A. E. Wright and his assistants, who during Dr. Kjer-Petersen's stay at St. Mary's Hospital taught him the method of making opsonic estimations and most kindly spent much time in furthering the objects which he had in view.

II.—*About the Treatment of Lupus Vulgaris with T.R.*

In addition to these studies on the opsonic index we wish to communicate some cases of lupus vulgaris which we have treated by injection of T.R. according to Sir A. E. Wright's method. First we shall mention what we have been able to find in the literature about the results of this treatment.

Wright[14] publishes two histories of patients suffering from lupus vulgaris in whom great improvement was noticed after injections of T.R., and he furthermore relates that in several cases the results have been good, but he speaks only of one case of permanent cure. When the results have not been better Wright believes it is because the lupus is seated in a skin which is too poorly supplied with blood, so that that its anti-bacterial matters have not been able to act upon the tubercle bacilli. If a sufficiently pronounced hyperæmia of the skin can be provoked, such as is the case by the Finsen treatment, that method might, according to him, be of a much greater value. He therefore proposes to combine injections of T.R. with the Finsen treatment. If we had known these statements by Wright only we should hardly ever have tried the T.R. treatment as *sole treatment* against lupus vulgaris, but from other sides far better results of Wright's method have been related.

Bulloch[15] has, for instance, treated seven patients—all very old and extensive cases—who did not respond either to the treatment with x rays or to the Finsen treatment; four of these recovered, two were greatly improved, while one did not stand the injection with T.R. With regard to these histories we refer to THE LANCET, and we only wish to emphasise that the effect of the short treatment in Bulloch's four apparently cured cases has been astonishingly good. We are sorry to say that we have not been able to find in the literature any records of the later course of these cases which would have been of great interest, especially considering the short time of observation after the treatment and the pronounced tendency of some of the cases to relapse. Generally speaking, it is, in a disease like lupus, not too much to ask that the condition of the patients shall be followed through a longer time if the record is to be of any value.

Graham Little[16] relates one case where the patient's condition became worse, but he thinks that this was due to an overdose of tuberculin.

Butler Harris[17] has treated a very old case of lupus in which the patient quickly got better.

Turton and Parkin[18] relate two extensive cases of lupus which responded to tuberculin "much quicker" than might have been expected under any other treatment.

George Rose[19] has described the cases of two patients improved by Wright's method.

Ebert Hill[20] relates a case of lupus vulgaris of the upper lip which, after having been treated with different ointments, apparently recovered under the use of T.R. With the exception of this last-named case no author—as far as we have been able to discover—seems to have got so good results as Bulloch.

We will now proceed to mention the results which we have got, but at first we wish to go through the principles which we have followed in the treatment of our patients.

Wright recommends his method in such cases as have very low opsonic indices and do not react on, or always relapse after, some other treatment. But, as stated above, we did not find the opsonic index low in our lupus patients; on the contrary, their opsonic indices were, perhaps, just a little higher than in healthy persons. We were therefore compelled in choosing the cases to be guided by the result of earlier treatments, and to select such patients who, though energetic light treatment had been applied, either were not cured or even had become worse; we therefore selected eight of our most malignant cases (clinical histories 1–8 *infra*). As a contrast with these we tried the treatment in three small fresh cases (clinical histories 9–11 *infra*) which—as far as we could judge—would respond to the light treatment, so as to see whether the method, if it failed in the malignant cases, might perhaps be of value in the fresh cases.

Wright uses the opsonic index as a guide in the treatment. We have, as mentioned above, not been able to use the opsonic index for this purpose; we have used the doses and intervals which Wright indicates, and have injected quantities of $\frac{1}{1000}$ or $\frac{1}{5000}$ of a milligramme, increasing to $\frac{1}{500}$ of a milligramme. In a single case we have increased the dose to $\frac{1}{250}$ of a milligramme. The intervals between the injections have been about three weeks, which is the interval Wright uses, as far as we have been able to find out. Only in our first injections the intervals got more occasional as we tried if we could get any support by the opsonic index. We always used Koch's tuberculin (T.R.) sterilised at 60° C.

An account of a series of cases in which the method of treatment is given a full trial follows.

(To be concluded.)

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[14] Clinical Journal, November, 1907.

[15] THE LANCET, Dec. 2nd, 1905, p. 1603.

[16] British Journal of Dermatology, September 1905.

[17] THE LANCET, Dec. 16th, 1905, p. 1772.

[18] THE LANCET, Oct. 27th, 1906, p. 1130.

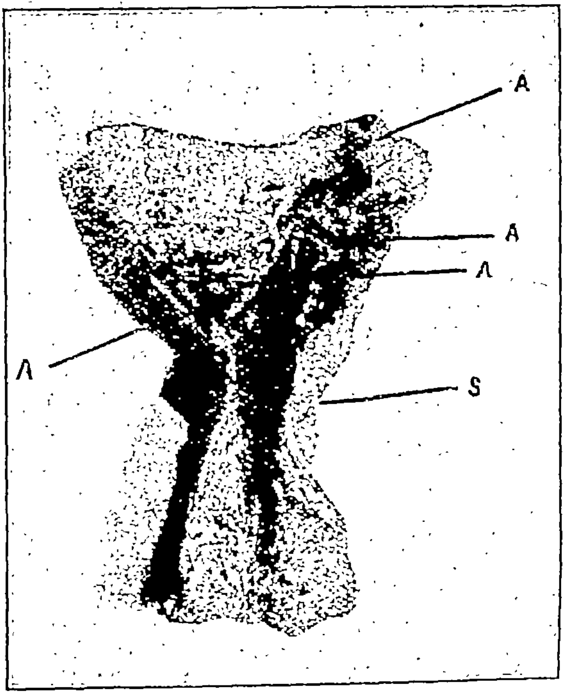
[19] THE LANCET, Dec. 22nd, 1906, p. 1726.

[20] The American Journal of the Medical Sciences, vol. cxxxiv., No. 1.

THE "E. M. I." (ETUDES MÉDICALES INTERNATIONALES).—The French railway companies have announced their intention of granting a new facility to the members of the Tour for Post-graduate Study which will be held in Italy from April 12th to 28th. The half-price return tickets to Nice will be available until May 15th in order to give their holders an opportunity of stopping on the Côte d'Azur. Moreover, the Paris-Lyons-Marseilles Company, with its wonted courtesy, will issue passes allowing the journey to be broken between Nice and Marseilles. Entries for the tour must be made before March 29th; communications should be addressed to the office of the "E. M. I.," 8, Rue François-Millet, Paris.

CASE 71 (Fabris (18), 1902).—Stenosis. Female, 68 years of age. Numerous diverticula of the sigmoid flexure extending up to nearly the middle of the transverse colon; they were from pea- to nut-size. In the rectum were chronic ulceration and stenosis, the fæcal obstruction due to which is looked upon as the cause of the diverticula. (*Note.*—Beer, who quotes the German abstract of this case, includes it under cases of stenosis of the gut *due to* the diverticula, whereas it is stated that the stenosis was regarded as the *cause* of the diverticula. I have not been able to look up the original reference.)

FIG. 3.



Specimen from Case 70. At S there is a narrow annular stricture of the sigmoid flexure from chronic inflammatory thickening of the gut wall. A A are the orifices of false diverticula. (There was probably much more thickening of the bowel at the site of stricture, but this inflammatory tissue has been "pared" away.)

CASE 72 (Ducos (15), 1906).—Stenosis; melæna. Aged female. Death from marasmus. Inflammatory stenosis of the sigmoid flexure for eight centimetres due to multiple diverticula at the site of the stenosis and above it; fæcal concretions in diverticula; melæna.

CASE 73 (Stierlin (68)).—Aged female. Multiple diverticula above a stenosing carcinoma of the sigmoid flexure. This case is interesting from its association with carcinoma.

CASE 74 (W. J. Mayo (48), 1905).—Stenosis; tumour (diagnosed as ovarian). Female, 62 years of age. Chronic constipation with attacks of pain in the lower abdomen for some time. Mass low down in the left side of the pelvis; diagnosis, ovarian tumour. At operation found to be the sigmoid flexure, eight inches of which were resected; thought to be carcinomatous. High-grade stenosis of sigmoid flexure due to a fat-containing inflammatory mass in subserosa round numerous thin-walled diverticula.

CASE 75 (W. J. Mayo, 1906).—Tumour, diagnosed as carcinoma. Male, 55 years of age. Flatulence for one year. A fortnight before there were pyrexia and abdominal pain, and a mass was found in the left iliac fossa. Here was tenderness and a mass, half original size, was felt. Resection of seven inches of the sigmoid flexure; thought to be carcinomatous. Chronic inflammation round multiple diverticula; one of these contained an enterolith. Numerous small "pocketings" of mucosa were also present.

CASE 76 (W. J. Mayo, 1902.)—Tumour; mesenteritis; diagnosis uncertain. Male, 41 years of age. Tumour and pain in the left lower abdomen for five months. Tender, hard, irregular, moveable mass felt in the sigmoid region. 16 centimetres of the sigmoid flexure resected; thought to be carcinomatous. Sigmoid mesentery contained a hard nodular mass—two diverticula with inflammatory exudate; the diverticula were much ulcerated.

CASE 77 (Gussenbauer (quoted by Beer) (1)).—Stenosis; tumour. Tumour in the left iliac fossa; diagnosis, carcinoma. At the operation stenosis of the sigmoid flexure with local peritonitis and abscess. Changes subsequently found to be due to multiple diverticula.

CASE 78 (Rotter (64), 1898).—Stenosis; submucous fistulæ. Male, 42 years old. Two months' constipation, three weeks urgent. Diagnosis: obstruction and peritonitis; colotomy; cause of obstruction not found.

Necropsy.—Fist-sized tumour of the sigmoid flexure, regarded as carcinoma but found to be due to inflammatory thickening from diverticula; there were fistulous tracts opening into gut. Mucosa otherwise intact.

CASE 79 (Rotter, 1897).—Stenosis; sigmo-ileic fistula. Male, 53 years of age. Symptoms of obstruction for six months. No previous constipation. Operation as for perityphlitis; artificial anus at end of ileum.

Necropsy.—In the upper rectum a stricture four centimetres long and three centimetres thick, allowing a lead pencil through. Mucosa healthy but above the stenosis was rugose with several fine openings leading to fistulous tracts; these were narrow and communicated with the lumen of the gut and with a small abscess cavity; this was adherent to the vermiform appendix and was in fistulous communication with loop of small gut. Condition regarded as secondary to a former appendical abscess.

CASE 80 (Rotter, 1899).—Tumour; abscess; stenosis. Diagnosis: carcinoma of the cæcum. Male, 58 years of age. Rumblings and pain in the cæcal region, with alternate diarrhœa and constipation for some time. Obstruction for nine days. In the ileo-cæcal region a large tumour of the size of a child's head; fixed, solid, irregular. Diagnosis: obstruction due to carcinoma of cæcum.

Operation.—The sigmoid flexure found to be adherent to the right side of the sacrum; ileo-sigmoid anastomosis. Tumour was formed by sigmoid flexure (20 centimetres) and its mesentery, in which is an abscess. Great thickening of gut with stenosis. Numerous diverticula; six enter abscess cavity.

General Peritonitis.

CASE 81 (Schreiber (69), 1902).—Male, 63 years of age. No previous history; obese; recent constipation; distended abdomen without definite evidence of peritonitis.

Necropsy.—Multiple diverticula of the sigmoid flexure (14), up to the size of a cherry; thin-walled, contained fæces. Bowel thickened and somewhat stenosed; rugose, partially concealing orifices of diverticula. One of the lowest had perforated and caused general peritonitis.

CASE 82 (Schreiber, 1902).—Male, 37 years of age. Stout; alcoholic. Six months' abdominal pain; loose stools.

Necropsy.—Mutiple diverticula (20) of the sigmoid flexure, in two vertical rows; one had perforated. Bowel somewhat thickened and mucosa of the sacs necrotic; contained fæcal concretions. Some fibrosis of the meso-sigmoid.

CASE 83 (Mertens (79)).—Male, 45 years of age. Eight days' pain in the lower abdomen, with constipation. As a result of straining at stool evidence of perforative peritonitis. Origin not located at the operation but at necropsy found to be due to a perforation of false diverticulum of the lower end of the sigmoid flexure.

CASE 84 (Warnecke (76), 1906).—Male, 42 years of age. Slight abdominal contusion; diffuse peritonitis. At the operation a perforation of a diverticulum at the junction of the sigmoid flexure and the rectum was found.

CASE 85 (Ruhwandl, quoted by Warnecke).—An old man with cancer of the tongue. Asthenic peritonitis from perforation of a diverticulum.

CASE 86 (Fiedler (19), 1868).—Female, 38 years of age. General perforative peritonitis; multiple diverticula.

CASE 87 (Pavlot, quoted by Patel (55)).—Female, 69 years of age. Several days' indefinite illness, not regarded as abdominal. General peritonitis; multiple diverticula of the sigmoid flexure containing fæcal concretions; two communicated with an abscess cavity which had burst into the peritoneal cavity.

CASES 88 and 89 (Pavlot, quoted by Patel).—Two cases of perforative peritonitis form sigmoid diverticula.

CASE 90 (Rolleston (62), 1905).—Female, 71 years of age. Old femoral hernia; abdominal symptoms, strangulation diagnosed; colotomy. Death in five days.

Necropsy.—Abscess round the descending colon, limited by loops of small intestine. Multiple diverticula of the sigmoid flexure. One had perforated and communicated with the abscess; general peritonitis.

CASE 91 (Hilbert, quoted by Georgi (21)).—Male, 37 years of age. Heart failure for six months. Suddenly symptoms of perforative peritonitis. Post mortem the peritonitis was found to be due to perforation of a sigmoid diverticulum.

CASE 92 (Brewer (6), 1902).—Gangrenous diverticulitis; abscess. Male, 45 years of age. Previously had had good health. Five days fever and pain in the left lower quadrant of the abdomen; here rigidity and a tender mass could be felt. Incision and draining of an abscess cavity which contained oblong fæcal concretions; there was a small ulceration in the wall of the sigmoid flexure.

CASES 93 and 94 (Brewer (6), 1904).—Epiploic inflammation. Inflammation of appendices epiploicæ due to infection conveyed from neighbouring false diverticula. The inflamed appendices were palpable as tumours (one of the size of a walnut and one of the size of a hen's egg) and were removed.

Vesico-colic Fistula.

CASE 95 (Sydney Jones (39), 1858).—Male, 64 years of age. Began to pass fæces and straw-like bodies in the urine for 10 months before death. At the necropsy the sigmoid flexure was somewhat contracted and presented a large number of diverticula of unequal length. One had ulcerated at its extremity and had given rise to an abscess outside the gut opening into the bladder; in this there was a fæcal calculus of the size of a horse-bean.

CASE 96 (Treves, quoted Mertens (79) and Heine (32)).—Similar case to above.

CASE 97 (Heine (32), 1904).—Female, 59 years of age. Constipated. Symptoms of vesico-intestinal fistula.

Operation.—Bladder strongly adherent to a hard tumour of the sigmoid flexure, taken for carcinoma. A piece was excised and the wound was closed. On examination the tumour was found to be inflammatory and to be due to peri-sigmoiditis around multiple diverticula. A subsequent radical operation was performed, with recovery.

CASE 98 (Hulke (38), 1859).—Male, 57 years of age. Symptoms of vesical calculus. Two and a half years before he had passed fæcal concretions per urethram.

Necropsy.—Stenosis of the sigmoid flexure from chronic inflammation round numerous diverticula. One had become adherent to and perforated the bladder.

CASE 99 (Morison (50)).—Male, 60 years of age. Stout. Three years symptoms of vesico-intestinal fistula.

Necropsy.—The sigmoid flexure was thickened and narrowed; at about the junction of the first and second parts of the rectum the gut was constricted by a narrow membranous band so that the lumen just admitted the tip of the little finger; stenosis of the gut in all three inches. Above and below this constriction were several "pits" in the mucous membrane; some were ulcerated at the extremity. A probe and the swab had picked the latter up in its journey round the anterior pillars. Swabs Nos. 18 to 20 show this markedly.

Swab No.	Antiseptic used.	Staphylococcus. Aureus.	Staphylococcus. Albus.	Others.
18	$HgCl_2$ 1 in 2000	0	125	675
19	HgI_2 1 in 2000	0	60	75
20	Cyllin 1 in 1000	0	90	102
21	Izal 1 in 800	0	16	45

These results were undoubtedly excellent as compared with those obtained from the normal throat and show the probable value of these now well-proved antiseptics; izal stands well out as a germicide but the subject complained of the pain caused by it. Amongst other antiseptics examined by the gargling process were the following:—

Swab No.	Antiseptic used.	Staphylococcus. Aureus.	Staphylococcus. Albus.	Others.
22	Boric acid, 1 in 40	—	250	12,750
23	Chinosol, 1 in 2000	—	5	375
24	Carbolic acid, 1 in 80	—	—	1,641
25	Lysol, 1 in 200	50	—	1,875
26	Distilled water	—	—	1,176
27	Lysoform, 1 in 200	—	—	445

There are no exceptional results here therefore except in the case of boric acid which certainly ought to stand condemned for this purpose. Lysoform and chinosol appear to be the best, but the former proved irritating; distilled water was found equal to most of the commonly advocated antiseptics. One is inclined to the conclusion that the action of a gargle is merely that of a mechanical flushing of the parts and with the exception of a few very strong germicides (Nos. 18 to 21) it appears not to be of much consequence what is used for the purpose.

Douching.—It is a curious thing that so few nurses know how to douche a throat properly. I always use now a wheeling table with two glass shelves and with an iron standard running up from one corner to support a syphon douche can containing the lotion to be used. A long rubber tube comes from this and is fitted with a pinch-cock; glass end-pieces are attached to the rubber tube and there are sufficient of these in a lotion bowl on one of the shelves to allow of thorough disinfection and cleansing. The child is wrapped firmly in a sheet, his arms being confined; the nurse sits the child up in bed and places her left arm round his neck so as to fix his head which is pressed against her left side. The head of the child is then bent forward over the receiving bowl. The nurse takes the tube with the pinch-cock in her right hand and passes the end-piece into the child's mouth *between his back teeth* (thus avoiding any interference by the tongue). The wrapping up of the child is a most essential part of the procedure, for it prevents struggling and thus prevents exhaustion, sometimes a vital consideration.

The only two substances tried were hydrargyri perchloridum 1 in 1500 (made up with a little glycerine and tinctura lavandulæ composita) and liquor calcis chlorinatæ 1 in 200, followed in each case by sterilised distilled water. The results are good as shown in this statement:—

	Staphylococcus. Aureus.	Staphylococcus. Albus.	Total colonies.
Hydrargyri perchloridum	25	—	60
Liquor calcis chlorinatæ	—	—	98

This method must therefore stand as *one* to be recommended for bacteriological cleansing of the fauces, but is hardly adapted for anything *except* hospital use on account of the difficulty of the operation and the dangers of it when improperly done.

Swabbing.—*Primâ facie* this would appear the most thorough way of bacteriologically cleansing the fauces as well as of insuring that remedial agents were closely applied. In practice I have found it of greater value than any other method. In order to obtain the best results the patient should be placed with the head well back over a pillow in pretty much the same position as for removal of adenoids so as to prevent any liquid expressed from the swab passing into the larynx. The swabs used should be nearly as large as a walnut and can conveniently be made of absorbent wool carefully fastened into an ordinary sponge-holder, or tightly twisted over a wooden holder with a roughened end and should be firmly and rapidly passed with a rotary motion not only over the fauces but if possible into the naso-pharynx, at least three or four swabs being used. Some nurses manage exceedingly well with a little lint wrapped over the forefinger, but this may result in a "poisoned wound" unless the nurse is extremely careful. The results obtained bacteriologically emphasise the value of this mode of treatment. Swab 03, taken after *gentle* swabbing with liquor calcis chlorinatæ 1 in 200, showed the following:—Staphylococcus aureus, none; staphylococcus albus, 10; total colonies, 75. The other organisms were the tetracoccus as before and some streptococci, yeasts, and sarcinæ, probably expressed from hiding places. After swabbing with 0·5 per cent. formalin there were only 30 colonies, all of the staphylococcus pyogenes albus, found capable of growth, an excellent result; the subject, however, did not care for the treatment, which he said was most irritating to the throat, nose, and eyes.

A very useful lotion in practice, inexpensive and unirritating, was one I had seen advocated for use for another purpose—namely, persistent otorrhœa—by a recent writer in one of the leading medical weeklies. Its composition is as follows: Acidum boricum, 1 ounce; spiritus vini rectificatus, 2½ ounces; glycerinum purum to 8 ounces. After swabbing the fauces once with this and then with sterilised water the bacterial flora of the anterior pillars were reduced to 25 total colonies and there was an entire absence of staphylococci and streptococci. I can therefore recommend this as a swabbing agent of very considerable value.

Antiseptic lozenges.—Pharmacy has certainly not developed this form of medicament to any degree of elegancy. The B.P. lozenges of the antiseptic variety—e.g., trochisci acidi carbolici and trochisci eucalypti gummi—may be tolerated by adults but children have to be literally forced to take them and adopt all kinds of tricks to get rid of them. Many adults are children in this respect. My own experience of them is that the children are to be commended rather than blamed for their discrimination. Trochisci potassii chloratis are slightly more palatable and tolerable but I have never experienced any good results with them. On one occasion when a patient used them very freely poisoning resulted. At one time I tried making lozenges of my own after the style of what I believe are termed "fondants," introducing a small percentage of antiseptic. For those who have sufficient time to devote to this form of pharmacy I submit the following recipe. Take one pound of icing sugar and the white of one egg; beat the egg till it is liquid; work the sugar into it; add the antiseptic; mix thoroughly and knead with the hand like dough; roll out into thin cylindrical masses; cut up into the requisite number of fondants, place on a plate, and allow to dry in the air. They do not keep well but have a tendency to go hard and lose efficiency in the case of volatile antiseptics.

The sole object of a medicinal lozenge is to keep the part of the mouth or throat one desires to treat bathed for a time in the drug dissolved in the saliva. The main point, therefore, to receive attention in the making of a medicinal lozenge is that it should be so temptingly constructed that children in particular will take pleasure in its consumption and therefore keep it in the mouth for a long time. I know of only one medicated lozenge—formamint tablets—which meets this requirement. My hospital children are not told they are to be given lozenges but that if they are good they shall have some "toffies"—a little dodge which works extremely well in practice. When they are subsequently given these formamint tablets they take them greedily and not infrequently actually cry for them. The only times at which any trouble at all has been experienced in their administration have been when there was acute tonsillitis or angina, and here of course the swallowing of anything at all is a painful process. Even in such cases, however, perseverance usually results in the taking of a few and then the painfulness disappears fairly rapidly and they are well taken. The introduction of a powerful and acrid drug like formic aldehyde into a palatable lozenge is certainly a pharmaceutical triumph. These tablets are stated to be a chemical combination of formic aldehyde with lactose in the proportion of 0·01 gramme of formaldehyde in 1 gramme of the total combination; citric acid and probably some flavouring agents are added. They evolve, *so it is stated*, nascent formic aldehyde in the mouth, and now and then one gets a slight burning sensation and the peculiar taste of this substance, though this is usually only noticeable with the first one taken. They produce a pleasing flow of saliva and the formaldehyde dissolved in this is carried by the process of sucking and swallowing to the various crypts and recesses of the mouth and throat. The amount of formaldehyde in covered. On opening the abdomen only the liver and stomach were to be seen. The liver, which weighed 11 ounces, was rotated upon a horizontal transverse axis—the upper and anterior surfaces presenting—and reached downwards to the symphysis pubis. The remaining part of the abdomen was occupied by the stomach. The stomach was much dilated, its walls were slightly thickened, and the pylorus especially was thicker and longer than usual. The left pleura was almost completely occupied by intestine, the lung lying in a collapsed condition at the apex. The whole of the intestinal canal between the third part of the duodenum and descending colon had passed through a hole in the posterior part of the diaphragm on the left side and occupied the left pleura, and passing out of this hole was the descending colon. There was no sac to the hernia. The herniated mass was easily reduced into the abdomen and along with it came the left kidney. The intestines were natural. There was no sign of strangulation. The heart was lying completely to the right of the left border of the sternum, the apex projecting to the right. The heart was otherwise normal. The right lung showed a little broncho-pneumonic consolidation at the lower lobe. The upper lobe was incompletely divided into two lobes. The opening in the diaphragm was about 3 by 2 inches—oval in shape. The edges were smooth and surrounded by muscle. The peritoneum was continuous with the left pleura over the margin of the opening. The spleen was in the abdomen and was natural, as was also the right kidney.

The occurrence of diaphragmatic herniæ is easily explained on reference to the manner of development of the diaphragm. Five elements enter into its formation: one median, two ventro-lateral, and two dorso-lateral. The median and ventro-lateral elements are first developed and together form the septum transversum. The two dorso-lateral elements are developed later and unite with the septum transversum to form the pleuro-peritoneal septum which shuts off the pleural from the peritoneal cavity. Hence the occurrence of diaphragmatic herniæ at the posterior part of the diaphragm, and owing to the manner in which the liver is developed they are much more common on the left side.

Two varieties of diaphragmatic herniæ have been described according to the period of development. 1. Embryonic type, which are formed before the complete closure of the pleuro-peritoneal septum, and therefore have no sac. These may be complete, when the whole of the dorso-lateral element is absent, or incomplete, when it is only partially absent. The above case was one of incomplete embryonic diaphragmatic hernia. 2. Congenital or fœtal: in these cases the pleural and peritoneal surfaces are formed but the muscular tissue of the diaphragm is imperfect. Hence in these cases there is a sac. A third type is "acquired," and is due to protrusion through an abnormally large normal orifice, such as that for the œsophagus.

Out of 481 cases collected by Paillard 80 per cent. were on the left side. Out of 130 cases observed by him 74 were complete embryonic diaphragmatic herniæ, of which only 18 occurred on the right side, and in 14 of these the liver was partially within the pleural cavity. In this case a diagnosis of pleural effusion on the left side was made but the sudden variation in the percussion note, which, according to Dr. Cautley, is due to the varying contents of the gut and the position of the liver, ought to have made one think of diaphragmatic hernia.

I am indebted to Dr. Cautley for permission to publish this case.

Note by DR. CAUTLEY.—A diagnosis of diaphragmatic hernia is rarely made during life because of the difficulty and largely because it is not suspected. In the present instance the dulness at the left base at first was ascribed to effusion and, as the amount of effusion assumed to be present could not have been large enough to account for, the position of the heart, transposition of that viscus was suggested. Subsequently the high-pitched resonance with absence of breath sounds and cardiac displacement could only be explained by diaphragmatic hernia. It was extraordinary how little distress the child suffered. In a case of diaphragmatic hernia on the right side under my care in 1905[1] there was great recession of the lower ribs and the child had many attacks of dyspnœa and cyanosis. In both instances exploration proved harmless. No doubt the intestines receded in front of the needle, for no evidence of puncture occurred at the time or was found after death.

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[1] THE LANCET, Nov. 18th, 1905, p. 1472.

A CASE OF MERALGIA PARÆSTHETICA SUCCESSFULLY TREATED WITH THE CONSTANT CURRENT.

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CASES of this condition are sufficiently rare to be placed on record, the more so because it is liable to crop up anywhere and at any time, and in the absence of any information regarding it an error in diagnosis is inevitable. Personally I was unacquainted with the existence of the disease until three years ago when I was consulted by a native Indian gentleman who had come to England for advice fearing he had contracted anæsthetic leprosy. He was a graduate of Cambridge and had a command of our language that might put many an English-speaking colonial to the blush, so that there was no difficulty in obtaining a very complete history of the case. I was, however, able to exclude everything I could think of that it might be, so I took him to see Dr. Henry Head, when I received my first introduction to this interesting condition.

For the benefit of those who are unacquainted with it I may say that meralgia paræsthetica is also known as Bernhardt's affection of the sensibility (*Sensibilitätsstörung*) and relates to the distribution of the external cutaneous nerve in the thigh. It is characterised by pain, numbness, a "dead or wooden feeling," or anæsthesia on the front and outer side of the thigh corresponding to this distribution. One of these symptoms generally predominates, the others being present in varying degrees or at different times. In some cases there is a feeling of tightness, as if there was insufficient skin to cover the part comfortably or that the part was bandaged. Probably the great predisposing cause to which all others are subservient is the superficial course of the nerve and the way it pierces the fascia lata. In occupations calling for extra tension on this fascia—the "hound-jog" in hunting, the blacksmith's hammerman, &c.—the nerve tends to become "nipped" at this point. In other cases trauma would seem to be the cause. It is also possible that the nerve sometimes passes in front of rather than behind the origin of the sartorius muscle, and is thus all the more exposed.

Morbid anatomy has given little assistance as to the pathology of the disease up to the present. Bramwell[1] mentions a case recorded by Nawratzki in which a spindle-shaped swelling about one centimetre in length was discovered on each external cutaneous nerve at the place where it crossed the anterior superior iliac spine. The microscope showed a localised perineuritis with associated interstitial and parenchymatous changes in the nerve. Those who desire to obtain more information than can be given here should refer to the paper by Bramwell which gives an excellent *résumé* of the literature up to 1903 as well as a very complete bibliography.

In my first case, above referred to, I could ascertain nothing in the way of a definite cause, while anæsthesia was the predominating symptom.

In the second case, a barrister, the cause appeared to be a swinging bar placed across one of the ways into Lincoln's Inn-fields, which he struck with the thigh as he passed through, and this happened the more frequently because of his very defective eyesight. Pain was the chief symptom here and was at times very distressing.

My third patient, a master of foxhounds, came to me on Nov. 7th last complaining of "lumbago," together with pain and numbness on the front and outer side of the left thigh. The pain was always worse after a day's hunting and seriously interfered with the night's rest. In between times numbness and a "wooden feeling" were the chief symptoms. On examination the "lumbago" turned out to be a dull pain in the sacral region, to which I attached no special importance and it entirely disappeared in a few days. The symptoms were first noticed about three weeks before. There was a slight tenderness on pressure just below the anterior superior iliac spine and the area of numbness and pain corresponded very accurately to the distribution of the external cutaneous nerve. That there was no definite disturbance of the various sensations of touch, pin-prick pressure, heat, and cold I attribute to the fact that I saw the case early and before any organic changes in the nerve had taken place. To mentioned may be relied upon to prevent their subsequent multiplication.

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[1] Edinburgh Medical Journal, July, 1903.

Gegner[2] condemned the use of formic aldehyde as a gargle because of its irritating effects on mucous membranes, a fact well known to all who have used the substance. It is a fact that the use of formic aldehyde for swabbing, douching, or spraying the fauces causes the appearance of a bright red congestion in the mucosa and frequently in sensitive patients irritation of the nose and even of the eyes, accompanied by more or less watering. But after the use of formamint tablets I have had none of these signs of irritation and only very faint reddening of the buccal and faucial mucosa.

There was a fear that the use of formic aldehyde even in the very small amount present in a lozenge, such as that named, might increase the liability to albuminuria when used in scarlet fever, but the figures show that this is not at all the case. Out of 300 cases taken over a period of about two and a half years and treated without formamint 48 cases of albuminuria (i.e., 16 per cent.) were recorded of varying duration. Of 100 cases treated with the tablets given at the average rate of about 12 per day for about a week at a time only seven cases (or less than half the above rate) are recorded. Moreover, in several instances the tablets were continued throughout the whole of an attack of albuminuria and the albumin cleared up under suitable treatment during their administration.

It appears to me highly probable too that the employment of these tablets has prevented the development of septic conditions and their consequences. The following figures certainly seem to bear out this statement:—

Cases in which Formamint was not Used.

	No. of cases.	Percentage occurrence.
Number examined	300	—
Cases in which otorrhœa occurred	60	20·0
„ „ rhinorrhœa occurred	68	22·6
„ „ cervical lymphadenitis, &c., occurred	34	11·3
„ complicated by rheumatism	26	8·6

Cases in which Formamint was Used.

		Percentage occurrence.
Number examined	100	—
Cases in which otorrhœa occurred...	7	7
„ „ rhinorrhœa „	10	10
„ „ cervical lymphadenitis occurred	8	8
„ complicated by rheumatism	3	3

A few summarised records of cases of scarlet fever may serve to emphasise the utility of this form of medication.

CASE 1.—The patient, aged seven years, first became ill on Feb. 4th; rash on Feb. 6th; hospital Feb. 6th. Throat deeply congested; lacunar exudate on tonsils and fauces. Temperature, evening, 102·6° F. Formamint, one every hour. Feb. 7th: Temperature, morning 100·6°, evening 102°. Formamint as before. Feb. 8th: Temperature, morning 98·4°, evening 99°; throat perfectly normal. Uninterrupted recovery.

CASE 2.—The patient, aged seven years, first fell ill on Feb. 8th; rash on the 10th; hospital on the 11th. Temperature, evening, 101·8° F. Tonsils deeply congested and swollen; some doubtful pultaceous exudate left anterior fauces; thin, acrid, nasal discharge excoriating anterior nares and lips. Throat swabbed and douched with hydrarg. perchlor. 1 in 1500. Formamint one every hour. Feb. 12th: Diphtheria bacilli in nasal discharge and faucial swab. Congestion of tonsils, &c., lessened. Temperature, morning 101°, evening 101·4°. Formamint as before; no further swabbing. Feb. 13th: Temperature, morning 99·2°, evening 98·2°. Congestion quite gone; some exudate still adhering. Formamint one every two hours. Feb. 14th: temperature, morning 99°, evening 98·2°; throat normal. Slight rheumatism and albuminuria on Feb. 24th, readily cured. (N.B.—Antitoxin not given in this case.)

CASE 3.—The patient, aged three years, first fell ill on August 25th; rash on the 26th; removed to hospital on the 27th. Temperature, evening, 102·2° F. Fauces covered with wash-leathery membrane; slight nasal discharge. Antitoxin 6000 units; formamint one every hour. August 28th: temperature, morning 100·6°, evening 103·2°. Throat swab negative; nasal swab contained short diphtheria bacilli. Antitoxin 6000 units; formamint as before. Fauces still coated with exudate. August 29th: temperature, morning 100·2°, evening 99·4°. Fauces almost clear; nasal discharge much less. August 30th: temperature, morning 99·6°, evening 98°. Fauces quite clear; nasal discharge almost imperceptible. August 31st: temperature normal. *No diphtheria bacilli in three consecutive throat or nasal swabs.*

CASE 4.—The patient, aged seven years, first fell ill on July 13th; rash same day; hospital on the 14th. Temperature, evening, 103·4° F. Throat deeply injected throughout, tonsils considerably swollen, no exudate. Intense pain on swallowing. Formamint one every hour; badly taken at first, later with fair comfort; no other treatment. July 15th: temperature, morning 102·4°, evening 102·6°. Throat somewhat less congested; swallowing much easier. Formamint as before. July 16th: temperature, morning 100·4°, evening 99°. Throat quite normal; general condition excellent.

CASE 5.—The patient, aged six years, first fell ill on Dec. 22nd; rash on the 23rd; hospital on the 24th. A thin, poorly nourished child. Tongue soft, flabby, and crossed with deep sulci filled up with masses of dead epithelium; buccal and labial mucosa and gums soft, spongy, and containing numerous small greyish ulcers (scorbutic?). Temperature, evening, 102·8° F. Mouth swabbed out with glyc. boracis every four hours. Formamint tablets taken with difficulty: a few only. Dec. 25th: Temperature, morning 101·8°, evening 101·6°. Mouth and tongue somewhat cleaner but now appearing raw and beefy; very painful. Mouth swabbing stopped. Formamint taken rather better, about ten during day. Dec. 26th: Temperature, morning 101°, evening 100·6°. Ulcers on buccal mucosa disappeared. Tongue still very raw and painful. Dec. 27th: Formamint one every hour. Temperature normal. Gums and buccal mucosa firm and normal in colour. Sulci on tongue rapidly healing. Dec. 29th: Tongue, &c., perfectly normal except for thin bluish-white lines showing where sulci had been.

In one case of syphilitic ulceration of the tongue in a congenitally affected child, three years old, also suffering from scarlet fever, I had the best results from the use of formamint tablets, coupled, of course, with specific constitutional treatment. I have also had *temporary* benefit from their use in post-nasal follicular hypertrophy or adenoid growth; the nasal tone of voice and the mouth-breathing have both been improved for the time.

One cannot, of course, speak with certainty of the preventive properties of any drug, but a case which came under my daily observation may be cited as showing that in these formalin-containing tablets we have probably a useful prophylactic agent. A boy who had gone on a visit to a house developed pronounced mumps after being there a few days. There was no possibility of isolating him, and there were two other children of a susceptible age who had to share the same bedroom and come in pretty close contact with him all day long. I suggested that all three children should be given formamint tablets freely, and this was carried out with the result that despite their close contact the other children escaped the infection. This is only an isolated case, but it will certainly impel me to try the same experiment again. Mumps appears to me a disease for which this mode of treatment is peculiarly well adapted.

I hold no brief for this particular medicament, indeed, I think it one capable of considerable improvement, for the tablets dissolve too rapidly, and it would be better, in my opinion, if they were made more lasting—e.g., after the style of a jujube. The results obtained should stimulate pharmacists to the preparation of lozenges containing other antiseptics in a form such as will appeal to children and sensitive adults. Cases in which properly performed swabbing and douching have been successful are innumerable but I have none presenting special points of interest. The less sensitive the throat and therefore the longer the swab can be held firmly in contact with the affected part the more successful will be the treatment. In a very few cases I have applied *powders* either on dry swabs of cotton-wool or by insufflation to ulcerated fauces and tonsils. The chief difficulty is to find the exact site of the ulcer or ulcers, and it is sometimes quite impossible to locate them; in such a case it is useless to apply any powder on the off chance that you may cover the ulcerated patch. The most useful one for infective throat conditions is very finely powdered boric acid. Another for use in more severe cases is boric acid containing from ½ to 1 per cent. of lysoform. Powders must only be applied in very small amounts and with the greatest care to avoid possible irritation of the larynx.

The results then go to show that for throat disinfection *gargling* possesses no advantages, but, on the contrary, several serious disadvantages; that spraying is little better than gargling; and that the only reliable methods are swabbing and douching. Medication by antiseptic lozenges is an ideal line of treatment, in my opinion; it has been signally successful in my hands and I hope to see it considerably developed.

I cannot conclude without emphasising the necessity which my experience shows me is well recognised in hospitals but rarely is so in private practice—probably on account of the difficulty involved—of treating the post-nasal region as well as the fauces in almost all diseases of the throat and without exception in all infective conditions. The extra time and trouble necessitated will receive full repayment in the shape of much earlier cure. And my experience in such post-nasal conditions has led me to regard sulphate of zinc (one or two grains at most to the ounce) as one of the most useful remedies we possess. The nasal douching must be done in the *most gentle manner possible*; and when the condition is showing signs of abatement it is better to stop the douching altogether and to was considerably simpler and more rapid than the estimation of the opsonic value of the serum alone, which entailed washing normal cells and collecting blood in order to obtain both normal serum and the serum of the patient. It was merely necessary to draw up one volume of the patient's blood and one volume of a citrated salt suspension of the micro-organism to be used into the capillary tube, to mix, incubate for 20 minutes, spread the film, and compare the phagocytosis with that of one volume of normal blood similarly treated—a slight modification of the technique practised by Leishman. The only thing that would vitiate the estimate obtained by taking the hæmophagocytic as distinguished from the opsonic index would be evidence of an additional formation of opsonin *in vitro* during the 20 minutes in which the capillary tube containing the immune serum, the immune cells and melanin, or bacteria, was being incubated. That possibility Mr. Shattock and Mr. Dudgeon excluded by the following experiment: one volume of washed immune cells was thoroughly mixed with one volume of immune serum, having larger volumes than usual. The mixture was then drawn up into three capillary tubes of the usual calibre and incubated for 20 minutes, 30 minutes, and one hour. At the end of these intervals an equal volume of citrated salt suspension of living colon bacilli was added to the contents of each capillary tube, mixed, and each tube then incubated for 20 minutes. By that means a full supply of active immune cells were allowed to act in immune serum for different periods; the phagocytosis was then tested in each one after the same time allowance—viz., 20 minutes. The phagocytosis was the same in all. It might be held, thus, that the hæmophagocytic index, whether higher or lower than the opsonic, represented more accurately the blood resistance; if higher, that was not due to additional formation of opsonin in the drawn blood, and so fallacious, but to feeble activity on the part of the immune cells.—Sir A. E. WRIGHT said that the subject of the paper was not in a strict sense medical. The question whether opsonins were produced *in vitro* was remote from medicine. He considered that in discussing the avidity of white cells it was important that the number of white cells present should be stated, for without that fact the results could not be depended upon.—Mr. SHATTOCK, in his reply, said that he and Mr. Dudgeon considered that their communication had a very marked relation to medicine, because it concerned the estimation of the patient's resistance, and surely that was medicine. In the pneumonia cases which they had brought forward the height of the indices marked the fact that the white cells were doing more work than normal cells. In regard to the number of white cells it must be remembered that in blood taken from a case of pneumonia the number of leucocytes was greater than in normal blood.

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[2] Münchener Medizinische Wochenschrift, 1893, p. 699.

Dr. ARTHUR LATHAM, in conjunction with Dr. H. R. D. SPITTA and Dr. A. C. INMAN, communicated a preliminary note on the administration of Tuberculin (T.R.) and other Vaccines by the Mouth, together with (*a*) normal saline solution, and (*b*) fresh horse serum. They stated that the treatment of disease due to bacterial invasion by vaccines gave brilliantly successful results in many cases. The hypodermic injection of Koch's tuberculin in pulmonary tuberculosis not only increased the percentage of arrested cases in those undergoing sanatorium treatment but diminished the tendency to relapse. The use of tuberculin and other vaccines on a large scale had been attended with great difficulty owing to (1) the fact that the hypodermic method of administration had to be employed; and (2) the necessity in most instances of making frequent estimations of the opsonic index in order to determine the proper intervals between the doses. One of the objects of the investigation was the simplification of their present methods. On the assumption that immunity against certain diseases was often due to the absorption of the products of dead micro organisms from the alimentary canal, it was decided to try the effect of administering various vaccines by the mouth. In the treatment of disease of bacterial origin the production of antibodies which had a direct effect on the specific poison was not always sufficient. The opsonic index might be raised but the progress of the disease might continue unabated. In other cases there might be no response to vaccination. Again, in tuberculosis the fact that the destruction of tissue varied immensely in different cases suggested that something besides the direct effect of tuberculin had to be considered. Those facts might be due to some deficiency in the patient's serum. There was a considerable amount of clinical evidence of the value of various antisera, such as antidiphtheritic serum, in diseases other than the specific disease. It was probable that some of those effects were due to the action of horse serum. There was also evidence of the value of horse serum in hæmorrhagic conditions of toxic origin and certain other conditions, whether administered by the skin, mouth, or rectum. Fresh horse serum was therefore given in a number of cases in order to determine whether it was able to supply some substance in which a patient's serum was deficient, or to stimulate the production of some such substance, or whether it had any other action. The investigation was commenced at St. George's Hospital. The treatment was carried out on purely clinical considerations; at the same time, Dr. Spitta made daily observations of the opsonic index in a number of the cases. At the end of three months, a considerable amount of information having been obtained, patients were also treated at the Brompton Hospital for Consumption. At that hospital the patients were seen daily in consultation with Dr. Inman, who made a large number of observations of the opsonic index. The cases treated embraced cases of advanced pulmonary tuberculosis, tuberculous peritonitis, tuberculous disease of the glands and hip, and cases of streptococcic, staphylococcic, and pneumococcic infection. Evidence, clinical and bacteriological, was brought forward to show that—(1) satisfactory immunisation could be produced by the administration of vaccines by the mouth; (2) in tuberculosis and other diseases of bacterial origin in which fever was present there was a definite relation between the curve of the opsonic index and the temperature, and that the more frequently the index was determined the more definite was that relation; (3) in such diseases the temperature, even when normal or subnormal, afforded some guide to the changes of phase in the opsonic index; and (4) horse serum in certain cases had an effect on the opsonic content of the blood.—Dr. F. W. FORBES-ROSS described certain investigations which he had carried out and published in the *New York Medical Journal* of Nov. 9th, 1907.—The discussion was then adjourned.

PATHOLOGICAL SECTION.

Larvæ of Eristalis Tenax Passed by the Bowel.—Enlargement of Hen's Comb Produced by Injections of Testicle Extract. —The Relations of Endothelioma to other Forms of New Growth.—Prickle Cells in Tumours.

A MEETING of this section was held on March 17th, Mr. S. G. SHATTOCK, the President, being in the chair.

The PRESIDENT read a paper on the Larvæ of Eristalis Tenax passed by the Bowel. He exhibited some that were passed with many more, in the living state, by a woman who had recently arrived from France where she had eaten much watercress. The larvæ were identified by Mr. E. E. Austen as those of the dipterous fly, *Eristalis tenax*. The larvæ, which were as large as tadpoles, were furnished with a respiratory proboscis or "tail," and were commonly known as "rat-tailed" larvæ. Oviposition took place upon material at the surface or edge of water, and the ova (about one millimetre in length) had presumably been ingested concealed in watercress. As one of the habitats of the larvæ was sewers there was nothing incongruous in their development in the intestinal contents. The oxygen for respiration during their development in the intestinal canal would be provided by the air swallowed. A considerable number of cases of intestinal myiasis had been recorded, but the larvæ passed were usually those of different species of homalomyie. No example of eristalis had been before observed in this country and only two or three cases had been placed on record abroad. The fly itself closely resembled an ordinary drone and entomologists had pointed this out as the explanation of the ancient method of raising "bees" from the decomposing carcass of an ox, described by Virgil in the fourth book of Georgics.

Mr. C. E. WALKER communicated a paper on the Influence of the Testis on the Secondary Sexual Characters in Fowls He referred to the previous work bearing upon this subject carried out by Shattock and Seligmann and pointed out that the object of the experiments which he (Mr. Walker) described was to ascertain whether certain groups of cells in fowls of both sexes possessed the potentiality of developing in a particular way under a suitable stimulus. This stimulus, he claimed, was shown by his experiments to be supplied by the

4. *Vesico-colic fistula.*—These cases form a well-defined clinical group with an interest similar to that which attaches to the bowel stenosis cases, in that the diagnosis of carcinoma may be made during life and even at necropsy. There is a further point of resemblance: just as the bowel stenosis cases have only recently (1898) had their origin clearly defined and numerous cases prior to that date have certainly been overlooked, so it is only beginning to be recognised that vesico-intestinal fistulæ also have this origin not very infrequently. It is true that a very clear description of the condition was given by Sydney Jones (Case 95) as early as 1858, *but subsequent* writers have failed to attach sufficient importance to acquired diverticula being the original cause of adhesion between the bladder and the sigmoid flexure or the large bowel in its neighbourhood. Harrison Cripps (12) in his monograph on "The Passage of Air and Fæces through the Urethra" (1888), includes Jones's case but makes no comment on its peculiar pathology. Heine (32) in 1904 carefully investigated the recorded cases of the kind and collected seven of undoubted diverticular origin and nine more in which such an origin was extremely probable. Moynihan (51) has recently drawn attention strongly to the clinical importance of this cause: he says "the formation of a vesico-intestinal fistula seems to be one of the tendencies of a perforated false diverticulum; a search through the literature has shown that it is far more common than was *supposed*. In cases where a hard growth in the intestine is accompanied by the passage of flatus and fæces by the urethra, a diagnosis of carcinoma seems *irresistible*, yet the *probability* is that 'the growth' would be simple, and that the cause of the fistula would be a false diverticulum which had burrowed its way through all the coats of the bowel, and thence through the wall of the bladder which had become adherent." The italics are my own: perhaps many would think the substitution of "possibility" for "probability" would be more accurate. Yet the evidence does not support this. It is a common belief that the most frequent cause of vesico-intestinal fistula is malignant disease, but this is not so. Cripps clearly demonstrated this; in 63 collected cases he found the fistulæ to be as *follows*: traumatic, 2; cancerous, 9; inflammatory, 45; and unascertained, 7. It may be argued that if cancer be a common cause *cases collected from* the literature will show an undue proportion of inflammatory ones as being more noteworthy. Cripps does not take this view, as four of his *cancerous* specimens were museum ones; from this he thinks there is a disproportion in favour of cancer, owing to its *necessarily* fatal character and the ease with which specimens are thereby collected in museums. The more recent statistics of Chavannaz (10) support these conclusions; he *puts* the cases due to malignant diseases at almost 20 per cent. Indeed, the tendency of cancer of the bowel to cause this fistulous *communication by direct extension* of the growth has probably been much exaggerated; Kelly and McCallum (40) point out that the fistula is more often *above* the growth and not directly due to it; cases of the latter kind they estimate at less than 10 per cent. of the whole. In Cripps's 63 cases the situation of the fistula was—

Rectum	25	cases.
Colon { sigmoid flexure 11 not stated 4 }	15	,,
Small intestine	12	,,
Colon and small intestine	5	,,
Unascertained	6	,,

Chavannaz finds that in 95 cases 24 per cent. were between the bladder and the sigmoid flexure. These figures tend to disprove the frequency of cancerous fistulæ, but they do not directly prove their origin to be *diverticular*, as distinguished from other causes of inflammation. But Heine's research helps strongly in this direction; the study of his nine probable cases will convince one of this. My own observations support his conclusions; Cases 52 and 99 are "missed" cases (in the latter the pathology was unrecognised by the author and by at least one subsequent commentator). On museum shelves I have found specimens which are almost certainly of this nature, but, of course, one must handle them actually to verify this.

One is anxious to avoid drawing stronger conclusions than the facts warrant, but there can be no doubt that vesico-sigmoid fistula due to acquired diverticula of the bowel is a definite pathological condition of some frequency. The practical importance of these facts is considerable; they hold out a much greater prospect of relief by surgical interference. An operation may be either merely palliative or as a preliminary to more radical measures; in either case left colotomy will be the most probable proceeding; or a radical operation may be undertaken in the first instance.

The liability to post-operative peritonitis.—In several of the cases general peritonitis has followed operation. Though no positive conclusions can be drawn from the small number of cases it is possible that the cause is not *necessarily* infection from without at the time of operation. In all the cases we have a possible source of sepsis in the thin-walled sacs *with their fæcal contents: there is certainly, therefore,* an added risk in the operation. The practical hint would seem to be that every case of supposed carcinoma, or other stricture in this neighbourhood should be examined with scrupulous care, and if there be any possibility of a diverticular origin the question of the advisability of a modification of the toilette of the operation should be considered.

I append a summary of the cases other than those given in the text, which I have been able to collect. I have no doubt that the number will be enormously increased in the next few years, and our knowledge will become more precise in consequence.

In conclusion, I have to thank many of my colleagues at Leeds for the help they have afforded me, both by material and suggestions; especially must I mention Dr. J. Kay Jamieson, Dr. G. W. Watson, and Dr. James Allan. My thanks are also due to Dr. J. Fawcett, the curator of Guy's Hospital Museum, several specimens from which I have included in the above text and summary.

*CASE 64 (Guy's Hospital Museum, Preparation 2522).—Stenosis, abscess. Entry in catalogue: "Portion of colon of which the canal is at one part nearly closed by thickening and contraction of its walls. At seat of stricture mucous membrane is raised into thick folds and several ulcers lead through it to narrow fistulous canals which pass into the surrounding condensed tissue in the course indicated by some bristles. *It is probable that this disease originated in an abscess in the cellular tissue connecting the colon with the abdominal walls.*" The stricture is at the lowest part of the sigmoid flexure; the "ulcers" are undoubtedly the orifices of diverticula, with smooth edges lined by mucous membrane.

CASE 65 (*Guy's Hospital Museum, Preparation 722, Dr. Prance, 1836*).—Abscess. Male, 60 years of age. Constipation and abdominal pain for ten years. Abscess in the left side of the abdomen six weeks before death. *Necropsy: emphysema, enlarged heart.* Abscess cavity between the left kidney and the colon which communicated with the bowel through an aperture at the bottom of the specimen. This is undoubtedly the *sigmoid* colon; *it is much sacculated*, and the sacculations involve the normal haustra. In the floor of these, as well as in other situations in the mucous membrane, are smaller orifices leading into *tubular* passages which are lined with mucous membrane. These for the most part doubtless entered the fatty tissues of the appendices epiploicæ, but this is now carefully cleaned away, showing many of the diverticula cut across. "At the bottom of the *preparation one of* the sacculi shows a small perforation, through the edges of which the mucous membrane is everted" (catalogue). This is probably the specimen referred to by Hale White (27).

CASE 66 (Penrose, quoted by Rolleston (62)).—Retroperitoneal abscess diagnosed as pancreatic tumour. Female, 47 years of age. Abdominal tenderness and pain, flatulence and sickness for 18 months; worse one month. Tumour in the left side thought to be connected with the pancreas; found to be due to large retroperitoneal abscess, extending from the brim of the pelvis to the diaphragm. At the lower end of the descending colon three ulcers (one at the tip of a diverticulum); two opened into the abscess.

CASE 67 (Fiedler (19), 1865).—Abscess perforating externally. Female, 64 years of age. Former constipation; last *few* years loose stools; obese. In the left iliac fossa a tender, irregular tumour; the overlying skin somewhat œdematous and infiltrated; considerable pyrexia. Abscess burst by fistulous openings in abdominal wall and fæcal material was discharged; an abscess formed subsequently in right iliac region.

CASE 68 (Fielder, 1868).—Abscesses. Female, aged 22 years. Nutrition good; chronic constipation. Abdominal pain, distension, and tenderness; maximal in the sigmoid region; diarrhœa. Large abscess in left iliac region extending *to* the right of the pelvis; numerous perforations due to diverticula, leading from the colon and especially from the sigmoid flexure. Some only ulcerated and contained fæcal masses. Adhesion to neighbouring coils.

CASE 69 (Bigg (2), 1904).—Extraperitoneal abscess. Multiple diverticula of the sigmoid flexure; one had perforated and had caused an extraperitoneal abscess.

*CASE 70 (Museum of Leeds Medical School, Preparation E216).—Stricture of bowel. No history or notes (old specimen). Narrow, annular stricture of the sigmoid flexure seven inches from the anus; it barely admits a lead-pencil and is caused by inflammatory tissue only. Much of this has been carefully pared away; in cleaning away the appendices epiploicæ and fat from the rest of the gut several diverticula are seen to be cut across. The mucosa at the point of stricture is superficially ulcerated; above this it is normal and presents false diverticula in two rows on either side of the meso-sigmoid. On one side there are five such; three of these are cut across. On the other side there are three shallow pits which are early diverticula somewhat stretched out by the dilatation of the gut above the stenosis. In the strictured area is a "pouch" but owing to the ulceration and to the paring away of the inflammatory tissue outside the stricture this cannot certainly be identified as a diverticulum, though it probably is of this nature invariably underwent flattening and softening (*assouplissement*) and were gradually or suddenly displaced out of the pelvis, sometimes as late as the onset of labour itself, and labour spontaneously occurred without assistance.—Dr. T. W. Eden agreed with the previous speakers as to the rarity with which serious complications occurred when women with fibroids became pregnant and deprecated the view sometimes advanced that pregnant women with fibroids necessarily went in peril of their lives.- Dr. A. E. Giles said that speaking in generalities would lead to confusion and inaccuracy. To say that the complication of fibroids and pregnancy was generally unimportant was as much beside the mark as to say that it was generally dangerous. The existence of fundal fibroids might make no difference to pregnancy or labour but cervical fibroids impacted in the pelvis were in a totally different category. He alluded to a case in which he had removed a fibroid from the left broad ligament in a woman four and a half months pregnant. He experienced great difficulty in stopping the bleeding and though he succeeded at the time it recurred later, necessitating the removal of the uterus, as in Dr. Dauber's case.

A short communication was made by Dr. H. Russell Andrews and Dr. R. Drummond Maxwell on a case of Difficult Labour, with remarks on the frozen sections of the uterus. The patient had been in labour for two and a half days before the resident accoucheur was sent for. He found a very large decomposing child presenting by the vertex. Attempts at craniotomy and cephalotripsy resulted in the whole of the head being pulled off and traction on the arms pulled both of them off. An attempt at version failed, the foot coming away without any alteration of position being effected. The patient was then sent into the London Hospital. When Dr. Andrews saw her the uterus was in a state of tonic contraction. He cut through both clavicles, perforated the chest, and removed the heart and lungs, perforated the diaphragm, and removed the liver and intestines. In spite of effecting diminution of the size of the child no form of traction applied by every conceivable variety of hook and forceps was successful and attempts at version met with no more success. It was impossible to cut through the fœtal spine. At last, after one and a half hours' hard work, realising that he could not deliver per vaginam, he removed the uterus with the child *in situ*, preferring hysterectomy to leaving the patient undelivered with the uterus in a state of tonic contraction. The patient died on the next day. The child, who had apparently reached the age of 44 weeks, must have weighed not less than 13 pounds. Frozen sections of the uterus, with fœtus *in situ*, were exhibited. A well-marked ridge projecting into the cavity of the uterus was the subject of considerable discussion, it being the opinion of Dr. Andrews and Dr. Maxwell that this represented the retraction ring. Post-maturity of the fœtus was discussed and the recorded cases were criticised. Sections of the placenta were also shown but did not throw any light on the etiology and pathology of the condition.—Dr. Champneys said that he had felt contraction rings round various parts of the uterus, in some cases round one of the uterine cornua. The experiments of Kleinwächter showed that spontaneous delivery occurred in some of the most unpromising cases of obstructed labour. In such a case as that under discussion, where the patient was already septic, the choice of treatment was one of great difficulty.—Dr. W. S. A. Griffith suggested that the probable cause of the difficulty in delivery was not in the uterus but in the macerated condition of the fœtus. He wished to emphasise the value of version as a means of delivery after craniotomy if the uterus was not in a state of tonic contraction.—Dr. Eden remarked that the term contraction ring was inaccurate; it should be called the retraction ring. He could not accept the view advanced by Dr. Andrews and Dr. Maxwell as to the formation of this ring that it was the result of moulding on a body groove. —Dr. Andrews and Dr. Maxwell replied.

MEDICAL SOCIETY OF LONDON.

Discussion on the Prognosis and Treatment of Acute Anterior Poliomyelitis.

A meeting of this society was held on March 23rd, Dr. J. Kingston Fowler, the President, being in the chair.

Dr. J. S. Risien Russell, in opening the discussion, referred to the importance of excluding cases of Landry's paralysis and those of acute toxic polyneuritis before a true estimate of the prognosis in poliomyelitis could be obtained, for the former of these diseases was infinitely more fatal than poliomyelitis, while recovery from the latter was much more perfect than usually obtained in this affection. Even allowing for the possibility that some cases might die in the acute stage of the illness without being recognised poliomyelitis was by no means a fatal disease. It was, however, not safe to venture an opinion until there was evidence that there had been no extension of the paralysis for at least from 24 to 48 hours. Some return of power in the paralysed parts was to be expected even in the most severe cases that lived, but in a large proportion the amount of residual defect was most disappointing, although there were notable exceptions to this rule. The more rapidly power returned the better the chances of a good result. An electrical examination was of some value in forming an estimate as to which muscles were likely to recover most, as those which still responded to faradism after three weeks might be expected to make a good recovery. It did not, however, follow that a muscle which did not respond to the interrupted current after this period was not capable of some recovery, for in reality it was compatible with a considerable amount of improvement, although full recovery could never be expected. Attention was called to a class of case in which poliomyelitis was probably responsible for a uniform want of development of a limb in which, nevertheless, no one muscle was paralysed or specially atrophied and in which all of the movements could be performed. In this class of case, as in a case of acute poliomyelitis, a progressive muscular atrophy might be encountered later in life but this was a rare sequel. Beyond keeping the patient at rest in bed, with the skin and bowels freely acting, the less active treatment the better in the acute stage of the affection. Pain must, however, be relieved and if local applications failed morphine might be required. In the case of a child it was much more important to keep the patient quiet than to risk the disturbance caused by the attempt to counter-irritate the spine or to secure the prone position. Provided there was no fever and pain did not prevent it massage should be commenced in from ten days to a fortnight, and should be combined with passive movements to which resisted movements should be added in due course, while the patient was encouraged to practise the voluntary contraction of the muscles, no matter how slight a return of this there might be. In spite of statements that Dr. Russell had seen to the contrary treatment by a skilled masseuse was far superior to any rubbing that a child's mother or nurse could be taught to give. He was also compelled to differ from those who were of opinion that electricity was of no use in the treatment of the affection as galvanism was a most useful therapeutic agent. Drugs played an altogether unimportant part in the treatment of the disease beyond any general effect on the system that might be desired, although it was the rule to give strychnine in the hope that it might have a more direct influence on the course of the malady. While fully alive to the important advances that had been made in the surgical treatment of the affection he was of opinion that the other methods of treatment should be fully tried before recourse was had to surgery. He, however, warned physicians not to be too conservative but to avail themselves of the assistance of the surgeon at the proper time, for in a large proportion of cases there was much that he could do to supplement the medical treatment of the case. While strongly deprecating the use of heavy and cumbersome instruments to effect this he hoped that physicians would be careful to adopt such measures in treatment as were calculated to prevent deformities and not lay themselves open to the charge that they had allowed to occur what the surgeon would have prevented. He hoped to hear from surgeons who were to take part in the discussion the relative merits of the different surgical measures that were in vogue and how the best results were obtained. The field for tendon transplantation must be much wider than that for nerve grafting, which must be applicable to but a small proportion of cases. Some attempt should be made to arrive at a general agreement as to the time when these operations as well as that of arthrodesis with a view to obtain fixation should be performed.

Dr. C. E. Beevor thought in regard to prognosis that the electrical reactions were important; if a muscle reacted to faradisation three weeks to a month after the onset of the illness then the prognosis would be that the muscle would recover; as long as there was galvanic reaction there was the chance of recovery and even up to 12 months from the was passed from the bowel through one of these into an abscess cavity and thence into the bladder. (*The diverticular origin of this case was evidently not recognised by the author.*)

CASE 100 (Hepner (33), 1902).—Female, 64 years of age. Life-long constipation; thin; 14 months before, pain on micturition and defæcation coming on suddenly after lifting a heavy weight; abdominal pain and fever. Passed fæcal masses and a pear-pip in the urine. Diagnosis: fistula between the bladder and the bowel due to a previous attack of appendicitis.

Operation.—A communication between the bladder and the sigmoid flexure, 12 centimetres above the rectum was found. This was due to the presence of a diverticulum lined with mucous membrane, two and a half centimetres long and one centimetre wide. Recovery.

CASE 101 (referred to by Moynihan (51)).—Vesico-colic fistula of diverticular origin.

CASE 102 (Waldvogel (74), 1902).—Male, 35 years of age. Long history of difficult urination. Signs of fistula about a year before death.

Necropsy.—Marked stenosis of the sigmoid flexure from inflammatory thickening; above this is a row of deep diverticula. The thickened and stenosed area is adherent to the bladder; six openings—two lined by mucous membrane—lead from the gut into the tissue intervening between it and the bladder, and two of these enter the bladder directly. The gut also communicates with an abscess cavity containing fæculent material and a comparatively fresh apple-seed.

CASE 103 (Czerny, quoted Waldvogel).—Vesical fistula. Somewhat similar case.

CASE 104 (Herczel (34), 1899).—Male, 43 years of age. Irregular bowel action. Five months' symptoms of entero-vesical fistula with passage of air and fæces per urethram. Stricture of the bowel 12 centimetres from the anus; tumour felt in the left iliac fossa. Carcinoma of the sigmoid flexure diagnosed; at operation the bowel was found to be adherent to the bladder. Subsequent colotomy and death.

Necropsy.—Multiple diverticula containing fæcal matter in the whole of the rectum; one had given rise to fistula; stenosis of the bowel; small abscess cavity outside of it. The fistula was 25 centimetres above the anus.

CASE 105 (Heine (32), 1904).—Male, 73 years of age. Diverticulum of the sigmoid flexure adherent to the bladder. Also a vesico-colic fistula, *probably* of the same nature.

It will be observed that many of the foregoing cases are marked with an asterisk (*), denoting, it should be explained, that they are previously inedited cases.

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Leeds.

A CASE OF DIAPHRAGMATIC HERNIA.

BY H. O. WILLIAMS, M.R.C.S. ENG.,
L.R.C.P. LOND.,
SENIOR HOUSE PHYSICIAN AT THE METROPOLITAN HOSPITAL.

THE following case was admitted to the Metropolitan Hospital on Nov. 9th, 1907, under the care of Dr. Edmund Cautley, for shortness of breath. The child, a girl, aged nine months, born at full time, apparently healthy, was breast-fed, and did well until a fortnight before admission when she had an attack of vomiting and became short of breath. During this fortnight vomiting continued and she lost flesh rapidly. There was nothing of importance in the family history. On admission the child was pale and thin; the flesh was flabby and the skin was inelastic. The eyes were dull and sunken. The temperature was 99° F., the pulse was 132, and the respirations were 60. The apex beat was best felt about one inch to the right of the sternum in the sixth intercostal space. The superficial area of cardiac dulness was obliterated. The heart sounds were natural. The right side of the chest was resonant all over, the resonance extending in front to the costal margin. Breath sounds were distinct all over this area. On the left side there was dulness to percussion over the left lower lobe behind, extending to the mid-axillary line. No breath sounds were heard over this area but an occasional râle was heard in the left axilla. The signs over the upper lobe were natural. The abdomen was large and distended and the edge of the liver could be felt below the umbilicus. The spleen was not palpable. On the 11th the note was still dull over the left lower lobe behind reaching to the mid-axillary line. Distant breath sounds were heard over this area and a patch of friction at the base and at the apex of the lower lobe. There had been no vomiting since admission. On the 15th the child vomited four times and had five loose undigested stools. There was a much better note over the left lower lobe, but the breath sounds were still absent. On the 19th vomiting continued. The patient would not take food and had to be nasally fed. She had lost five ounces in weight since admission. The note was quite dull over the lower lobe and no breath sounds could be heard. The chest was explored in two places with negative results. On the 25th the general condition of the child seemed much better. She had gained five ounces in the last six days. The respirations were now 32, but the temperature was a little raised. The vomiting stopped. The note over the left lower lobe was now quite resonant but no breath sounds could be heard. On the 28th the note over the left lower lobe was resonant. The breath sounds were distinctly heard over this area. No râles were heard. The patient vomited once during the last seven days. On Dec. 2nd she was gaining weight. There was no more vomiting. The note was resonant over the left lower lobe. No breath sounds were heard. On the 5th there was some consolidation of the right lower lobe. The temperature was 104°. On the 9th there was recurrence of vomiting and the patient was losing weight. On the 10th respiration was shallow and rapid. The child was cyanosed. There was a good note over the left lower lobe. No breath sounds could be heard. The abdomen was distended. On the 11th there were considerable cyanosis and dyspnœa. The left lower lobe was resonant. The child died from failure of respiration.

Necropsy.—The body was that of a small child, sparsely

Dr. **DUDLEY W. BUXTON** said no doubt it would be adopted by all careful anæsthetists, but he thought it was questionable how far it was safer than a general anæsthetic. Most of the cases which he had seen had no shock or vomiting, but he had seen extreme shock, extreme faintness, and extreme respiratory shock. The personal factor must be taken into account. Some people were very frightened of a general anæsthetic, others were more affected by being conscious during an operation. He was of opinion that the after-effects of general anæsthetics had been exaggerated. But he thought that they *must* make up their minds that a new method of great value when properly mastered and applied to suitable cases had come amongst them, and he would be very glad to add it to his armamentarium.

Mr. **V. WARREN LOW** had used Mr. Barker's solution heavier than cerebro-spinal fluid. He had had one or two failures. A patient of his much preferred spinal anæsthesia while a friend who had had an operation under a spinal anæsthetic would have a general anæsthetic another time as he suffered from general muscular pains. He thought that vomiting was less frequent than after general anæsthesia.

Mr. **F. R. HUMPHREYS** asked Mr. Dean whether he had had any complications, because in foreign literature he had found mention of eight cases of diplopia, two cases of death (only one could be fairly attributed to stovaine), six cases of respiratory paralysis, and a large number of cases of vomiting, headache, and pain in the back. In Vienna they seemed to think that tropacocaine was the drug of the future.

Dr. **G. H. COLT** said that the chief difficulty was to find the way into the spinal canal. They must find the right angle and go straight in. In general practice a man could do much single-handed with this method.

Mrs. **F. M. DICKINSON BERRY** was surprised that so many of Mr. Dean's cases were of advanced age, as German authorities said it was contra-indicated in very old or young subjects.

Dr. **J. BLUMFELD**, speaking as one who intended to learn the method, inquired whether sitting up or lying on the side was the best position of the patient when the puncture was made.

Mr. **DEAN**, in reply, said that he had not used the method in Trendelenburg's position, but Kroenig said that an angle of 30 degrees was safe. He had had no cases of vomiting. He believed that no failures would occur if a second dose (half the first) were given when one dose did not succeed. He had seen anæsthesia extend as high as the clavicle without respiratory paralysis. He preferred to have the patient sitting up when he made the puncture. He saw no reason to withhold it from old or young.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

The Relation of Entozoa to the Mucous Lining of the Alimentary Canal.—The Rôle of Filaria in the Production of Disease.

A MEETING of this society was held on March 20th, Sir **PATRICK MANSON**, the President, being in the chair.

Mr. **A. E. SHIPLEY** (Cambridge) read a paper on the Relation of Entozoa to the Mucous Lining of the Alimentary Canal. In his communication, which was illustrated by a large number of excellent epidiascope slides, Mr. Shipley traced the various entozoal infections of the lower animals and man and demonstrated the injuries and septic consequences which might result from the presence of parasites in the alimentary canal. After describing various intestinal parasites of the grouse, the common fowl, and the horse, he reviewed the state of our knowledge as to the influence of entozoa in originating disease in man and suggested that appendicitis might be caused by trichocephalus trichiurus.—Dr **O. W. DANIELS** stated that he did not agree as to the connexion of trichocephalus and appendicitis; he thought he was supported in this by the fact that though natives of the tropics were deeply infested by that parasite appendicitis was very rare.—Sir **R. HAVELOCK CHARLES** said that his experience was that appendicitis was not uncommon in natives of Lower Bengal.—After remarks by Dr. **L. W. SAMBON** and Dr. **R. T. LEIPER**, both of whom agreed that trichocephalus had no influence in originating appendicitis, the **PRESIDENT** said that it was generally believed by medical men, and statistics fully supported the belief, that trichocephalus and appendicitis had no definite connexion.

Dr. **W. T. PROUT** read a paper on the Rôle of Filaria in the Production of Disease. He said that the adult filaria loa was a worm the habitat of which appeared to be the connective tissue and which became visible when it approached the surface in any situation where the tissues were thin and lax, as, for example, in the scrotum. Evidence was accumulating that a micro-filaria showing a certain amount of diurnal periodicity was the embryonic form of that worm and he described a recent case which illustrated that point and two other cases where the presence of the worm was associated with certain cutaneous phenomena. He thought that there were a sufficient number of recorded cases to justify him in associating the presence of filaria loa with Calabar swellings, but he attributed the local phenomena to the mechanical irritation of the adult worm as it forced its way through the connective tissue near the surface. The œdema which resulted was intensified by the rubbing and scratching which took place as a consequence of the itching, and the intensity of the phenomena depended to a large extent upon the sensitiveness of the individual's skin. Filaria nocturna was associated with a long list of diseases, which included lymphangitis, abscess, varicose glands, lymphatic varix, lymph scrotum, elephantiasis, &c., in other words with a series of diseases connected with inflammation or obstruction of some part or other of the lymphatic system. For the sake of argument, he assumed that elephantiasis was not due to filaria nocturna and criticised the various suggestions that had been put forward to see whether there was not another explanation which would account for the production of that and other so-called filarial diseases. The invariable association of filaria nocturna with elephantiasis had not been clearly proved. The production of the disease experimentally and the recognition of the parasite afterwards had still to be shown. Radcliffe Crocker, in discussing the pathology of elephantiasis, both sporadic and endemic, had said: "The disease is consequent upon an occlusion of the lymphatic channels of the part affected, independent of the cause and nature of the obstruction, and whether it is at the trunk or periphery of the lymphatic circulation." Dr. Prout described a case where obstruction in a main trunk caused extensive elephantiasis, and no doubt similar cases might occasionally be found in the tropics. But he was inclined to believe that the vast majority of cases of elephantiasis in the tropics was of peripheral origin due to a lymphangitis arising peripherally, caused by the introduction of a specific micro-organism, and resulting in the gradual narrowing and obstruction of the peripheral lymph vessels. Radcliffe Crocker had pointed out that in a temperate climate erysipelas, either as a severe or diffuse cellulitis or from repeated attacks, was one of the most common causes of lymphatic obstruction. He ventured to suggest that during the attacks of elephantoid fever an attempt should be made to examine the serum, and he looked forward to the time when some skilled observer would demonstrate the presence of some specific organism.—The **PRESIDENT** said that discussion on Dr. Prout's very valuable paper, with the reading of his other communications, would be deferred till the next meeting.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Scientific versus Surgical Bacteriology.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 20th, Dr. **J. ALLAN**, the President, being in the chair.

Dr. **A. S. F. GRÜNBAUM** read a paper entitled "Scientific *versus* Surgical Bacteriology," to show the baselessness for the custom in some hospitals of excluding dressers from the educational advantages of the post-mortem room or dissecting room students and others from surgical wards. He invited concurrence with the following propositions: there was no evidence to show that the atmosphere or surroundings of the dissecting-room or post-mortem room were bacteriologically more dangerous than of the operating theatre or surgical wards; there was no evidence to show that the hands of students working in these rooms were bacteriologically more dangerous or difficult to disinfect than of those who were not so working; there was this same fact I attribute the success of the treatment employed.

The form of treatment in which I am particularly interested—viz., electricity—has been frequently tried in this disease but with disappointing results. When I came to look into this matter I found that in every case the method employed was the faradic current applied by means of a wire brush. Bearing in mind that pain is a usual if not the chief symptom it is strange that a method should be used which from its very nature was practically bound to make the condition worse. Indeed, if any benefit took place after such applications, I should say it could only be in spite of, rather than on account of, such treatment.

Except in those very rare cases of neuralgia where the counter irritant action of an induction coil is useful, pain is a direct contra-indication for the use of induction coil or rapidly varying currents of any kind. Is it any wonder then that electrical treatment has so far been unsatisfactory in the treatment of this condition? It would never occur to me to use any but the constant current, in the first instance at least, but it was only in the last case that it was given a fair trial. In the first the patient was so overjoyed to find he had not anæsthetic leprosy that he took the first available ship to India without waiting to undergo a thorough course of treatment. In the second the patient was so disappointed at not being completely relieved after some half-dozen applications that treatment was given up. The case was one of considerable standing, and patience and persistence were necessary to get good results. In the third case treatment was begun early. The indifferent electrode—negative—was placed across the lumbo-sacral region, while the active electrode was applied over the affected area, and especially over the place where the nerve pierces the fascia. This electrode was one of 100 square centimetres area and was moved to a fresh part of the affected area every two or three minutes. The current passing varied between 30 and 50 milliampères. Definite improvement began after the third application and steadily progressed. Eight applications were given in all, the last being on Dec. 10th, 1907. The patient has remained perfectly well ever since but in view of his hunting proclivities recurrence is not improbable.

Queen Anne-street, W.

PERFORATION OF THE ŒSOPHAGUS BY A RABBIT BONE:

SEPTIC INFLAMMATION OF THE MEDIASTINUM; ULCERATION INTO THE AORTA; DEATH FROM HÆMORRHAGE.

BY R. LAWFORD KNAGGS, M.C. CANTAB.,
SURGEON TO THE LEEDS GENERAL INFIRMARY.

A YOUTH, aged 16 years, was eating some rabbit-pie when something "stuck in his throat." After his meal he went to see a football match and on his return he vomited. From that time he had had a painful sensation in the lower part of the sternum and had taken practically no solid food, but this was apparently because he had no appetite for it and not from any difficulty in swallowing. Two days after the occurrence he went to the Leeds General Infirmary and the resident casualty officer passed a probang into the stomach without meeting any obstruction. In the interval before his admission on the seventh day, the patient stated that he had been under the care of a medical man who said that he was suffering from pneumonia. On the day of admission he began to vomit large quantities of bright blood and he passed dark blood from the rectum two or three times.

When admitted to the infirmary the lad was extremely ill, very pale, sweating profusely, and mentally quite clear. He was not in pain. He brought up a small amount of bright frothy blood. The pulse was 130 and poor, the respirations were 30, and the temperature was 98° F. There was a definite pericardial rub and signs of fluid at the base of the left chest, which on exploration proved to be thin turbid odourless serum. Death occurred four hours after admission.

Post-mortem examination by Dr. G. W. WATSON.—On opening the body there was marked œdema of the tissues over the front of the chest. When the sternum was removed an acute inflammation of the tissues in the mediastinum was found. The soft tissues of the whole mediastinum extending quite down to the diaphragm, but chiefly affecting the upper part, were of a dirty greyish-black colour and there was also a little exudation. There was no offensive odour. The pericardium was adherent to the pleura on the left side and when the sac was opened *in situ* an extensive simple plastic pericarditis was revealed. There was slight recent pleurisy in the left chest and about half a pint of turbid effusion. In the œsophagus, about three inches below the cricoid cartilage, were two perforations situated opposite to one another, as if caused by something that had lain transversely and been impacted in the tube. There was very little sign of inflammatory reaction of the tissues in these situations. The perforation on the left side extended into the cellular tissue for about an inch. On the right side a probe could be passed through the other opening in the œsophagus into the middle of the dirty-looking material in the mediastinum. Further investigation showed that the abscess in the mediastinum had ulcerated into the aorta just at the commencement of the descending portion of the arch on its upper and posterior aspect. The ulcerated aperture was three-quarters of an inch distant from the origin of the left subclavian artery. A probe could be passed without any force whatever from the œsophagus into the aorta. No bone could be found anywhere. All the abdominal viscera were quite healthy, but the stomach and intestines were full of pure blood. The blood in the stomach formed a large clot which was a complete cast of that viscus and from it there was a prolongation into the œsophagus for several inches. At the other end the pyloric portion was continued into a cast of the first and second parts of the duodenum.

Leeds.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Phagocytosis carried out by means of Melanin.—Administration of Tuberculin (T.R.) and other Vaccines by the Mouth, together with (a) Normal Saline Solution; and (b) Fresh Horse Serum.

A MEETING of this section was held on March 24th, Dr. S. J. GEE, the President, being in the chair.

Mr. S. G. SHATTOCK and Mr. L. S. DUDGEON communicated some observations upon Phagocytosis carried out by means of Melanin, more particularly with reference to the part taken by the leucocytes in infective diseases.[1] When melanin (from the eye of the ox) in salt solution was mixed with immune blood the phagocytosis might be below normal, or normal, or considerably higher. Melanin was opsonised. An immune serum could be largely deopsonised by saturation with melanin. That could only result from opsonisation of the melanin. Conversely, saturation of a tuberculous serum with tubercle bacilli largely reduced the phagocytosis of melanin. That showed that the chief increase of opsonin was not of a specific kind. The phagocytosis of melanin, however, was diminished after heating the immune serum. In this Mr. Shattock's and Mr. Dudgeon's observations accorded with those of R. Muir and L. B. M. Martin, which proved that thermolabile opsonin (in normal blood) was non-specific, since it could be removed by very different micro-organisms. Mr. Shattock and Mr. Dudgeon maintained that the leucocytes of immune blood were in some cases more active than those of normal blood. An increased phagocytosis of melanin occurred in some cases if melanin was presented to the "washed" leucocytes of an immune blood in normal serum, as compared with washed normal leucocytes in normal serum; or, if melanin was presented to "washed" immune leucocytes in immune serum, and to "washed" normal cells in immune serum, the ingestion done by the patient's cells was in many cases greater than that done by normal cells. They concluded, therefore, that the calculation of the opsonic value of the patient's serum alone did not give a complete estimate of the patient's hæmophagocytic resistance; it might be too high or too low, or as a coincidence it might exactly represent it. The method of making a hæmophagocytic estimate though, as a rule, none were found on them in health. Dead rats had been picked up near the cages and their fleas, having no hosts, took refuge in the hair of the guinea-pigs. After this discovery guinea-pigs were employed to trap rat fleas in plague-infected places. The stomachs of these fleas were found to contain many actively living plague organisms. Captain Liston found by actual observation that pulex cheopis would attack man when its natural host was absent. The fleas collected from individuals suffering from plague were in many cases those peculiar to the rat. Lieutenant-Colonel Bannerman and Captain Liston built a set of experimental go-downs or cabins in which to carry on a series of experiments as nearly approaching those found in the native town as possible. As regards the conveyance of plague infection through food soiled with the excreta of rats Lieutenant Colonel Bannerman narrated the experiments carried out by the Plague Commission. Of 6000 rats naturally infected with plague the primary bubo was situated on the neck in 74 per cent. and in the inguinal region in 25 per cent.; in no single case were mesenteric buboes present. On the contrary, in the case of 155 rats infected by feeding the mesenteric glands were affected in 70 per cent., the neck glands in 35 per cent., and the inguinal glands in a single case. Numerous experiments were made by feeding rats with the urine of patients dead from plague and in no case did the disease develop in them. Many rats were inoculated with the fæces of rats dead from the plague and only 2·9 per cent. died from the disease. Guinea-pigs also fed on infected food and kept under most insanitary surroundings never developed plague. It might confidently be stated that in India at least food contaminated with plague material had nothing whatever to do with the spread of the disease. On the contrary, Simpson was able to infect all the domestic animals of China (with the exception of the dog) by feeding them on huge quantities of plague-infected viscera and it would appear as if there were some curious difference in plague in India and in China. It had been a favourite theory that plague was spread through contamination of the soil. The natives went barefoot and often ate their food from leaves placed on the floor and therefore liable to contamination. Many investigators had, however, constantly failed to find the presence of bacilli in the soil and experiments made recently showed that plague bacilli rapidly perished in the presence of saprophytic organisms in the soil and disappeared after four days. After detailing the experiments carried out by the Commission, which showed that only a very small proportion of animals exposed to infection contracted the disease and then only when the floors had actual pools of infected liquid on them, Lieutenant-Colonel Bannerman showed that animals might contract plague when carefully protected from contact with the soil and that just as many guinea-pigs contracted plague in disinfected rooms in Bombay as in rooms not so treated. The latter infection was due to the presence of rat fleas which were not affected by the (1 in 750) solution of perchloride of mercury. Lieutenant-Colonel Bannerman then dwelt on the distinguishing features of the rat flea and narrated experiments to prove that fleas from infected rats conveyed the disease to healthy animals. In 11 out of 16 such experiments (= 69 per cent.) the healthy white rat from England contracted the disease in this way, while with Bombay rats the percentage was 38 per cent. The smaller percentage was probably due to a certain number of the latter rats being immune to the disease. Many hundreds of successful flea-transmission experiments were also carried out with guinea-pigs. To prove that mere proximity to diseased animals was incapable of transmitting the disease 50 healthy flea-free guinea-pigs were placed in a flea-proof go-down along with ten guinea-pigs inoculated with a virulent culture of plague bacilli and fed with contaminated food; nine of the infected animals died and yet none of the healthy guinea-pigs contracted plague. In a flea-proof go-down 49 guinea-pigs had been living in health for three weeks when 221 fleas taken from the bodies of guinea-pigs dead from plague were introduced, and after six weeks' interval the whole of the guinea-pigs had succumbed to plague. A flea could jump barely six inches, so in a flea-infested go-down the guinea-pigs were divided into three groups of four each, one allowed to run on the floor, one confined in cages two inches above the floor, and the third group in cages two feet from the floor. Two days afterwards 125 fleas were taken from those on the floor, 27 from those in the low cages, and none from those in the high cages. All the animals in the first two groups died but none in the third group. The same results were obtained when monkeys were employed. The season in which epizootics were readily produced experimentally and spread rapidly corresponded with that of the plague epidemic. Experiments were made to prove that plague-infected houses were dangerous because of the fleas which they contained. The first fact discovered was that nearly all the fleas caught on guinea-pigs which had been allowed to run about these infected houses were rat fleas and were present in large numbers. The second fact was that a large number of such guinea-pigs died from plague; of 189 houses experimented on in Bombay and in the Punjab 40, or 21 per cent., proved infective to guinea-pigs. Even after disinfection of plague houses by thorough washing with perchloride of mercury solution (1 in 750) and disinfection with the fumes of sulphur which were sufficient to destroy the plague bacilli, it was found that guinea-pigs became infected in nine out of 31 such houses, or in a proportion of 29 per cent. This was exactly the same percentage that proved infective out of 42 other rooms experimented with in the same season and which had not been disinfected in any way. The average number of fleas caught in these disinfected rooms was 40 and in one instance as many as 263 were present; the average in 13 rooms not disinfected was 34. The great majority of fleas caught on the guinea-pigs placed in the plague-infected houses were rat fleas. In another series of experiments in plague-infected rooms it was shown that animals contracted the disease although protected from floor infection and from all contact with plague-infected rats, provided that they were not likewise protected from fleas. For this purpose pairs of animals were placed in the rooms in cages so contrived that one was flea-proof, while the other was open to the entry of these insects. In 63 experiments all the protected animals remained healthy, while eight, or 13 per cent., of the unprotected ones developed plague. A variation of this experiment was made by protecting the animal in the cage, not by gauze but by sticky fly-paper, on which the fleas were caught in trying to reach their victim. In 59 such experiments all the animals so protected remained healthy, while 9 per cent. of those not so protected developed plague. In the case of these caged animals the average number of fleas per guinea-pig was 3, as contrasted with 20 to 40 in those allowed to run over the rooms freely. Of 401 fleas caught on the fly-paper, 221 (= 55 per cent.) were rat fleas; 148, or 37 per cent., were human fleas; and 32, or 8 per cent., were cat fleas. A greater number of rat fleas were found in plague-infected houses than in healthy dwellings. The logical conclusion would appear to be that rooms were dangerous because of the infected rat fleas in them and that the soil and air had no infective properties. It remained to prove that the rat flea was the cause of the transmission of plague from rat to man. It had to be remembered that the germs of plague gained access to the body through the skin; pneumonic plague might be ignored, as it occurred in only about 2·5 per cent. of all cases. As regards the site of the buboes, in practically every case the primary bubo developed in the group of glands which stood in direct lymphatic connexion with the area of skin which had been inoculated. All evidence went to negative the idea that plague was ever naturally conveyed through the digestive tract but that it indicated the skin as the real point of entry. A definite time relationship was seen between the Rattus epizootic and the epidemic—the mean interval varied from 10 to 14 days. Captain Liston showed that rat fleas attacked man and other animals in the absence of their natural hosts. When a man placed his hand into a cage containing rat fleas they jumped on to the skin and in time would bite; unless very numerous, however, they would not do so in the presence of rats. When starved for 72 to 96 hours they readily fed on man. The members of the Plague Commission always wore top boots on visiting plague houses and the bare-legged attendants were only saved from infection by regular injections of Haffkine's anti-plague vaccine. The stomach of a flea was large enough to contain many plague bacilli and these germs multiplied in its stomach. The bacilli were passed in abundance per anum while the insect was sucking blood on the skin. Such fæces were infective through the pricker wound even without rubbing. The duration of infectivity of fleas had been estimated as 15 days during the epidemic season and seven days in the off season. A flea might survive for three weeks and thus there was ample time for it to be transported in clothing from place to place with passengers and testis throughout its functional activity. The nature of his experiments was briefly as follows. He injected two hens with a fresh preparation of cock's testes beginning on Feb. 1st, 1907. The injections were continued every day until Oct. 4th with the following results. The combs and wattles of the hens grew to a very large size and the hens stopped laying eggs about the middle of March. This growth of the combs and wattles seemed to reach its maximum at about the end of June. From March to October these hens seemed always to wish to attack any cock which was placed in the greenhouse where they were kept. On Oct. 4th the injections were discontinued and on Nov. 9th the combs and wattles had shrunk back to the normal size found in the hens before the experiment was commenced. The size of the combs at the maximum was about eight times that found in the same hens before the experiment and after Nov. 9th. In two cases Shattock and Seligmann had recorded a shrinkage of the comb after castration of the adult cock.

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[1] This communication is based upon one made to the Royal Society of London through Professor J. Rose Bradford.

Dr. W. S. **Lazarus-Barlow** read a paper on the Relations of Endothelioma to other Forms of New Growth. He brought forward the view that certain varieties of growth met with chiefly in the breast and the cervix, and generally described respectively as spheroidal cell and squamous-cell carcinoma, were identical in appearance and differed from typical carcinomata of those types by the presence of lumina, by the characters of the cells and their nuclei, and by the general arrangement of the cell masses. He then pointed out that these characters, together with a great tendency to variation in appearance in metastases, were best to be explained on the view that they had originated from endothelium. He advocated the same view for uterine growths that appeared to consist of both carcinoma and sarcoma and for a large number of those mouse tumours which showed a great deviation from the original tumour after repeated transplantation. Upon this view about 10 per cent. of uterine and mammary carcinomata were endotheliomata.—Dr. E. F. **Bashford** pointed out how the investigation of mouse cancer was of the greatest importance because of its freedom from the limitations necessarily attaching to the clinical and pathological study of cancer. He referred to Gierke's work showing that mouse tumours were epithelial and not endothelial and explaining how the peculiarities of mouse tumours ceased to be of importance when the differences between the histology of the mouse and of man were understood. In considering spontaneous tumours of the mouse as opposed to inoculated tumours it must be remembered that the anatomical conditions were distinct. In the case of spontaneous tumours infiltration of the thoracic walls and of the muscles and of the skin was common. In the case of the transplanted tumours he acknowledged that infiltration occurred in a small proportion of cases, but when a mass of tumour pulp was introduced under the skin of the mouse there was established a different condition of things from that found in the development of a new growth. Therefore in experimental work conditions were not induced exactly corresponding to those seen in spontaneous tumours.—Dr. L. **Courtauld** also spoke.

Mr. C. W. **Rowntree** read a communication dealing with the Presence of Prickle Cells in Tumours originating, or supposed to originate, in squamous epithelium. He pointed out that as prickles were of such constant occurrence in this situation it might be supposed that new growths which originated there would contain them. He stated that this was generally the case both in the primary growth and its metastases, but that there was a class of tumour originating in situations such as the tongue and cervix uteri which departed from the common type in that they did not possess prickles and also had other points of similarity which suggested the possibility of their constituting a separate class of new growth.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Myomectomy during Pregnancy.—Difficult Labour.

A MEETING of this section was held on March 12th, Dr. **Herbert R. Spencer**, the President, being in the chair.

Dr. **Walter C. Swayne** read a short communication on Myomectomy during Pregnancy and described two cases operated on by him. Case 1: A primipara, aged 40 years, pregnant five months, had a solid, rapidly increasing, painful tumour growing from the fundus uteri. After laparotomy a pedunculated fibroid of the size of an adult head was removed from the fundus. The flattened pedicle was transfixed and the peritoneum was sewn over it. A smaller fibroid, which was sessile and situated behind and below the first, was also enucleated. Recovery was uninterrupted. Pregnancy had not been interrupted two months later, after which the patient was lost sight of. Case 2: Multipara, aged 35 years, pregnant four and a half months, with abdominal pain and a bilobed tumour rising out of the pelvis, the left lobe being hard and the right soft and elastic. Laparotomy showed a fibroid growing from the right cornu of the pregnant uterus which had undergone axial rotation, so that the fibroid lay on the left. The rotation was untwisted with some difficulty and the fibroid was then enucleated. Pregnancy was interrupted a month after the patient left the hospital. Dr. Swayne pointed out that fibroids of the pregnant uterus required operation if causing pain, pressure symptoms, axial rotation of the uterus, or symptoms of twisted pedicle. Rapid increase with pain might point to degeneration. Pregnancy was not necessarily interrupted. Accurate apposition of the gap in the uterine wall was of great importance

Dr. J. H. **Dauber** communicated a case of Pregnancy complicated by a large and fixed Retroperitoneal Fibromyoma which completely blocked the pelvis besides filling the abdomen. The patient was a young married woman three months pregnant She had become alarmed at her rapidly increasing abdominal girth. Operation took place on Dec. 20th. All the resources of surgery were needed to control the hæmorrhage after enucleation of the tumour. Chiefly on this account it was found impossible to preserve the uterus. The case was an example of a fibroid of such dimensions and so situated that neither delivery *per vias naturales* nor progression to full term was possible and early operation was the only safe line of procedure. In this instance recovery was rapid and complete.—In the discussion on these communications the **President** said that, while not criticising the three cases reported, in which the operations were done for definite and serious indications, he felt bound to express his strong opinion that operations in the case of fibroids complicating pregnancy were rarely called for and that myomectomy, which was occasionally urgently demanded in the case of very large, or impacted, or rotated tumours, was in relation to the frequent occurrence of this complication of pregnancy very rarely required and, as the cases exhibited that night showed, was attended by considerable risk. When practicable, the operation should be postponed till the child was viable.—Dr. F. H. **Champneys** entirely endorsed the remarks made by the President. He had himself had a long experience of pregnancies complicated by fibroids. It was true that in exceptional cases he had been compelled to adopt serious measures, such as Cæsarean section, but he had frequently been consulted in cases in which the presence of a fibroid had caused alarm to the medical practitioner, but, without any interference, the patients had borne, not one child, but a series, with perfect ease and safety. In his experience the cases requiring serious interference were extremely rare.—Dr. G. E. **Herman** agreed with the last speaker that the mortality of myomectomy in pregnancy, as quoted in the statistics mentioned by Dr. Swayne, was much too high. He narrated a case where he had enucleated a fibroid from a pregnant uterus and the woman was delivered six months later of a full-term child.—Dr. **Amand Routh** agreed with Dr. Swayne's statement that fibroids complicating pregnancy should not be interfered with unless producing urgent symptoms. Unfortunately, Dr. Swayne had quoted statistics, somewhat obsolete in date, tending to show that fibroids were so serious a complication of pregnancy that operations were frequently justifiable. Dr. Routh thought these statistics quite untrustworthy. He had collected statistics[1] showing that the maternal mortality of such cases under modern methods was only slightly in excess of the normal and that the danger to life was not so much due to risks during labour but to sepsis afterwards, for if the endometrium became infected a submucous or an intramural fibroid almost always became infected also. He showed that abortion did not more often occur where fibroids were present, though labour often ensued a few weeks before full time, and urged strongly that no operation should be performed till fœtal viability, unless absolutely essential, so as to save the two lives involved. He had only twice had to perform Cæsarean hysterectomy at or near full term and never at an earlier date, though he had seen many cases of fibroids blocking the pelvis in the early months. The fibroids in such cases almost increased power of dealing with the confirmed inebriate. —After some remarks by the President, Mr. Mark Robinson gave details of experimental work tending to show the destructive influence of small doses of alcohol on protoplasm and referred to the records of insurance companies as showing the vital as well as the economic value of abstinence. —Dr. M. G. Biggs spoke of the natural craving for stimulant and sedative as ineradicable and divided alcoholics etiologically into the two classes of "luxury" and "misery" drinkers. In his opinion it was impossible to prove that moderate doses did harm.—Dr. L. S. McManus gave instances to show that heredity was not a necessary factor, while Dr. S. R. Dyer held that among the criminal classes heredity was a distinct factor.—Dr. W. G. Dickinson said that in his experience a certain proportion of women alcoholics were curable.—Dr. D. M. Aitken found that among women alcoholics gynæcological cases were the most difficult to deal with.—Dr. V. Ryan gave an interesting description of his experience of the geographical distribution of alcoholism, instancing extraordinary methods of obtaining alcoholic stimulation which he had seen in Manchuria and South Africa.

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[1] Brit. Med. Jour., Oct. 3rd, 1903.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 6th, Mr. Richard Lake, the President, being in the chair.—Dr. Andrew Wylie read a paper on Foul Breath, its Causes, Pathology, and Treatment. He said that fœtor of the breath was purely subjective, entirely objective, or both. There were several different kinds of fœtor, such as the putrefactive, the sulphuretted hydrogen, the garlic, the sweetish, and the toxic types. Fœtor was classified according to the different regions responsible for its source, as diseases of the nose and accessory sinuses, nasal obstruction and growths, and naso-pharyngeal diseases, imperfect deglutination and carelessness in oral and dental hygiene, affections of the tongue and gums, caries of the teeth and imperfect dentures, diseases of the follicles of the tonsils, tuberculous, syphilitic, and malignant diseases of any part of the nose, pharynx, and larynx, if cartilage or bone was involved; suppuration of the middle ear, bronchiectasis and abscess of the lung, foreign bodies in any part of the upper air passages, gastro-intestinal diseases, and in paralytic patients. Fœtid breath was found more or less in spirit and beer drinkers, in smokers, in those who take certain drugs, and in those who follow certain occupations. Bacteria were the cause of the trouble and the treatment was to find the cause and to remove it, or at least to reduce the activity of the bacteria.—Mr. W. H. Bowen read a paper on Pneumococcal Otitis Media. He stated his opinion that the pneumococcus was the organism usually causing otitis media at any age. The occurrence of otitis during epidemic diseases was not considered. Special attention was called to the onset of otitis media after operation on the nose and naso-pharynx and the etiology was carefully considered. The sponging over the face with cold water was strongly condemned and the importance of avoiding draughts and keeping the patient warm was emphasised. The otorrhœa of babies up to 18 months was considered and the comforter was looked upon as the strong etiological factor, so much so that Mr. Bowen labelled it "comforter otitis media." It was pneumococcal and should be treated by cleansing the mouth in addition to local treatment to the ear. The paper finished with a consideration of the signs and symptoms of acute infection of the mastoid antrum and cells, which was practically always due to the pneumococcus.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 13th, Dr. J. Walker Downie, the President, being in the chair.—Dr. C. O. Hawthorne gave an address on the Cerebral and Ocular Complications of Anæmia and the Probable Relationship of these to Thrombosis. He referred to the occasional cases of chlorosis, in which such symptoms as stupor, coma, convulsions, various paralyses, and double optic neuritis appeared more or less suddenly, and he related some case records where evidences of cerebral disturbance were limited to double optic neuritis and ocular paralysis. As in a certain number of the more severe cases necropsy had proved the intracranial lesion to be thrombosis of the cerebral veins and sinuses, it was at least probable that the same con- [illegible] on w [illegible] of optic neuritis and ocular paralyses [illegible] as the sole unusual events in con- [illegible]. The position was made still [illegible] hat between the two groups above defined there were cases showing intermediate degrees of cerebral disturbance. Hence a graded series of cases might be traced from those leading to a fatal issue down to such relatively slight events as optic neuritis and ocular paralysis. From this position it seemed safe to claim that the optic neuritis which, without other complications, was at times found in chlorotic women (and the same might be said of an ocular paralysis) was probably dependent on thrombosis in the intracranial veins or sinuses. Further support for such a suggestion might be found in the occasional occurrence of optic neuritis in acute anæmia and in suppurative diseases of the middle ear, in both of which conditions sinus thrombosis was a distinct possibility. Another complication sometimes seen in chlorosis was contraction of the visual fields which might assume characters that demanded the diagnosis of an intracranial lesion and this might quite well be a thrombosis. Other examples of the range of thrombosis in anæmia might be seen in the occasional occurrence of retinal embolism and in some cases of retro-bulbar neuritis.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 20th, Dr. W. Langdon Brown, the President, being in the chair.—Dr. Harold Pritchard read a paper on Specific Inoculations. He defined a vaccine as a standardised emulsion of dead microbes in saline solution and indicated the lines of treatment for obtaining beneficial results. Treatment was concerned with the process of increasing protecting substances in the blood. He discussed natural and artificial immunisation with special reference to the administration of small doses of specific vaccines when inoculation was used. He alluded to Sir Almroth Wright's views on sera and their manner of production and discussed the opsonic theory. He emphasised the importance of using vaccines obtained from cultures of the specific organism infecting the patient and indicated the methods of preparing the vaccine. Vaccines were most useful in chronic cases such as acne, old boils, carbuncles, &c., but were not of much use in acute cases.—Mr. H. W. Armit, of the Lister Institute, who took part in the discussion, said that Wright's opsonic index method was particularly unsatisfactory and that opsonins were not specific substances. He considered that the important substances were the antibodies of Ehrlich. Possibly the best description of antibodies as produced by foreign protein material is that by Nichol. In treating chronic cases with vaccines it was best to start with a very low dose and to go on up to a very high dose.—Mr. W. Girling Ball said that during a course of vaccine treatment the value of the opsonic index could be disregarded. He related his experience of treating chronic cases of staphylococcic infection, chiefly boils and acne. He also alluded to the importance for each patient to have a vaccine prepared from his own organism. He originally injected 500,000,000 organisms once a fortnight but he now used 60,000,000 every four or five days.

PATHOLOGICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 11th, Dr. J. J. Cox being in the chair.—The meeting was devoted to a discussion on Rheumatoid Arthritis. In opening the discussion Dr. Cox pointed out that rheumatoid arthritis prevailed in this country to a considerable extent. Since 1883 up to the end of 1907 close upon 13,600 cases of the disease had been admitted to the Devonshire Hospital, Buxton, a yearly average of 566. Rheumatoid arthritis was held to be a specific morbid entity, due most probably to the action of some as yet unknown micro-organism, an auto-intoxication affecting individuals from very early years, much more common in females than in males, running an acute, subacute, or more insidiously chronic course, leading to progressive and often symmetrical degeneration of the joints and periarticular tissues, accompanied by general debility and associated with evidences of disturbance of the nervous system. The tendency of the disease was to become progressively worse, leading to much crippling and incurable deformity of the involved joints. It might begin as an independent affection or might be grafted upon other arthropathies, such as rheumatic, influenzal, or other bacterial conditions. Any profound disturbance of the general health might lead to its development. The treatment was unsatisfactory because the true causation was unknown. Dr. Cox suggested the establishment at the Devonshire Hospital of a research scholarship, the holder of which might by close study of the pathology, especially of the bacteriology of the disease, discover some means of proper and satisfactory treatment. This would be of national importance. The following took part illness there was always hope. It was only when the muscle did not react to either galvanic or faradic stimulation that the case could be regarded as hopeless.

Mr. A. H. TUBBY said that the intelligent anticipation of possible deformities from the disease was a most important part of the duty of the physician. He considered that the very first thing to do with a paralysed muscle was to relax it. Nerve grafting should be reserved for those cases in which neither all the muscle was paralysed nor all the irritability had disappeared.

Dr. L. G. GUTHRIE pointed out the drawbacks of taking the electrical reactions in a child. In those cases where the electrical reactions were found to be absent it did not follow that the reactions would not return.

Dr. F. E. BATTEN could not agree that galvanising should be recommended in the treatment of the disease. Where it was impossible to secure skilled massage they must educate the mother of the child to carry out the treatment and a considerable amount of good could be done by unskilled massage under proper instructions.

Mr. ROBERT JONES concurred with what Mr. Tubby had said and described some cases in which treatment by posture had been successful.

Dr. E. FARQUHAR BUZZARD said that they must not be content with the treatment applicable to those cases after the diagnosis had been made but must strive to discover some prophylactic measure.

Dr. F. J. POYNTON observed that the management of cases with limbs with isolated paralysed muscles was much more difficult than the management of those cases where the limb was generally wasted; in the last named the limb though it might be small was extremely useful afterwards.

After the PRESIDENT had pointed out that it was most desirable that the cause of the disease should be treated and had commented on the value of properly applied skilled massage,

Dr. RUSSELL replied.

SOCIETY OF ANÆSTHETISTS.

Spinal Anæsthesia.

A MEETING of this society was held on March 6th, Dr. R. J. PROBYN-WILLIAMS, the President, being in the chair.

Mr. H. PERCY DEAN read a paper on Spinal Anæsthesia. He referred to the rapid progress of this method on the continent, and pointed out that it was now four years since the discovery of stovaine by the French chemist Fournier, and that for three and a half years spinal anæsthesia with stovaine, novocaine, and similar bodies had been practised with very satisfactory results on a large scale abroad. Progress had not been nearly so rapid in this country, this being probably due to the conservative tendency of the English mind and to the generally excellent results of inhalation anæsthesia. In the great majority of cases the surgeon did not feel inclined to urge, nor did he feel justified in urging, a new method which, having the technique of spinal anæsthesia, was not free from the risk of what Paget had called "a surgical calamity." A layman interested in hospital work had objected that the sticking of a hollow needle into one's spinal column could not possibly be justified or compared with inhalation anæsthesia. Mr. Dean thought this objection of little weight if the effect on the lay mind were recalled of the first sight of a Clover's inhaler and other features of general anæsthesia. From his own experience he was convinced that in serious cases to which he had limited its employment the patient gained a great advantage, and he felt sure that the new method had come to stay and would gradually displace general anæsthesia in cases within its radius of action —viz., serious abdominal disease, injuries associated with shock, and operations accompanied by shock. Mr. Dean then considered the great advantages of the new method under the following headings. 1. The effect of spinal anæsthesia in preventing shock. He instanced two recent cases of his at the London Hospital which had impressed him with the remarkable freedom from surgical shock which the method conferred. 2. Certain grave abdominal diseases. He referred to grave general symptoms found in cases of peritonitis and intestinal obstruction. He had employed spinal anæsthesia in several cases of general septic peritonitis in which the typical symptoms of so-called peritonism were present. After the injection the patients had expressed themselves as feeling much better; indeed, one of the patients, a girl aged 16 years, volunteered the statement within seven minutes of the injection that she felt quite a different person. 3. Cases of general collapse in which a general anæsthetic would almost certainly have caused the death of the patient; cases in which there was general collapse of the heart and muscular system, together with general grave toxæmia. As a typical instance of this condition he mentioned a man, aged 52 years, admitted with a strangulated hernia of three days' duration. 4. Cases with marked bronchial and pulmonary symptoms. With spinal anæsthesia the condition of the chest was not affected. From his own experience Mr. Dean had come to the definite conclusion that it was the duty of the medical profession to give patients in any of these classes the advantage of spinal anæsthesia and that many lives would thereby be saved. In considering the important question, Should spinal anæsthesia be used as a routine method in all surgical cases? he quoted the experience of several patients who, having had general anæsthetics previously, all concurred in preferring spinal anæsthesia. Dealing with the statistics upon the subject Mr. Dean said that Dr. Gorton Thomas had collected over 5500 cases. Tuffier in Paris had used stovaine in 520 cases and with the exception of three cases in which it was necessary to repeat the dose had never failed to produce anæsthesia. Kummell reported 188 cases, in one-sixth of which he had failed to produce anæsthesia. The patients ranged from five to 60 years of age, 20 per cent. of cases showed some nausea during operation, and about 25 per cent. had headache after. Freund reported 209 cases, 87 per cent. good and 13 per cent. poor. Three-fourths of his cases were laparotomies. Deitz reported 360 cases treated with Billon's stovaine; there were 50 appendix operations, 11 gastro-enterostomies, one gastrectomy, one operation on the pancreas, and about 40 hernias. There were no deaths. Döderlin had 44 cases up to Jan. 1st, 1907, without a death. There was one failure to produce anæsthesia; some nausea during operation and post-operative headache in eight or nine cases; and in two cases there was slight muscular paralysis of the arm and neck lasting ten days. In Kroenig's clinique out of a series of 400 major gynæcological and abdominal operations a general anæsthetic was only given 35 times either at the request of the patient or the medical attendant. They used novocaine, alypin, tropacocaine, and stovaine and preferred the last. Tillmann had had perfect anæsthesia and no bad effects during or after operation. In a series of 500 laparotomies Kroenig had not encountered any complications of importance. Heineke and Lanekuren, after analysing 70 cases of novocaine and stovaine, came to the conclusion that after effects with novocaine were two and a half times more frequent than with stovaine. Mr. Dean himself had noticed less headache in recent cases in which he had used stovaine of a lower specific gravity than previously. He deliberately thought it was a very valuable method which would probably oust general anæsthetics in about five years.

Mr. A. L. FLEMMING asked whether Mr. Dean had used lumbar anæsthesia in Trendelenburg's position and what specific gravity he had employed; was it as low as 1·013?

Mr. H. W. ARMIT was interested to hear of Mr. Dean's success with stovaine. Some competent observers had reported failures, vomiting in 60 *per cent.*, and headache in 90 per cent. of cases. Mr. Armit then considered the various spinal anæsthetics from the pharmacological standpoint. Comparing their chemical constitution with their toxicity he found that cocaine contained two benzene rings, isopropionic acid, and several amino groups. Alypin only contained one benzene ring but was closely allied to cocaine in other ways and was found to be too toxic. Stovaine appeared to have advantages theoretically over the other two compounds and better clinical results bore out this consideration. Novocaine should be less toxic still but it appeared to be also less anæsthetic. Tropacaine theoretically should be the best of the series and Bier's and other German workers' experience confirmed this. Mr. Armit could not accept Kroenig's contention that varying the specific gravity determined at will the height of the anæsthesia.

Mr. L. H. MCGAVIN thought the method should be placed entirely in the hands of anæsthetists. He agreed with Mr. Dean that it would become the method of the future. There was no question that it did abolish shock. He had had no failures since he had given a second dose where one did not succeed. Mr. McGavin rather thought it caused tympanites. One of his patients vomited on the table. Most patients who had had chloroform previously preferred stovaine.

to all operating gynæcologists. The translation has been well carried out and the German text has been followed scrupulously.

Diagnosis of Organic Nervous Diseases. By CHRISTIAN A. HERTER, M.D., Professor of Pharmacology and Therapeutics at Columbia University, &c. Revised and enlarged by L. PIERCE CLARK, M.D., Visiting Neurologist to the Randall's Island Hospitals and Schools, New York, &c. London and New York: G. P. Putnam's Sons. 1907. Pp. 690. Price 12*s.* 6*d.* net.

THOUGH called elementary in character this book affords a very complete account of the diagnosis of nervous diseases. It opens with a chapter on the structure and functions of the nervous system which are considered in sufficient detail for the needs of the practical physician. Then follows a chapter on the symptomatology of nervous diseases, phenomena such as paralysis, contracture, convulsions, incoördination, and so forth, being considered in turn. Chapter III. deals with localisation of the lesion and Chapter IV. with recognition of the nature of the trouble. Chapter V. describes the different clinical types of disease and Chapter VI. deals with the diagnosis of organic from functional disorders. The seventh chapter is devoted to a description of the methods to be adopted for the examination of the patient, a subject which we should have expected to occupy an earlier position, as it is the basis of much that has preceded; and in the eighth and last chapter some illustrative cases are recorded as examples of the different maladies.

Our general impression of the book is distinctly favourable; it appears to have well merited the dignity of a second edition. The contents are clearly and well expressed and the information for the most part is accurate and up to date. The diagrams employed are useful and well adapted to illustrate the points desired, though one or two of the more ambitious illustrations from photographs are very poorly reproduced. The book should be useful to both students and practitioners who desire special guidance in the field of nervous disease.

Mental and Sick Nursing. By ROBERT JONES, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng. London: The Scientific Press, Limited. 1907. Pp. 222.

IN this text-book Dr. Robert Jones has attempted the difficult task of writing a manual which shall be of service both to medical men and to nurses working in asylums. To write both for the medical and for the lay reader usually results in the work being too simple for the one or too technical for the other, but in this instance Dr. Jones is to be congratulated on producing a volume which will appeal to both classes. The medical officer whose duty it is to lecture to the nursing staff will find many valuable hints and suggestions in this small work.

In the opening chapters the author briefly describes the various parts of the nervous system and the different organs of the body. He then passes on to discuss mind and its attributes which are also dealt with as briefly as possible. Chapter VIII. is a very instructive one and deals with instincts and habits. Passing on to the description of the various forms of insanity Dr. Jones refers to the different classifications of mental disorder but advises that the one based on the symptoms is the most practical one for the nurse.

The duties of the mental nurse are well described. We do not quite agree with the author when he recommends in certain cases "vigorous outdoor exercise" for the maniacal patient; for unless he means by this the chronic maniacal dement we feel that the day for such treatment is past, for the whole tendency of the present time is to give to all persons suffering from recent excitement prolonged rest, preferably out of doors.

The description of insomnia and its treatment is good and instructive. Perhaps the best part of the book is that devoted to the various methods of treatment, such as massage, electricity, baths, and physical exercises. The account of the daily routine of the nurse's duties in the asylum is also a useful one and has the advantage of being written by one who has had wide experience in asylum administration.

The book is simply written and avoids all controversial subjects which divide the various schools of psychiatry, and in this the author is wise, as it prevents unnecessary confusion in the nurse's mind. Blank pages are interleaved which the nurse will find useful for notes of any lectures which she may attend. There is an excellent introduction by Sir William J. Collins, M.P. Altogether this small manual may be safely recommended to all those whose duty it is to tend and to nurse the insane.

Practical Dairy Bacteriology. Prepared for the use of Students, Dairymen, and all Interested in the Problems of the Relation of Milk to Public Health. By H. W. CONN, Ph.D., Professor of Biology of Wesleyan University and Bacteriologist to the State Board of Health of Connecticut. Illustrated. London: Kegan Paul, Trench, Trübner, and Co. 1907. Pp. 314. Price 6*s.* 6*d.*

THERE are few public health problems which are of greater interest than those connected with the milk-supply of a community and especially at the present time when various health authorities are seeking fresh powers for the control of farms and dairies and when the Government has promised to introduce a Bill for the better safeguarding of the milk of this country. A work dealing with some of these problems, written by an acknowledged authority, is therefore peculiarly welcome.

The book now reviewed is addressed to two classes of readers: to those interested in the problems arising in the dairy proper and to those interested in the problem of the relation of milk bacteria to the public health—that is, to the producer, distributer, and consumer of the milk. It is intended, on the one hand, to remove the lack of information of health officers as to the conditions and possibilities of the dairy and farm and, on the other hand, to remove the similar ignorance of the dairyman as to the necessities and demands of the public and thus to avoid the friction which is liable to arise between the producer and the inspector of the milk owing to a lack of comprehension of each other's difficulties. The author does not deal directly with administration but supplies information on which administrative action may be based. This is perhaps fortunate, for specific administrative regulations could hardly fail to be viewed from the standpoint of American conditions which differ widely from those of England.

When once the necessity of a pure and wholesome milk-supply is thoroughly realised, to satisfy these requirements is, as the author says, purely a matter of cost. It is here, however, that practical difficulties arise in avoiding on the one hand the ruin of the farmer and on the other such an increase in the cost of the purer milk that it may not be out of reach of the children of the poor. The improvement in the quality of the milk will of necessity be accompanied by some increase of the price. Already it is possible to get milk to which no exception can be taken but at a cost considerably greater than the average market price. There is no doubt, however, that much improvement might be effected without serious increase in the cost of production by the exercise of greater knowledge and intelligence on the part of the farmer and the dairyman and it is the aim of this book to supply the knowledge which would help to effect the desired improvement. One of the most interesting sections of the book deals with the value of the trained dairyman and it is shown that such a man will with the same apparatus and under the same conditions obtain milk containing only no reason for supposing the student to become suddenly susceptible to the precepts of surgical cleanliness by mere removal from the dissecting-room; and this surgical superstition was detrimental to the education of the student, both before and after qualification, and was further to the disadvantage of the patient both of the present and the future and reduced the surgeon's education towards the mechanic's grade. He hoped that those responsible for the surgical teaching of medical students and for the progress of their own surgical attainments would consider the matter in the light of common-sense rather than of sentiment. He made no attack on the methods of chemical surgical asepsis; he merely asked surgeons to have faith in the efficacy of their methods.—Mr. H. LITTLEWOOD said he felt inclined to agree with Dr. Grünbaum and welcomed his suggestions—Mr. R. LAWFORD KNAGGS, Mr. J. F. DOBSON, Mr. H. COLLINSON, Mr. H. DE C. WOODCOCK, and Dr. A. BRONNER also discussed the paper.—Dr. GRÜNBAUM replied.

Dr. L. A. ROWDEN showed a series of lantern slides illustrating the Diagnostic Uses of the X Rays.

Dr. A. L. WHITEHEAD showed Leber's apparatus for Transillumination of the Eyeball. The presence and extent of an intra-ocular sarcoma causing detachment of the retina without symptoms were demonstrated. A case of glaucoma with secondary cataract preventing an examination of the fundus was also shown. The absence of any growth within the eyeball was demonstrated, indicating that the glaucoma was of the simple primary form and not secondary to an intra-ocular tumour.

The PRESIDENT showed a specimen of about 1½ inches of Bone excised from the middle of the left clavicle five months after fracture to relieve pressure on the brachial plexus. The operation was successful.

Mr. DOBSON showed: 1. A patient from whom a Popliteal Aneurysm had been excised, together with the specimen. The popliteal vein was so firmly adherent to the sac of the aneurysm that it was necessary to divide it. The patient recovered without any embarrassment of the circulation. 2. A case in which Perforation of a Tuberculous Ulcer of the Ileum occurred with diffuse peritonitis and extensive disease of the mesenteric glands and adhesions of coils of intestine. The perforation was closed by suture, recovery ensuing.

Dr. J. STEWART showed a specimen containing 13 distinct Fibroids massed together which was removed from a patient, aged 45 years. She had retention of urine for ten days and obstruction of the bowels, vomiting, constipation, &c. Albumin was present in the urine. There was a mass impacted in the pelvis dissecting up the left broad ligament and firmly attached to the rectum. The patient made an uninterrupted recovery.

Mr. LITTLEWOOD showed a Kidney with Malignant Disease from a child nine months old.

Dr. W. H. MAXWELL TELLING showed a specimen of Dissecting Aneurysm of the Arch of the Aorta, causing death by rupture into the pericardium. There was a tear an inch long due to atheroma at the junction of the transverse and ascending portions of the arch. The aneurysm extended to the commencement of the thoracic aorta and four or five inches up the neck.

Mr. WOODCOCK showed a case of Myxo-sarcomata apparently primary in the breast. The interest in the case was in the very wide distribution of secondary subcutaneous nodules—present everywhere except in the limbs.

Cases and specimens were also shown by Dr. BRONNER, Dr. T. WARDROP GRIFFITH, Mr. LAWFORD KNAGGS, and Mr. B. G. A. MOYNIHAN.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Etiology of Plague in India.

A MEETING of this society was held on March 18th, Dr. JAMES RITCHIE, the President, being in the chair.

Lieutenant-Colonel W. B. BANNERMAN, director of the Bombay Bacteriological Laboratory, gave an account of "Recent Researches into the Etiology of Plague in India, with an account of the work of the recent Plague Commission appointed by the Government of India, whereby it is shown that the *rat flea is the cause of plague epidemics in that country*." After enumerating the *personnel* of the Commission he stated that Dr. C. J. Martin, director of the Lister Institute, satisfied himself that at Bombay only could the work of investigation be properly carried out. The present outbreak of plague in India commenced in the autumn of 1896. It was known that in the remote valleys of the Himalayas the disease was often present in sporadic form but it was regarded as an antiquarian curiosity and as one banished from the civilised country of Hindustan. A warning had been issued to the Government medical officers in the Madras Presidency to be on the outlook for plague as it had broken out in epidemic form in 1894 in China. Within a fortnight of the outbreak of the disease in India Mr. Haffkine was sent from Calcutta to Bombay and a committee of local medical men was convened to consider what should be done. It was soon seen that two types of the disease occurred—viz., the pneumonic, which was very contagious, and the bubonic and septicæmic, which was not communicated from one person to another. The hospital attendants or friends of the patients did not contract the disease unless a pneumonic case had occurred in the wards. Major Thomson even went the length of stating that one of the safest places during an epidemic of plague was the ward of a sanitary plague hospital, something more than mere contagion being necessary to develop the disease. The seasonal prevalence of the disease at different times soon became manifest. Thus the epidemic was present in Bombay during the early months of the year, while at Poona, only 80 miles distant, it was only prevalent during the autumn. As years passed it became noticeable that huts or houses became infected with plague and remained so even after the inhabitants had fled. Such rooms were found or suspected to be most dangerous at night. Cases of infection in health camps were traced to surreptitious visits paid to infected villages during the night; also after heavy rain which drove the people from the flimsy huts to their former abodes there were frequently outbursts of plague. Even empty houses became infective during the absence of their owners. The whole evidence went to prove that man-to-man infection was not the cause of the spread of plague. Very soon after the outbreak of plague in India commenced overwhelming evidence showed that the disease was due to rats. It was early noticed that houses in close proximity became infective, though their inhabitants, owing to caste or other prejudice, had no connexion with one another. In some of these cases rat-holes were found to communicate with different houses, or the house rats of India had easy access to dwellings through the flimsy roofs The epizootic preceded the epidemic and dead rats were looked upon as precursors of plague. The rule was, "When dead rats were seen clear out or be inoculated." Was the rat wholly responsible however? It was a common belief in India that infected clothes might spread plague both to men and to rats. Thus isolated villages previously free from plague became the seat of it on the importation of infected clothing into them. In such cases the disease first appeared amongst the rats and later amongst the inhabitants. Human beings were the carriers of infection into new areas remote from the focus of disease, but within towns and villages the case was far otherwise, rats being the means of dissemination. In India, Simond of the Pasteur Institute was the first to suggest that the flea was the carrier of the disease and was able to infect a healthy rat from a diseased one though actual contact was carefully avoided. The first plague commission, however, concluded "that suctorial insects do not come under consideration in connexion with the spread of plague." Captain W. Glen Liston, I.M.S., however, worked at this theory and by the time that the second plague commission arrived had been able to place the despised hypothesis in a new light. Two species of rats were found in Bombay: 1. Mus rattus, which was so tame that it has a place in India corresponding to the domestic cat of this country, living in every room and breeding in drawers or cupboards. 200 of these might be found dead in a single house. 2. Mus decumanus. This was not, strictly speaking, a house rat but burrowed in the ground and was found in thousands in the empty rain water drains and sewers. The latter variety was attacked at an earlier period and was more severely affected by plague than was the former. Infection to the human being was much more frequent from the mus rattus. Captain Liston found that the fleas of rats belonged to a different species from those of man. The common rat flea was the pulex cheopis and in the absence of rats this flea took to other animals and even to man. In March, 1903, the guinea-pigs in the Zoological Gardens in Bombay were attacked by plague and the animals sick or dead from the disease were found to be infested with fleas, reminiscent of the efforts of Silas Wegg. There is so much that is good in this little book that it is sure to run to a second edition, when we hope that some of the features of the last seven pages may be carefully revised or even omitted. Furniture polish and a cough mixture seem rather out of place amongst articles calculated to whet the appetite. But after all charity covers a multitude of sins, and the charitable object of this book encourages us to dwell rather on the general value than to seek for minor blemishes.

Merck's 1907 Index. Third edition.—This index is by no means a mere commercial compilation; it is really a valuable pharmaceutical encyclopædia giving the names and synonyms, formulæ, physical constants, solubilities, physiological effects, doses, and so forth of the chemicals and drugs used in medicine. We have found it to be a very useful source of reference for information in regard to more or less rare or novel drugs and allied preparations.

Thermo chemistry. By JULIUS THOMSEN, Emeritus Professor of Chemistry in the University of Copenhagen. Translated from the Danish by KATHARINE A. BURKE, B.Sc. Lond. London: Longmans, Green, and Co. 1908 Pp. 495. Price 9*s.*—Of recent years the study of thermochemistry has proceeded apace and results have been gained which have considerably developed our knowledge of the nature of chemical change. There has been no more ardent or successful worker in the field than Professor Thomsen of the University of Copenhagen, and the gratitude of all English students of chemical science is due to the translator of the volume before us for putting before them in clear terms the results of his labours and his views. His researches extended over a period of 20 years and the results were published during the years 1882 to 1886 in a four-volume work entitled "Thermo chemische Untersuchungen." The present work renders these results more accessible. As the translator points out, since the fourth volume of the original work was published in 1886 the conception of ionisation has been introduced into chemistry and therefore many of the statements which Professor Thomsen made are now generally interpreted by the light of that theory. This, however, does not detract from the value of the original work and "most of the numerical relationships shown by Professor Thomsen are independent of theory." The book is divided into four parts, the formation and properties of aqueous solutions being considered first, then the compounds of non-metals, next the compounds of metals with non-metals, and finally organic substances. Some idea of the complex machinery which the investigation of thermo-chemical problems involves may be gained from a drawing of the apparatus used for measuring the heat of formation of hydrogen chloride on page 190. The book may safely be assigned the position of a standard work on the subject.

Reminiscences. By GEORGE SAUNDERS, C.B., M.D. St. And., Deputy Inspector-General of Hospitals. London: James Nisbet and Co., Limited. 1907. Pp. 93. Price 1*s.* net.—Last week we recorded the latest honour which has been paid to the heroine of the Crimean war and we have now the opportunity of noticing the services to humanity which were given by another worker in that campaign of evil memory. Dr. Saunders, who was then surgeon to the 47th, and subsequently promoted staff-surgeon, well bore his share in a heart-breaking task and has some fresh tales to add to the horrible record of mismanagement in the Crimea. He subsequently was stationed at the Cape, and later in Asia, at Hong-Kong and Yokohama, where his work won the notice of the home Government. Of all these places Dr. Saunders has chatty reminiscences but his object in publishing them is that he may clearly testify in his eighty-fifth year to the faith that is in him. Very early in his professional career he became imbued with profound religious convictions and has since used constant efforts to impart to others the spiritual comfort which they have afforded him. In the army he became a notable evangelist, a voluntary work which must often have needed not a little moral courage, and when he retired from the service in 1871 he devoted himself to medical mission work amongst the poor, first in Liverpool and then in London, where he became the founder of the London Medical Mission.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

SYNTHETIC CAMPHOR (SCHERING).

(A. AND M. ZIMMERMANN, 3, LLOYD'S-AVENUE, LONDON, E.C.)

THIS beautifully white crystalline product represents a triumph of synthetic-chemistry. It is stated on very good authority that synthetic camphor is identical in its constitution and action with the natural product and that it can be employed for therapeutic purposes in exactly the same manner. Synthetic camphor, although it is only very slightly different from the natural product as regards its optical behaviour, yet is identical in all other physical and chemical properties.

SELF-RAISING FLOUR.

(SYDNEY W. BUSH AND SON, BATH)

An examination under the microscope as well as a simple chemical test sufficed to explain how this flour is "self-raising." It contains a small quantity of ingredients which interact on moistening, disengaging carbonic acid gas. The flour is of good quality and serves as an excellent material for the preparation of bread and pastry. From the quantity of mineral matter and proteins present it is evident that the flour contained the maximum amount of cereal nutritives.

CLOPIA (TEA).

(THE AGENT-GENERAL FOR THE CAPE OF GOOD HOPE, 98, VICTORIA-STREET, WESTMINSTER, LONDON, S.W.)

We are informed by the Trades Commissioner for the Cape of Good Hope that clopia, which is gathered from a bush growing wild in Cape Colony, is used as a substitute for tea. It is further stated that it has been found of value in cases of dyspepsia and rheumatism and by those with whom ordinary tea disagrees. We have submitted clopia to careful examination but we were not able to detect any alkaloid present. It yields some oil on suitable extraction and on treatment with boiling water a clear fluid having a colour like tea. On evaporation of this fluid a gummy residue is obtained amounting to 16·0 per cent. The mineral matter was 2·0 per cent. and contained alkaline salts. The protein amounted to 6·17 per cent. We have no knowledge of its use in practice but it is stated that clopia is liked in the colony and has been used with benefit according to the testimony of medical men there. It occurs in the form of needle-like spines of a brownish colour.

CARLSBAD SALTS AND WATERS.

(SOLE AGENTS: INGRAM AND ROYLE, LIMITED, EAST PAUL'S WHARF, 26, UPPER THAMES-STREET, LONDON, E.C.)

A point in distinct favour of the Carlsbad waters, or of the salts obtained by the evaporation of the waters, is that they show a constancy of composition which is of importance from the therapeutic point of view. We have examined the waters of Carlsbad and the salts more than once and on making a recent analysis the quantity of salts present showed little, if any, variation. The natural Carlsbad Sprudel salt is supplied in two forms, one a fine dry powder and the other in a crystallised state—that is to say, containing water of crystallisation. Of course, the quantity of salt in the dry powder it might infect rats in the new locality. The general conclusions were: (1) pneumonic plague was highly contagious, but being rare (less than 3 per cent. of all cases) played a very small part in the spread of the disease; (2) bubonic plague in man was not infectious and was entirely dependent on the disease in the rat; (3) the infection was conveyed from rat to rat and from rat to man solely by means of the rat flea; (4) a large majority of cases of plague occurred singly in houses, but where more than one case occurred in a room the attacks were usually nearly simultaneous; and (5) plague was usually conveyed from place to place by rat fleas brought by people in their baggage or on their persons.

Sir **THOMAS R. FRASER** desired to convey thanks to the whole of the Indian Medical Service for the good work which they had done and were doing. The duty of the first plague commission was to focus the then existing knowledge, but it did not embark on any scientific work. He alluded to the grossly insanitary conditions of the native houses which favoured the multiplication of rats and consequently of their parasites. He thought it would be well-nigh impossible to exterminate either rats or their fleas in India. Sir Thomas Fraser alluded to the marked immunity to the disease enjoyed by Europeans and stated that this was due to their better houses; even when attacked their mortality was only 22, as contrasted with from 90 to 98 per cent. of the natives. In the Glasgow epidemic of 1900 the disease was confined to the slums and rats were abundantly affected. The case mortality in Glasgow was about the same as it was in Europeans in India. The rat epidemic persisted for 18 months after the last case of plague in a human being had occurred in Glasgow.

Sir **ALEXANDER RUSSELL SIMPSON** and Dr. **ALLAN JAMIESON** took part in the discussion and Lieutenant-Colonel **BANNERMAN** replied.

Major **D. G. MARSHALL**, I.M.S. (retired), and Dr. **G. LOVELL GULLAND** described a case of Kala-Azar which had recently proved fatal in Edinburgh.

EDINBURGH OBSTETRICAL SOCIETY.

Transmission from the Mother to the Fœtus.—Frozen Sections.—The Operative Treatment of Displacements.

A MEETING of this society was held on March 11th, Professor **W. STEPHENSON** (Aberdeen), the President, being in the chair.

Dr. **JAMES LOCHEAD** read a paper on the Transmission of Nitrogenous Compounds from the Mother to the Fœtus. He said that experimental results showed an absence of altered proteins such as albumoses and peptone in the freshly obtained placenta of the sheep and an absence of any extracellular proteolytic ferment. Hence the placental action was not, as had been stated, analogous to that of the intestine. By the precipitin test egg albumin was shown to pass from the mother to the fœtus unchanged while ox serum did not. It was probable that the normal serum proteins also did not pass across the placenta as through a sieve but were transformed there and elaborated into products necessary for the growth of the fœtal tissues.

Dr. **A. H. FREELAND BARBOUR** read a paper on the Frozen Sections by Bumm and Blumreich and by Zangemeister, bearing on the question of the existence of a lower uterine segment. After a historical survey of the work done by means of frozen sections on the lower uterine segment during the last 30 years, Dr. Barbour proceeded to criticise the position taken up by Bumm and Blumreich as a result of their examination of frozen sections of the body of a primipara, aged 39 years, who died during the second stage of labour. Their views were that the so-called lower uterine segment was really formed by the stretched cervix and that the retraction ring was formed at the os internum, this being confirmed by microscopic examination. They therefore concluded that Barbour was wrong in the interpretation of his section published in 1890, that what he called stretched uterine wall was really stretched cervix, and that the membranes over this area, described as partly adhering and partly detached, were artificially adherent as the result of the freezing. In controverting this, Dr. Barbour pointed out that in Bumm and Blumreich's section the cervix posteriorly was 3·7 inches in length, as against 1·3 inches in his own, and that there was a corresponding difference in the thickness from 1 to 2 millimetres as against 4½ millimetres. He exhibited micro-photographs from his own case showing quite clearly that the decidua and chorion were actually growing on area between the retraction ring and the upper limit of t cervix as determined by the presence of typical cervi glands in the area in question. He attributed differences in the two sections to the different ages of patients and to probable differences in the amount of openin up of the cervix before labour began. Finally, he the lower uterine segment as "that part of the uterus must be converted into a canal so as to allow the fœtus pass." This corresponded to rather less than a fourth of total cavity of the uterus. This part of the uterus might pressure of its contents have its muscular bundles opened so that it contracted less efficiently when labour set Whether the retraction ring formed at the os internum, as i did in some cases, or higher up would depend on the c tractile efficiency of the musculature. The section y Zangemeister was from a case of rupture of the uterus. As the sections were coronal the peritoneal relations were well seen, the greater part of the rupture being lateral extra-peritoneal; the peritoneum was torn through only for a small area posteriorly.

Dr. **W. E. FOTHERGILL** (Manchester) read a paper on the Operative Treatment of Downward and Backward Displacements. The pelvic viscera, he considered, were mainly supported by the denser portions of the parametric, paravaginal, and paravesical connective tissue; in other words, by the sheath of the blood-vessels and the lymphatics of the uterus, vagina, and bladder. The one constant and essential factor in the causation of prolapse was relaxation and elongation of these perivascular sheaths. Insufficiency of the pelvic diaphragm and perineum, increased intra-abdominal pressure, and increased weight of the uterus were mere separable accidents which did not occur in all cases of prolapse. Relaxation of the whole lateral mass of perivascular tissue caused classical prolapse, but relaxation of the lower portion alone produced cystocele and vaginal prolapse, while relaxation of the parametrium alone permitted the occurrence of pure retroversion. The ideal surgical treatment of prolapse would be shortening of the whole lateral mass of perivascular tissue, but the best that could actually be done in this direction was the performance of anterior colporrhaphy in such a manner as to bring together in the middle line behind the bladder and in front of the cervix and vagina the tissues which previously lay at the sides of the cervix and vagina. As a uterus which had once been loosened would always be loose, this measure should be supplemented by posterior colporrhaphy and perineorrhaphy. In the worst cases ventro-fixation should also be done in such a manner as to secure firm union between the anterior surface of the uterus and the posterior surface of the recti. Peritoneal adhesions were inefficient for this purpose, as were all operations depending upon the use of the round ligaments. These operations, however, were suitable for those cases of retroversion, uncomplicated by prolapse, in which operative treatment was required.—Sir **J. HALLIDAY CROOM**, Sir **A. R. SIMPSON**, Dr. **R. P. RANKEN LYLE**, and Dr. **BARBOUR** took part in the discussion.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society was held at Bolingbroke Hospital on March 11th, Dr. A. Dumville Roe, the President, being in the chair.—Dr. T. N. Kelynack read a paper on Recent Researches Regarding the Pathology of Alcoholism. Alcoholism, he said, was a many-sided medicosociological problem into which investigation was being made in many varied methods but only strictly logical and scientific methods were of any value. Dealing with the evolution of the alcoholic, he mentioned the view of Dr. G. Archdall Reid that the human desire for stimulant is innate; the theory of the presence of "hormones" in the blood; that natural selection tends to the elimination of the alcoholic. The rôle of heredity in the causation of alcoholism was discussed, it being held that it was indisputably established that the offspring of the alcoholic were lacking in the elements which make for sound mental balance and vigorous bodily life, and Dr. F. W. Mott's conclusions on the interdependence of alcohol and insanity being quoted. The effect of environment was next considered and Dr. Kelynack briefly reviewed the laboratory work of Kraepelin, Mott, and others, offering some suggestive lines on which family practitioners might investigate the causes which conduce to alcoholism and the relationships between it and other diseases. The chief measure of prevention lay in the education of the child and next in importance was an

THE LANCET.

LONDON: SATURDAY, MARCH 28, 1908.

The Humane Slaughtering of Animals.

A CIRCULAR which is dated March 20th has been issued by the Local Government Board on the humane slaughtering of animals. It is addressed to the councils of boroughs and of urban and rural districts, and calls their attention to certain recommendations made by the committee appointed by the Admiralty to investigate this matter. These recommendations were published in 1904 and, recognising their importance, the Admiralty built at the dockyards of Chatham a model slaughter-house where the advice given is actually put into practice. Apparently, however, this example has not been of much service, since to-day these facts have to be recalled by the circular which the Local Government Board has sent to the local authorities. It is, indeed, somewhat discouraging to find that, in spite of all that has been written and said during the last three years concerning the dangerous and unsatisfactory condition of the meat-supply in this country, so few improvements have been effected. The circular now before us deals only with the question of humane slaughtering, though in actual practice public health and the kind and considerate treatment of animals are inevitably and intimately associated. The abolition of private slaughter-houses is desirable because they cannot be efficiently inspected and diseased meat is therefore less likely to be discovered, seized, and destroyed, whilst cruelty is less likely to be observed and checked. Thus the two interests, the claims of humanity and the claims of hygiene, go hand in hand.

There is, however, a difficulty—an important point where the two interests may fail to harmonise. From the sanitary point of view, which means the securing of ample room, light, air, and cleanliness, and the greatest possible facilities for inspection and control, the slaughter-hall is preferred to small and separate compartments. All the model abattoirs are built on this principle and not only is sanitation in every respect more easily maintained but the cruel treatment of any animal can at once be seen. This, of course, cannot be the case where there are only small private slaughter-houses in different parts of the town or even where a large public abattoir is divided up into small slaughter-chambers. But the circular raises a difficulty, for it says that the animals about to be killed must not see into the slaughter-house. In that case the slaughter-hall would cease to be a place for slaughter, and this is the actual condition of things at the model abattoir built in the Chatham dockyards. At Chatham the animals are brought to a place just outside the walls of the great hall. Here they are felled and then only is a sliding door opened and with the aid of ropes and pulleys the carcass is promptly drawn into the large hall. But the number of cattle killed there is very small and it would not be possible to kill more than two horned animals at the same time. If, however, it was necessary to kill 20 or 30 cattle at the same time, an equal number of sliding doors and pulley arrangements would be required and this might prove somewhat complicated. As a rule the animal is killed on the spot where its carcass is to be cut open and converted into meat. But when this is done in a large slaughter-hall the animals must see something of what is going on around them. Yet the circular says that the animals should, as far as possible, not be placed in contact with the sights and smells of the slaughter-house. Certainly, the waiting pens where the cattle are resting, perhaps for some days, should be well away from any smell or sight of blood, hides, offal, or anything likely to cause alarm. But at the last moment, in what are considered the best abattoirs in the world, the animals are killed in the slaughter-hall itself and not outside. The Admiralty committee in its report, and the passage is quoted in the Local Government Board circular, says: "There is no point which the committee have more carefully investigated than the question as to whether animals do or do not suffer fear from this contact, and the evidence of those best qualified to judge is so conflicting that no absolute verdict can be given." The report adds that the cattle frequently show great reluctance to enter the slaughter-chamber. Undoubtedly this is so where there is a ghastly display of blood, offal, and carcasses. But in a model slaughter-hall the blood is washed away as fast as it is spilt and the whole place is so light, bright, fresh, and clean that the animals are not so likely to be alarmed, and we are not aware that any complaints have been made on this score. On the other hand, the advantages of the large slaughter-hall system are so positive in every other respect that it would be regrettable if the effect of the circular just issued was to delay the construction of abattoirs on the ground that animals brought into a large slaughter-hall cannot be prevented from seeing each other. At the same time, short of delaying reform that is urgently needed, it would be an excellent thing to give the animals, as suggested in the circular, the advantage of the doubt and to slaughter them outside the walls of the great hall, as is actually done at Chatham.

Wherever the animals are killed, it is absolutely imperative if there is to be no cruelty that none but well-trained and highly skilled slaughterers should be allowed to kill. That is another reason for abolishing private slaughter-houses and concentrating the whole business in a public abattoir. Therefore, and very properly, the circular urges that "none but licensed men shall be employed in or about slaughter-houses," and we are of opinion that such licences should be withdrawn in the event of the holders being found guilty of negligence or cruelty. At present there is no law by which local authorities can prohibit a person who does not hold a licence from slaughtering. But, of course, if there was a public abattoir the authorities could refuse to employ unskilled and unqualified slaughterers. In this country, moreover, the examination of the meat put on the market is not at present carried out with anything like the care and thoroughness which are exercised in Germany. The public abattoirs in England, as in Germany, should therefore be utilised as theoretical and in the discussion: Dr. Braithwaite, Dr. E. N. Cunliffe, Dr. F. Craven Moore, Dr. E. S. Reynolds, Professor J. Lorrain Smith, Dr. Thompson, and Dr. A. T. Wilkinson.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 18th, Dr. A. Fulton being in the chair.—Dr. A. O. Reid showed a man, aged 32 years, who had come under notice two years previously with a large Tumour occupying nearly the whole area of the upper half of the abdomen and with dyspeptic symptoms. No satisfactory diagnosis had as yet been arrived at.—Mr. W. M. Willis showed a woman, aged 61 years, with a large Cystic Swelling in one breast, first noticed eight or nine months ago.—Dr. F. H. Jacob opened a discussion on the Feeding of Infants. After tracing the digestive difficulties which might arise in breast-fed babies Dr. Jacob dealt with some of the problems which had to be met in artificial feeding. Vomiting often arose from the curd of cow's milk but might on the other hand be due to an excess of fat. Some children did not thrive until they were given mercury, and warmth was important for all. When cow's milk did not agree with a child it was an interesting problem as to what other food should be tried in its place. Another question open to discussion was how soon starchy food might be begun, and the same applied to eggs. The broad lines of diet in infantile diseases were also sketched.—The discussion was continued by Dr. Fulton, Dr. W. Tibbles, Dr. J. S. Bolton, Dr. J. H. Thompson, Dr. J. Watson, Mr. R. E. P. Squibbs, Mr. A. R. Tweedie, Dr. J. W. Scott, Mr. T. Geraty, Mr. C. J. S. Dismorr, Dr. W. O. O. Kirkwood, Dr. A. J. Sharp, and Dr. J. A. O. Briggs, and Dr. Jacob replied.

Reviews and Notices of Books

Pathology, General and Special, for Students of Medicine. By R. TANNER HEWLETT, M.D. Lond., F.R.C.P. Lond., D.P.H. R.O.P.S. Lond., Professor of General Pathology and Bacteriology in King's College, London; Lecturer on Bacteriology, London School of Tropical Medicine; Physician to the Seamen's Hospital, Greenwich; Examiner in Pathology, University of Aberdeen; Examiner in Tropical Medicine, University of London. Second edition. London: J. and A. Churchill. 1907. Pp. 585. Price 10*s*. 6*d*. net.

THE appearance of a second edition of Professor Hewlett's book on pathology within a year of the issue of the first shows that it has met with the recognition which it deserves. As a convenient short handbook of the subject it supplies a distinct want. A great deal of recent work is succinctly summarised and incorporated, and, as we pointed out in our review of the first edition, it is surprising how much information is included within so small compass and yet in a form easy to grasp. Professor Hewlett is especially to be commended for the clear way in which he discusses matters which are controversial and for the impartial manner in which he presents theories and criticises them.

In general outline the present edition conforms to that of the previous one but certain additions have been made, notably in the section dealing with heredity, in which some reference is made to the principles of Mendelism. The chapter on neoplasms has also been extended and forms a very clear summary of the general features of new growths. The discussion of the etiology of tumours is clear and affords a valuable *résumé* of the various views current on this subject. Arterio-sclerosis also is considered in greater detail in this edition and reference is made to recent work on the experimental production of arterio-sclerosis. Medial sclerosis of the Moenckeberg type is differentiated from atheroma which is defined as "a localised, patchy, fibro-plastic infiltration of the intima," and this in turn is separated from diffuse intimal sclerosis. Additions have also been made to the sections dealing with the degenerations and infiltrations and to those devoted to inflammation, the infections, and the heart. The chapter on the pathology of the female generative organs has been practically rewritten by Dr. Frank E. Taylor and contains short accounts of the various morbid conditions which are usually met with in these organs. A section is devoted to the toxæmia of pregnancy and this, though brief, is to the point.

The consideration of the special pathology of the various systems and organs is not as full as that of the principles of general pathology, although in most cases the accounts given are thoroughly practical and intelligible; in a few, however, there is little more than an enumeration of the various morbid conditions with brief explanatory notes, but in these, as a rule, the conditions have been described under the general description of the morbid processes.

We are of opinion that Professor Hewlett's book is a useful manual for those wishing to obtain a critical presentation of the state of our knowledge in regard to the pathology of disease in convenient form. The book is well produced and is illustrated by a number of reproductions of microphotographs principally of microscopical specimens.

The Technique of Vagino-peritoneal Operations. By Professor E. WERTHEIM and Dr. TH. MICHOLITSCH. Translated into English by CUTHBERT LOCKYER, M.D., B.S. Lond., M.R.C.P. Lond., F.R.C.S. Eng. With 138 illustrations. London: Macmillan and Co., Limited. 1907. Pp. 323. Price 25*s* net.

THERE can be no question that some of the most difficult operations in gynæcological surgery are those which are undertaken through the vagina. The difficulty of obtaining free access to the field of operation and the small space often in which the necessary manipulations have to be carried out may render these operations extremely difficult and tedious. This manual by Professor Wertheim and Dr. Th. Micholitsch is the only systematic work which has appeared on this subject and Dr. Cuthbert Lockyer has conferred a considerable benefit upon English gynæcologists by undertaking its translation. The book, we need hardly inform our readers, is an exceedingly good one and is well worthy of the very high reputation of its authors. The illustrations are admirable and the descriptions appended are concise, clear, and trustworthy. The figures are from photographs taken from the cadaver after splitting the symphysis pubis so as to render the field of operation readily accessible for photography. This must be remembered by the young surgeon who consults the book, since on looking at the pictures many of these operations appear to be very easy and to entail no great amount of manual dexterity; whereas on the living subject this is often far from being the case, and it is necessary, therefore, for the reader not to be misled by the clearness of the drawings. The manner in which the various operations have been shown on the cadaver is most ingenious and must have entailed a considerable amount of trouble.

The directions given as to the best manner of carrying out the different procedures are extremely good and the successive steps to each are described in detail. All the operations which can be carried out through the vagina and which involve opening the peritoneal cavity are discussed in turn and no one could help receiving much information and many useful hints from a study of this work. The main principles to be followed are clearly set out and we notice amongst others that the great advantage of always opening the anterior fornix of the vagina rather than the posterior is laid stress upon. There can be no doubt as to the truth of the authors' statement that in this way all the pelvic structures, even those lying behind the uterus, can be best reached and dealt with most readily.

With the reservation we have made—namely, that the reader must remember carefully that the symphysis pubis has been split and that the photographs have been made up, so to speak—this work should prove of the greatest assistance defective) with short and repeated terms of imprisonment as the only means of dealing with them. If any English statute gave the State power to deal properly with these persons much might be said for insistence upon the work being carried out by the central authority; but Parliament saw fit to lay equal onus upon State and local funds and the action of the London County Council in practically refusing to make adequate provision for the inebriates in its jurisdiction is blocking the progress of a movement which has been demanded by experience, science, and humanity. This action of the Council, in regard to London inebriates, certainly saves something like £6000 a year in cash, but the economy is only on the surface as everyone who knows what is the cost to the community of dealing with drunkards upon the old-fashioned lines is perfectly aware. It is to be hoped that some compromise may be effected or some argument be brought to bear upon the London County Council before the inevitable evils of its action begin to be felt.

The Degree of Personal Communicability of Pulmonary Tuberculosis.

THE problems involved in the etiology and modes of infection of pulmonary tuberculosis are of such complexity and of so debateable a character that, in spite of the most assiduous and critical attention which has been devoted to them from very various standpoints by many painstaking observers, they are exceedingly difficult to solve and at the present time great confusion exists in regard to many of them. Apart from the question of the channels of infection, whether preponderatingly alimentary or respiratory, which has received so much notice within recent years, one of the most vexed of these problems is that concerned with the determination of the degree of infectiousness of pulmonary tuberculosis from person to person. The question is one of the greatest practical importance from the point of view of preventive measures directed to lessening the incidence of that disease and also from that of the attitude of the public generally towards the consumptive person. We have on more than one occasion deprecated the tendency to treat the sufferers from this disease as pariahs sedulously to be avoided, which the current views as to the spread of pulmonary tuberculosis have fostered with a not inconsiderable section of even the more thoughtful members of the public, thereby inflicting needless pain and suffering upon a class of person already sorely stricken in the battle of life.

In the interesting report on "Sanatoria for Consumption and certain other Aspects of the Tuberculous Question," prepared by Dr. H. TIMBRELL BULSTRODE and published as a supplement to the twenty-fifth annual report of the Local Government Board, which we have already noticed in a leading article,[1] a chapter of considerable interest is devoted to a consideration of "the degree of personal communicability of pulmonary tuberculosis." The evidence on this subject, which has been carefully collated and arranged by Dr. BULSTRODE, shows how difficult it is with the data at present available to form any definite judgment in this connexion and also to what extent the evidence adduced both for and against the main thesis is open to criticism. The statistics most frequently appealed to in order to throw light upon this question are those of the staff and attendants at institutions specially set apart for the care of consumptives and those of the apparent infection between husband and wife. In regard to the statistics derived from the incidence of tuberculous disease of the lungs in officials at hospitals or other institutions for the care of consumptives various statements are on record. There are in the first place the well-known statistics of Dr. C. THEODORE WILLIAMS of the hospital attendants at the Brompton Hospital for Consumption, which appeared to show that the incidence of the disease was not greater than the average among the civil population of a town even before the days of special precautions. Dr. BULSTRODE quotes other statistics to the same effect, such as those of Falkenstein, Görbersdorf, the Friedrichsheim Hospital at Berlin, and various other institutions. He refers to the criticisms of CORNET who is an advanced contagionist (this is Dr. BULSTRODE'S not over happy term) and thinks that the figures are too small and that the observations extended over too short a period to allow of definite conclusions being drawn. CORNET also alludes to the experience of certain Prussian nursing orders which appears to support the hypothesis of contagion. The figures derived from these sources have in turn been subjected to a careful mathematical analysis by Dr. W. H. HAMER at Dr. BULSTRODE'S suggestion and prove to be far from convincing or free from objection. For comparison, some figures in regard to the infectivity of other diseases generally believed to be directly infective, such as enteric fever, scarlet fever, typhus fever, and diphtheria as illustrated by the staffs of fever hospitals, are quoted and prove to be far more suggestive of direct infection. It might have been supposed that in regard to the transmission of pulmonary tuberculosis between husband and wife there would be a ready means of obtaining most valuable direct evidence upon the point at issue. It must be confessed, however, that whereas the consideration of individual instances would seem to be very highly suggestive of direct personal infection, yet when general statistics are reviewed in regard to this matter they are far from conclusive and cannot be said to afford strong evidence of contagion.

Many of the sanitarian authorities of this country, notably Dr. A. NEWSHOLME and Dr. J. NIVEN, to whose work frequent reference is made in Dr. BULSTRODE'S report, have devoted considerable attention to the influence of association with the subjects of known tuberculous disease as a factor in the spread of that disease. Dr. NEWSHOLME, who attaches great importance to case to case infection, suggests that the segregation of patients in workhouses and infirmaries has been an important factor in producing the fall in the death-rate from pulmonary tuberculosis which has occurred in recent years. This contention has been adversely criticised by many observers, including Dr. NIVEN. Dr. BULSTRODE summarises these objections in a very able manner. From the statistical point of view, therefore, the evidence of personal contagion in pulmonary tuberculosis is obviously most unsatisfactory and the conclusion of Sir HUGH BEEVOR which is quoted in the report to the effect one-fifth of the impurity found in that obtained by the untrained, but not unskilled, worker.

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[1] THE LANCET, Feb. 1st, 1908, p. 385.

After a brief but accurate account of the morphology, classification, and vital conditions of bacteria there is a short account of the normal and abnormal types of bacteria found in milk, their sources, and the usual course of their multiplication. The next chapter on disease germs in milk is of more interest to medical readers and the subject is treated under the two heads of infections derived directly from the cow and indirectly from external sources. A clear account of the relation of the bacillus tuberculosis to the milk-supply is given and the author concludes with an unusually definite expression of opinion as to the futility of any system of inspection or analysis, whether chemical or bacteriological, to prevent danger arising from the tubercle bacillus. "Until a law requires the universal testing of all cattle (with tuberculin) and the immediate slaughter of all reacting animals any public dairy inspection will be futile in this respect." We should welcome more such definite expressions of the author's opinions; as a rule the subjects are treated with judicial impartiality and the reader is left to draw his own conclusions.

Dairy methods are next treated and the importance of grooming the cattle, moistening the udder when milking, and milking in a special room is insisted upon and graphic representations are given to show the improvement in the quality of the milk which follows on the adoption of these various precautions. In writing of the treatment of milk for the market the author appears to favour the pasteurisation of the supply and this is developed in the interesting section on Public Problems into the statement that "the sole practical method of assurance that the milk should contain no specific disease germs is by adopting pasteurisation or sterilisation." In this section also the author discusses the use of "standards of impurity" and dairy inspection, chiefly to show the difficulties which surround them, and finally, though with reluctance, adopts the idea of compulsory pasteurisation of the milk-supply. This idea has not been accepted with favour in England on the ground that it would lead to dirt and carelessness on the part of the farmer or the dairyman and would cause him to sink back into the slovenliness from which he has been slowly roused.

The transportation of milk is in England a thorny question but there is no doubt that the railway companies will have to provide facilities for cold storage during transit and the farmers will have to learn the necessity of immediately cooling their milk. "No dairy is properly equipped unless it has an ice-supply." It cannot be said of this country, as the author says of America, that "milk-handlers have learned to use ice freely." The next portion of the book is of more especial interest to the dairyman and is concerned with butter-making and cheese ripening. Finally, in the second part of the book there is a practical laboratory course of dairy bacteriology, including the examination, cultivation, and enumeration of milk bacteria.

There is no doubt that the book will be of value to those for whom it was designed and that it treats its subject very lucidly. The book contains a few misprints but is clearly printed and satisfactorily illustrated.

LIBRARY TABLE.

Technique Chirurgicale Journalière au lit du Malade. (*A Handbook of Clinical Methods in Surgery*). By Dr. A. BESSON, Maître de Conférences in the Faculty of Medicine at Lille. Second edition, revised and enlarged. Paris: Vigot Frères. 1908. Pp. 249, with 28 figures. Price 3 francs.—This is a capital little book of a kind familiar to English medical students. We will not go so far as to say that it is better than similar publications in our own language but it certainly challenges comparison with the best of them. Dr. Besson writes clearly and treats of all such matters as splints, plasters, injections, lavages, instruments, sutures, and so on, in a really instructive manner. The main headings are alphabetically arranged and the book opens with a section on anæsthetics, in which 70 pages are devoted to general and 16 pages to local anæsthesia. The chapter on chloroform is excellent, though we cannot agree with the statement on p. 23, "Tous les appareils, masques, etc., sont parfaitement inutiles," which indeed seems to be contradicted later, as eight pages are devoted to describing some of the "appareils" devised for its administration. It is interesting to read: "En obstétrique on emploie la chloroforme à la reine (Victoria d'Angleterre)." Tests for the purity of chloroform are given. With regard to ether the author says, "The student and practitioner will quite certainly have to give chloroform more or less frequently, but they may go through their whole careers without ever once giving ether," a statement which does not indicate that anæsthesia as set forth is sufficiently dealt with or presented in the wider range adopted in England. The technique of anæsthesia by scopolomaine, cocaine, and eucaine (by lumbar puncture and local) is described, though we have not noticed any reference to the adrenalin combination with the last drug. We disagree with the author when he prefers to make plaster splints by pouring the water on to the plaster instead of *vice versâ*. In a useful section on the technique of Bier's hyperæmic treatment stress is laid on the leucocytic theory of its action, but opsonins are not even mentioned. But the book contains a solid mass of useful information.

Medical Laboratory Methods and Tests. By HERBERT FRENCH, M.A., M.D. Oxon., F.R.C.P. Lond., Assistant Physician to Guy's Hospital, &c. Second edition. London: Baillière, Tindall, and Cox. 1908. Pp. 175. Price 5*s.* net.—We gladly welcome a second edition of Dr. French's excellent little work which gained such favourable notice when it first appeared nearly four years ago. The general get-up of the book is little altered, though the use of black type for headings in place of italics makes reference easier. Some expansion in size has taken place, new methods being included—as, for example, those for opsonic investigations. The illustrations have also for the most part been replaced by more artistic, though not necessarily more useful, pictures. We are a little surprised that the silhouette figure of hydatid booklets still remains, as it gives a false impression of these transparent little objects. Why also in the description of pancreatic cyst fluid is no mention made of the possible presence of a fat-splitting ferment? A number of coloured illustrations have been added which we do not altogether welcome, as we feel that the increased price of the book is probably due to their inclusion, and on the whole we think that the cheapness of the original edition was a merit which is hardly compensated by these more showy adornments. The contents of the book are, however, admirable and it continues to form a most useful handbook, almost indispensable to students and practitioners.

The King's College Hospital Book of Cooking Recipes. London: Longmans, Green, and Co. 1907. Pp. 272. Price 1*s.*—This unpretentious little book consists of a collection of recipes contributed by friends of the hospital and it is published in aid of the fund for the removal of the hospital to South London. Those responsible for the compilation modestly hope that as cookery books go this one will be found to be no bad shillingsworth. Many of the directions in the book have been submitted to the test of trial with highly satisfactory results. They have been found to be sufficiently clear for general guidance and in many instances the outcome has been cordially approved. Although the general style is devoid of literary grace we have discovered one recipe cast into some 14 lines of verse, rather

FORESTRY AND HYGIENE.

"Alexander von Humboldt," writes an Italian correspondent, "measured the decline of a nation's vitality by the destruction of its woods, and certainly it is among those nationalities of modern Europe that are the mere *simulacra* of their mighty past that the coincidence pointed out by the German philosopher finds aptest illustration. Greece, Italy, Spain in the day now passing look wistfully back to their former selves, now well-nigh unrecognisable by the denudation of what was once their ornament and pride. Mainland and island in the modern Hellenic State are, in respect of their sylvan covering, at once 'naked and ashamed.' Italy can no longer quote with anything but self-reproach the 'golden lines' of Virgil—

> 'Sed neque Medorum silvae, ditissima terra,
> Laudibus Italiae certent';

and as for Spain it is common knowledge that the majestic oak forests of which Martial sings avenged themselves for their destruction by the ruin of her mercantile marine. Even in countries less backward the reckless tree-felling uncompensated by collateral tree-planting is engaging the serious thought of the legislature—France having just, through her Minister of Agriculture, introduced a Bill to check the wood-cutting 'frenzy' which, in the words of one of her most prominent publicists, 'is now assuming disastrous proportions.' But it is in Italy that this 'frenzy' is most chronic and at intervals most acute. 'We are now,' says an '*ingegnere forestale*' (forest engineer), 'consuming in the shape of fuel 13,000,000 cubic metres of timber in excess of the annual production of our woods and plantations, and this although in 1906 we imported timber from Austria-Hungary to the value of 90,000,000 francs. In the case of the chestnut alone we are like a man who with the income of 7000 francs (£280) spends 10,000 francs (£400).' The poor chestnut! Who that knows Italy can have failed to admire the beauty of that classic tree, whether he has paced, as Macaulay sings,—

> 'In April's ivory moonlight
> Beneath the chestnut shade,'

or watched on picturesque uplands the steady growth and output of the 'castaneae nuces,' on which the hardy peasantry are as dependent for food as the Irish on the potato? But now its extinction is seemingly but a question of time, so heavy is the yearly toll which it pays to the wood-cutter who has to meet the ever-increasing demands of the tanning industry, insatiable for the gallic and tannic acid which it yields. In the meteorological sphere the destruction of the woods and forests—in other words, the reduction of the hill-sides and low-lying plains to so much prairie—is scarcely less to be deplored. On the testimony of the medical climatologist the health—to say nothing of the amenity—of whole provinces has been changed for the worse, say, within the last 50 or 60 years by the disappearance of the timber, and this quite apart from the progressive devastation wrought by the summer hail storms and the autumn flood. Alternations of temperature, at once violent and rapid, are experienced in regions

> 'Ver ubi longum tepidasque præbet
> *Jupiter brumas*,'

in days long subsequent to those of Horace, alternations telling severely on the population and still more on the visitor from abroad and compromising the fair name of Italy as a winter or spring resort for the invalid. All this in its economic, industrial, hygienic, even artistic significance is borne in upon contemporary Italy with a force and an insistence that press from her heart a cry of alarm and inspires legislation which would be salutary if its execution were as effective as its inspiration is sound. But she is only beginning to realise the complexity as well as the magnitude of the task before her. To begin with, she has to create and to foster a more efficient school of forestry than she at present can boast of, that at Vallombrosa, now about to be transferred on a larger scale and with better equipment to Florence, being still her only counterpart to the splendidly appointed schools of Germany and France. Again, she has to organise and to remunerate her army of '*ispettori forestali*' (forest inspectors) much more intelligently and liberally than hitherto if her laws for the prevention of unauthorised tree-felling are not to be more 'honoured in the breach than in the observance.' The 'situation,' in fact, must be faced and met with all the machinery, professional and expert, at her command if she is to save herself from disaster before it becomes irremediable. It is to her medical Minister of Agriculture, the Senator Guido Baccelli, that she hitherto owes her best legislation *ad hoc*. It is to the profession of which he is the titular head that Italians are looking most hopefully for the ultimate solution of a problem fraught with momentous issues for many interests, not least for that of the 'salus populi.'"

CHILDREN AS THE STOCK-IN-TRADE OF ORGAN-GRINDERS AND OTHER MENDICANTS.

TWO Italians, Vittorio Violo and Elizabeth Pelosi, were recently sentenced at Marlborough-street police court to one month's imprisonment without hard labour, and recommended for subsequent deportation, for begging in the streets and for using Antonio Pelosi, the two-year-old child of the female defendant, as a means of exciting compassion and obtaining alms. The begging was of the type with which Londoners have for some years been familiar, two foreigners, one male and one female, a baby, and an organ, the impression successfully produced, no doubt, in the minds of benevolent passers-by being that a married couple in poor circumstances are endeavouring to support themselves and their offspring by producing music. In the case before the magistrate it was proved that the man was hired by the woman at a wage of 1*s.* 2*d.* per diem to turn the handle of the organ and that she was a married woman deserted by her husband who had left her with five children. The child taken with her was her own but inquiry showed that such is by no means always the case. Evidence was given by the police that children are frequently hired in order that they may be taken out with organs, that the usual rate of payment for them is 6*d.* a day, and that they have practically supplanted monkeys for the purpose. The sum of £1 4*s.* in silver and bronze was found upon Violo. With regard to the "music" produced by persons of this class opinions seem to differ, but it is obvious that it may often become a nuisance. Presumably the "hurdy-gurdy" player with whom those now middle-aged were familiar in their childhood imported an instrument more or less peculiar to his country and was at first regarded with interest as a foreign performer who was amusing to children and comparatively innocuous. The piano-organ has nothing whatever to do with the country of the persons who play it and is simply a commercial speculation of its manufacturer and of its owner, the latter of whom makes his profit by letting it to the men and women who use it as a means of begging. To the extent to which it adds to the noise and unrest of London life it is prejudicial to the health of the community, but no doubt because it is heard by many more people at a time it brings in heavier contributions of coppers than the hurdy-gurdy ever could. Its use, however, even in those by-streets where children dance to its strains, is intrinsically for the purpose of begging, and for no other. With regard to the infants dragged round with it, usually in baskets attached to its carriage, whether these belong to is greater owing to the absence of water of crystallisation. The dry powder contains about 46 per cent. of sulphate of sodium (with some sulphate of potassium), about 17 per cent. of chloride of sodium, and a little over 30 per cent. of bicarbonate of sodium. The water of the "Sprudel" contained, we found, a total of 52·70 grammes of salts per litre, the water of the Mühlbrunnen 52·30 grammes, and the water of the Schlossbrunnen, 54·0 grammes. The value of a course of Carlsbad water in various disordered conditions of the stomach, liver, intestines, and kidneys, is well known. The powders, of course, are not only purgative in their action but are also decidedly antacid by reason of the important quantity of bicarbonate of sodium occurring in them.

CHLOROFORM PURISS. B.P. (PLANET BRAND).

(MAY AND BAKER, GARDEN WHARF, CHURCH-ROAD, BATTERSEA, LONDON, S.W.)

We have carefully submitted this chloroform to a number of tests and the results were entirely satisfactory and in accordance with the guarantee that it is absolutely pure chloroform. The specific gravity was 1500. The evaporation of 20 cubic centimetres gave absolutely no residue. The chloroform was also free from any trace of decomposition products, as, for example, chlorine or carbonyl chloride.

"HUMANISED" MILK.

(THE HYGIENIC DAIRY SOCIETY, 26 AND 27, BUSH-LANE, LONDON, E.C.)

This is milk of excellent quality containing, according to our analysis, a maximum amount of the various nourishing constituents. The milk was particularly rich in cream, the amount of fat being as high as 5·00 per cent. The milk is carefully sterilised and accordingly was found to be sweet and sound on opening the bottle. No preservatives were traced. The total solids amounted to 12·70 per cent. and the mineral matter to 0·70 per cent. These results exhibit the composition of rich cow's milk which will bear dilution to approximate to the composition of human milk.

MALT EXTRACT BEER.

(THE STEVNS BREWERIES COMPANY, LIMITED, COPENHAGEN. LONDON: 1, WALBROOK, E.C.)

Analysis showed that this was a practically non-alcoholic beer containing a large proportion of malt extractives. The extractives amounted to no less than 22·75 per cent. In fact, the beer presented the composition of a rich malt extract. There can be little doubt, therefore, of its nourishing qualities. The alcohol by volume amounted to less than 1 per cent. The flavour was rich and malty.

VIRGINIA ETNA LITHIA WATER.

(THE VIRGINIA ETNA LITHIA SPRINGS COMPANY, 60, ST. MARY AXE, LONDON, E.C.)

Our analysis of this water agrees practically with that published in a pamphlet submitted to us. We found that the total mineral salts amounted to 42 grains per gallon, the principal ingredients being calcium sulphate, sodium sulphate, magnesium carbonate, and calcium carbonate. The quantity of lithia present is small and does not exceed four grains (calculated as bicarbonate) per gallon. Its shown presence was by the spectroscope after separating the lime salts. The water is regarded as valuable in the treatment of gout and rheumatism and urinary disorders. It shows an excellent condition of organic purity.

BORDEAUX NECTAR.

(PETER R. MCQUIE AND SON, 19, SOUTH JOHN-STREET, LIVERPOOL.)

The features of this excellent grape juice are a freedom from alcohol and the absence of preservatives. It has a pleasant acidulous taste and forms an excellent beverage diluted with aerated water. Analysis gave the following results: total extractives, 16·20 per cent.; mineral matter, 0·30 per cent.; sugar, 14·70 per cent.; and tartaric acid, 0·645 per cent. The juice thus contains practically the entire constituents of the grape.

IOLA FOOD.

(C. MELIS AND CO., 37, CRUTCHED FRIARS, LONDON, E.C.)

Iola food occurs in the form of a jelly with a pleasant fruity flavour. Our analysis shows that it must be regarded as having distinct nourishing qualities since it contains not only an easily digested sugar but 10 per cent. also of protein as well as 1·76 per cent. of mineral salts rich in phosphates. It is practically soluble in water and is a very palatable and easily assimilated food free from acid, starch, and fat. The food in fact shows an alkaline reaction to litmus paper.

OATMEAL STOUT.

(MATTHEW BROWN AND CO., LIMITED, POLE-STREET, PRESTON.)

The analysis of this stout was as follows: alcohol by volume, 5·78 per cent.; extractives, 4·70 per cent.; mineral matter, 0·45 per cent.; and protein, 0·41 per cent. Though the amount of malt extract is relatively small, yet this contains about 10 per cent. of protein, while the mineral matter is rich in phosphate. These respective dietetic gains are due, no doubt, to the use of a proportion of oatmeal in the brewing process. The stout was in sound condition and possessed the delicate bitter flavour of genuine hop and also that of malt.

GLAXO.

(JOSEPH NATHAN AND CO., LIMITED, 88, GRACECHURCH-STREET, LONDON, E.C.)

Glaxo presents according to our analysis exactly the same food elements as does cow's milk, leaving out of account the water, but the constituents have been modified with the view of increasing their digestibility. The results were as follows: fat, 30·90 per cent.; proteins, 24·16 per cent.; milk sugar, 36·64 per cent.; mineral matter, 5·00 per cent.; and moisture, 3·30 per cent. The amount of fat present, as it is said, in the form of fatty acid is remarkable. It represents the maximum found in cow's milk of good average quality. The powder was soluble in water but some of the fat separated in a form resembling butter and rose to the top. It is seldom that dry preparations intended for the feeding of infants and invalids are found to contain such a large proportion of fat. The many dietetic purposes to which glaxo may usefully be put are obvious and we can well believe the statements that have reached us in regard to the satisfactory results which its administration for the purposes of a food has secured.

SACRATINTA (SACRAMENTAL WINE).

(H. STODDART AND CO., 20, SUFFOLK-STREET, PALL MALL, LONDON, S.W.)

The analysis of this wine was as follows: alcohol, by volume, 13·43 per cent.; extractives, 24·72 per cent.; and mineral matter, 0·57 per cent. The extractives consisted chiefly of sugar, and having regard to the amount it may be judged that the wine is very sweet to the taste. We do not doubt that it is a pure grape wine and the amount of alcohol indicates that it is of natural strength and unfortified.

CELLULON BREAD (DIABETIC).

(CALLARD AND CO., 74, REGENT-STREET, LONDON, W.)

We have not examined a specimen of bread (practically free, as this is, from starch) with a more satisfactory flavour. It is difficult to believe, judging from its taste, that the bread is not made from fine whole wheat meal, and yet the starch, and, indeed, the total carbohydrates, according to our analysis, are less than 3·0 per cent. It is particularly palatable when eaten with butter. The bread was quite attractively moist and kept so for some time. The protein amounted to 22·93 per cent. and the fat to 9·30 per cent. The bread is obviously suitable for the diet of the diabetic and others to whom foods rich in carbohydrates are undesirable.

first place the railway stations which were used by the pilgrims were liberally supplied with latrine accommodation and filtered drinking water and along the main roads leading to the Khaligat temple filtered water posts were erected every 100 yards and many latrines connected with the adjacent sewers were also constructed. The courtyard of the temple was properly drained and lighted and filtered water was supplied to it. The public hotels and the private lodging-houses for pilgrims were all placed under sanitary inspection and a large extra staff of sanitary workers of various grades was employed, including two special food inspectors who had power to destroy all unwholesome food which they could find. To prevent the outbreak of water-borne disease the use of foul water in the tanks round the temple was prohibited and these were guarded by the police; the water in them was treated with iron sulphate as some precaution in the event of their being used in spite of the order, and one large tank was cleared by running water. Pilgrims were warned by posters and "beat of drum" of the danger incurred by drinking the water of the Tolly's Nullah stream, which is always crowded with country boats on these occasions. Adequate provision was also made for the sickness that must inevitably occur in so huge a concourse as was expected. A dispensary was erected for minor ailments and special hospital accommodation was provided, chiefly with a view to the reception of cases of cholera which were the great dread of those in charge of the sanitary arrangements. Three hospitals with about 400 available beds were prepared for these cases and an ambulance service in connexion with them was provided, in addition to which special provision was made at the Shanagore Burning Ghat for the disposal of the dead. All of these sanitary and medical arrangements were under the charge of Dr. Mullan, health officer of District IV.; the members of the large staff under his control wore distinctive badges according to their grade. We are indebted to Dr. T. F. Pearse, health officer of Calcutta, for this account of the arrangements and we are glad to think that this thorough and well-planned organisation saved the city from such disastrous effects as have in the past followed on vast religious festival gatherings in our Eastern Empire.

THE LIME AND THE LEMON.

THE lemon is a deservedly popular fruit and serves as the foundation of that excellent beverage known as a lemon squash which, perhaps, is the best example of an absolutely non-alcoholic drink. The lime is not so well known, although from the point of view of flavour it is regarded by many as being even superior to the lemon. In view of the fact that there is now a good and abundant supply of limes to this country it is interesting to contrast the analysis of this fruit with that of the lemon. According to an analysis which we have recently made it would appear that the lime, although smaller than the lemon, yields weight for weight a good deal more juice. Thus the average amount of juice expressed from a lemon was 37·50 per cent. of its weight, whereas the lime gave 59·00 per cent. Moreover, the lime gives more citric acid but less sugar, as the following analyses show:—

	The juice of the lemon.		The juice of the lime.	
Total solid matters	8·80	per cent.	... 8·64	per cent.
Sugar	2·30	"	... 0·70	"
Citric acid	4·57	"	... 5·60	"
Mineral matter	0·36	"	... 0·35	"
Potash	0·15	"	... 0·12	"
Phosphoric acid (soluble) ...	0·010	"	... 0·066	"

The lime therefore yields a "drier" juice and contains a third of the quantity of sugar present in the lemon. The antiscorbutic properties of lime juice may be regarded as more marked than those possessed by the juice of the lemon. While the alkaline salts amount to practically the same in both fruits yet the phosphoric acid is greater in the lime than in the lemon. It is probably owing to the richness in alkaline salts that the use of lemon juice, as well as other fruit juices, is helpful in some diseases of the skin and in preventing eczema. The juice of the lime is equally valuable in this respect if, indeed, in regard to some dietetic points it is not superior. To those who are asked "to think imperially" there is another point about the lime which may appeal to them: it comes from British colonies and not from foreign countries. Fiscal reasons apart, the lime is an excellent and wholesome fruit and it seems a pity that we do not hear as frequently of a "lime squash" as we do of a "lemon squash."

LUNACY IN NEW ZEALAND.

IN his report on the events of the year 1906 Dr. J. F. S. Hay, Inspector-General of Mental Hospitals in New Zealand, states that the number of registered insane persons on Dec. 31st in that year was 3206, including 34 Maoris, of whom 1900 were males and 1308 were females. There are eight mental hospitals in the colony, the largest being the one at Dunedin (Seacliff), with 754 patients. Excluding the Maori race, the population of the colony is 888,578, of whom 606,247 are native-born and 282,331 are persons who have gone to the colony from all parts of the world, while the total number of the insane is 3172, of whom 988 are, and 2184 are not, native-born. It will therefore be seen that the native-born constitute more than two-thirds of the population, but furnish less than one-third of the insane. To put it otherwise, though there is one person insane in 280·4 of the total population, among those born in New Zealand there is only 1 in 613·6 and among persons who were born outside the colony 1 in 129·2. Only 34 Maoris were registered as insane; there is no available information as to the incidence of insanity among this section of the population.

CASE OF ANTRAL SUPPURATION PRESENTING UNUSUAL FEATURES.

IN the first issue of the *Royal Dental Hospital Gazette* an interesting case of antral suppuration, in which the symptoms were obscure, is recorded by Mr. J. G. Turner. The patient was a female, aged about 55 years, very neurotic, who complained of severe neuralgic pains of the left side of her face and head of many years' standing—probably 20 at least. Her peculiar mental condition made it impossible to get a history or to trace any coherence in the distribution or occurrence of her pain. One point only stood out—that she always began her tale of woe by reference to the left maxilla. The mouth was edentulous and all that called for note was a slight fulness of the left maxillary tuberosity as compared with the right. There was no tenderness observable. Examination of the nose and antral transillumination were negative; a radiograph showed no sign of teeth. No treatment improved her and eventually it was decided to explore the left tuberosity—influenced by the slight fulness and the persistent reference of pain to that part. On opening into the tuberosity, the crown of a molar tooth was met with and its extraction was followed by a gush of mucopus from the antrum. The roots of the tooth were almost absorbed and the remains of the periodontal membrane were engorged showing that the surrounding bone was inflamed. The patient was greatly relieved but did not make marked improvement until the lapse of three months. The case is of interest on account of the almost entire absence of tangible signs and because the patient's neurotic condition nearly led to a *diagnosis* of hysteria. Her nose and antrum were examined with negative results and it was practical schools for teaching all technical matters connected with meat-supply. Then, and then only, will it be *possible fully to comply with the requirements of the Local* Government Board that animals should always be killed by properly trained and licensed slaughterers.

The London County Council and the Inebriates Act of 1898.

Is the State solely responsible for the control and maintenance of criminals, lunatics, and other classes of defective persons who need segregation in the interests of the community, or should local authorities be expected to undertake or to share this unpleasant duty? This ancient question, which has been settled, probably for all time in this country, so far as criminals are concerned, remains open when the other classes fall to be dealt with. The growing opinion of all thoughtful people has certainly been that in respect of inebriates the State and the local authorities should share the burden, and this view found expression in the Inebriates Act of 1898. This Act was passed to facilitate the better treatment and control of habitual drunkards. The desirability of such a measure, to render unnecessary the repeated imprisonment of drunkards, had been obvious for some years previously and it was welcomed by all who took an intelligent interest in the welfare of this unfortunate class. Certain institutions were called into existence known as reformatories for inebriates, to which judges and magistrates could send persons who became qualified for committal by reason of drink-caused crime or persistent public drunkenness and disorder. The State was authorised to provide accommodation for criminal inebriates sent from higher courts and local authorities or private persons were permitted to establish institutions for the reception of drunk and disorderly persons committed from petty sessional courts. The State was given power to pay the whole cost of the former class and to share with local authorities the maintenance of the latter. No difficulty has been experienced in working the Act so far as it relates to criminal inebriates maintained entirely by the State, but considerable difficulty has been experienced in inducing local authorities to accept any responsibility in regard to those other cases committed under the section (Section 2) which allowed of combination for maintenance cost, where necessary, between county or borough councils and the State.

When the Act became law the Government decided to facilitate the establishment of institutions by agreeing to pay a fixed capitation grant of money for every inebriate person committed from a petty sessions under Section 2 of the Act, provided that the local authority having jurisdiction over the area within which the court was situated also agreed to contribute towards the maintenance of every person *so* committed. Having at the time no actual experiences but only estimates as a guide the Secretary of State found it impossible to calculate the exact amount which would be necessary for the proper maintenance of inmates; but a sum of 10*s*. 6*d*. per head per week was decided upon as an experimental amount to be given to managers of reformatories by the Treasury, provided that local authorities also contributed 7*s*. per head from local funds, making 17*s*. 6*d*. in all. The Government contribution of 10*s*. 6*d*., although only guaranteed for three years, was continued without change for seven years. At the end of seven years experience warranted a reduction in the Government grant. The accounts of seven out of eight institutions in full working order during 1906 showed that cases were being detained at a cost varying from 10*s*. 4*d*. to 14*s*. per inmate per week; but, the eighth, "Farmfield" (managed by the London County Council) was not conducted at less than a weekly rate of 18*s*. 6*d*. per head. It was felt that 14*s*. per week should be considered the total amount necessary for maintenance and that the managers of all reformatories should be induced to bring down their expenses to that sum per head. Moreover, in furtherance of the view that the segregation of inebriates relieved imperial and local funds about equally it was decided that the Government contribution should be reduced from 10*s*. 6*d*. to 7*s*. to correspond with the 7*s*. provided by local authorities. This reduction, which marked in the simplest and most obvious way the joint responsibilities of the State and the local authorities, was accepted as reasonable by the managers of reformatories, except, unfortunately, in the case of the London County Council, and the fear is lest the exceptional attitude of the London County Council should, by example, operate to the detriment of a valuable piece of legislation. At an early date after the passing of the Inebriates Act of 1898 the London County Council established a reformatory at Farmfield, near Horley, for the reception of 100 female inebriates. It soon became evident that more accommodation would be necessary and the Council accordingly contracted with the National Institutions for Inebriates for the reception of all cases unable to be received at Farmfield, agreeing to pay 7*s*. per head per week for each case. Under this arrangement, at the end of last year, about 600 London inebriate women were under reformatory care, 100 at Farmfield and 500 in the reformatories managed by the National Institutions for Inebriates. But in May last the Council gave notice to terminate its agreement with the National Institutions in the following December unless the Government grant of 10*s*. 6*d*. were reverted to for all cases committed under Section 2 of the Act. As such action by the Government would have supplied an unnecessary amount of money to the managers of institutions who did not need, or ask for, any increase and would have entailed a large increase of unjustifiable public expenditure, the offer of the Council was declined and the contract between the Council and the National Institutions for Inebriates accordingly ceased on Dec. 31st, 1907. A few vacancies amongst the 100 beds at Farmfield will probably be available from time to time, but these will be so few as practically to render the Inebriates Act useless so far as London is *concerned*, which means that at least 500 women now under the only sort of care which can save them from themselves and protect the community from the results of their weakness will be thrown back upon the streets, police courts, and prisons without hope of reform.

In short, the step now taken by the Council will involve reversion to the discredited system of treating inebriates (many of whom are diseased, epileptic, and mentally

Union Society, which was constituted a year ago "to hold debates and to promote social intercourse amongst students and members of the University." Its officers, who have worked hard to give it a successful start, have, we are informed, modelled it on the lines of the unions existing at Oxford and Cambridge, and in this work they have received the sympathetic support of their Convocation. The secretary has also visited Lille to observe the arrangement and details of the building which is devoted to the Students' Union of that University, for it is hoped that the London society will soon have a house of its own. Meanwhile half a dozen debates have been held by the hospitality of various constituent colleges, but we note that only one member of the medical faculty, a lady, has represented the rhetorical force that lies latent in it; in fact, speaking generally, the medical faculty is poorly represented. A little argument on political or social problems is an excellent corrective for a surfeit of "shop," and young men will find the training of declaring their convictions before a not too lenient audience an admirable one in many ways. All members and recognised teachers of the University are eligible for membership on an annual payment of 5*s*., and regular students of any school of the University can be made associate members at the discretion of the committee. It is intended to invite distinguished persons to open debates from time to time. We shall watch the career of the union with interest.

CONDITION OF THE EYES IN MEN OVER 60 YEARS OF AGE.

A VALUABLE statistical inquiry into the refraction and some pathological conditions of the eyes of 500 men above 60 years of age has been recently conducted by Dr. D. W. Greene of Dayton, Ohio, and has been published in the January number of *Ophthalmology*. The subjects of the examination were inmates of the National Military Home near Dayton who had been drawn from the middle and lower labouring classes. Blood pressure was taken with the Janeway sphygmomanometer and 130 mm. Hg was taken as the normal standard, but 112 men gave a reading of 145 mm. Hg and under, and 438 above that pressure. Dr. Greene found that arterio-sclerosis was of frequent occurrence. As to the nationality of the 500 men it was found that 328 were Americans, 59 were Germans, 85 were Irish, 12 were English, and 6 were not recorded; one was a Swiss, one a Swede, one an Austrian, two were French, four were Canadians, and one was a Welshman. 290 men presented cataract in some stage of development and of these 187 were Americans, 35 were Germans, and 52 were Irish; a few escaped registration in regard to their nationality. The average age of the 500 men was 70·76 years. In regard to occupation, 371 had followed hard and laborious callings, such as farmers and day labourers, and of these the majority had a blood pressure of from 160 to 280 mm. Hg; 142 had followed less laborious callings, such as those of clerk and bookkeeper, and in these the blood pressure was as a rule much lower. Drinking habits were inquired into in nearly every case; 89 claimed to be temperate, 86 were regular drinkers, 45 drank periodically, 240 claimed to be moderate drinkers, and the habits of a few were not noted. The examination of the blood pressure charts showed that the influence of alcoholic drinks in the causation of arterial disease has probably been over-estimated, and that as an etiological factor it does not compare with tobacco when used to excess. In regard to specific history 34 men admitted the disease and 420 denied it; no record was obtained in 26. In the majority of those who had had syphilis the blood pressure was above the normal, some considerably above it. Of 910 eyes, not men, conforming to the requirements of the examination 529 had some kind or degree of lens opacity. Of some of these he had no satisfactory record, so that the ratios are on a basis of 504 eyes. Of these 50 were classed as mature cataracts, 102 as incipient cortico-nuclear, 255 as incipient cortical; 84 as incipient nuclear, seven as post-polar, four as capsular, and two as traumatic. The eyes with incipient cortical cataract had an average age of 69·4 years, ranging from 60 to 95. The blood pressure in 5·9 per cent. was below the normal, the average being 117·7 mm. Hg. In 31·8 per cent. the blood pressure was between 130 and 160 mm. Hg, and the average age was 67·8 years. In 62·3 per cent. the blood pressure was over 160, the average being 177.5 mm. Hg. Similar observations which must have taken up much time and demanded much attention and care are given for each of the other forms of opacity of the lens. In regard to the colour of the irides 3 per cent. had black eyes, 34·6 per cent. had blue eyes, 30·1 per cent. grey eyes, 19·2 per cent. hazel eyes, and 13 per cent. brown eyes. The average pupillary distance was found to be 6·2 centimetres (about $2\frac{7}{16}$ inches). The transverse diameter of the cornea was 12 millimetres. The average size of the pupil was 3·3 millimetres. Two or three drops of a 1 per cent. solution of homatropine usually doubled the diameter of the pupil in men between 60 and 70 years, but after 70 the pinhead pupil so often seen will not generally enlarge quite so freely. No case of glaucoma resulted from the use of the mydriatic.

THE UNITED KINGDOM HOSPITALS CONFERENCE.

THIS conference will be held on Wednesday and Thursday next, April 1st and 2nd, at University College, Gower-street, London, W.C. The first session will take place on Wednesday afternoon at 2 P.M., when after the appointment of a chairman and other formal business the members of the conference will discuss the questions of payments to the hospitals by hospital patients; of the prevention of hospital abuse by the employment of almoners and by the coöperation of provident dispensaries and similar institutions with hospitals; and the methods of election of the honorary hospital staffs. The Hon. Sydney Holland, chairman of the London Hospital, Colonel Montefiore of the Charity Organisation Society, and Mr. H. A. Harben, treasurer of St. Mary's Hospital, will speak to motions on these subjects if hospital representatives show a desire to raise specific points. On Thursday the conference will meet for its morning session at 10.30 A.M. when the subjects set down for discussion are the organisation of county guilds for assistance in hospital work, and the desirability of a uniform method of keeping hospital accounts. At the afternoon session the subjects set down are the advisability of the notification of pulmonary tuberculosis and the provision of isolation hospitals for such cases; the desirability of medical men having more voice in nominating representatives for election to hospital boards of management; and the question of provision of temporary accommodation in hospitals for mental cases. This is the third conference and it is hoped that they will be annual events.

PULMONARY EMBOLISM FOLLOWING AN OPERATION.

IN the *Boston Medical and Surgical Journal* of Feb. 27th Dr. C. G. Cumston has reported a case of a rare but disastrous sequel of operation—pulmonary embolism. A single woman, aged 29 years, came under observation. Menstruation had been regular until the age of 23 years, when the amount of blood lost began to increase and she complained of pain in the back and left side. At the age of 27 years menstruation became irregular, occurring at intervals of three, five, or six weeks. She was strong and well developed. In the left side of the abdomen was a at the term "infectious" is too loose a term to apply both measles and tuberculosis, suggesting the term sub-infections" for the latter, would seem to be one hich adequately expresses the present state of opinion on e matter. *Assuming for the moment that case to case* nfection is an established fact it is of some interest to onsider the *results of experiments in regard to the infective* haracter of the sputum of tuberculous patients devised with he object of determining the manner in which air-borne nfection takes place. Here, again, there is no unanimity of pinion and Dr. BULSTRODE in his *report gives a* useful *résumé* of the contentions of the two conflicting schools of pinion—viz., the theory of dust-borne infection by dried bacilli, resting upon the experiments of KOCH, CORNET, and others, and that of droplet infection through coughing, of which FLÜGGE is the chief exponent. The experiments in regard to dried sputum are so well known and have exerted such an influence in regard to the manner of *dealing with* sputum that no special reference to them is necessary; those of FLÜGGE and his followers, on the other hand, have not at the present time obtained the notice which they *deserve. The presence of* bacilli in the fine impalpable droplets of saliva or sputum sprayed *from the patient* during the expiratory efforts of sneezing, coughing, and loud speaking has been definitely shown, and experiments further demonstrate that these droplets may be widely disseminated, even to *some considerable* distance *from* the patient. FLÜGGE and his followers believe that the *danger* of infection from such droplets is much greater than that from dried bacilli in dust. Numerous observers, notably RANSOME and DELÉPINE in this country and CADÉAC in France, have maintained that *the* tubercle bacillus rapidly loses its virulence in daylight and if *exposed to* air, while on the other hand CADÉAC confirms the danger of bacilli in the moist state in droplets. The practical inference to be drawn from such experiments is that the consumptive person *should be taught* to cough into the sputum flask as well as to spit into it, or that he should hold his handkerchief before the mouth during coughing or sneezing—a precaution which is *now* taught in many sanatoriums but is by *no means* generally adopted by the sufferers *from* pulmonary tuberculosis *or* even *taught* by those who have charge of them. It is obvious that the *factors* which lead to infection with the tubercle bacillus *are, as* in *all* other infections, those of exposure to infection and of defective *resisting* power. Pathological observations seem to show that at some time in their lives the majority of people become the host of the tubercle bacillus by some channel *or* other. The problem is therefore complicated *in any* given case by the possibility of auto-infection from a lesion long quiescent. *There is* a danger that the uncertainty which exists in regard to personal infection, and the growing importance which is *being attached to* conditions of general and personal hygiene, may lead to a lessening *of* precautions in regard to the bacterial factor in the *disease*, which would be a condition *most* deeply to be deplored. While uncertainty exists *in* regard to the spread of such a widespread disease the *most rigid* precautions should be carried out, the more so that these precautions are only those which cleanliness and decency dictate. If therefore the *consumptive* observes such precautions it is a hardship to treat him as if he were a dangerous person. On the other hand, we welcome *the efforts which are now* being made to deal with the matter of the personal factor of susceptibility by endeavouring *to improve the conditions* under which the population generally live and work.

Annotations.

"Ne quid nimis."

THE SUPPLY OF PURE MILK.

Dr. J. Niven has made an important contribution to *the local* press of Manchester *on the* best way of insuring a supply of pure milk. *He says* that the report of the Royal Commission on Tuberculosis has added to the evidence that "tuberculous milk powerfully reinforces the store of human tuberculosis." *To check human tuberculosis and to render* the dairying industry of the country more prosperous he says that the dairy farms must be provided with a sufficiency of well-constructed, well-lighted, and well-ventilated cowsheds of a prescribed cubic *capacity per cow, and tuberculosis must be eradicated* from the herds. We know that badly built, dark, and dirty buildings which cannot be readily or completely cleansed or disinfected *are in many parts of the country* the rule rather than the exception. Here the presence of one cow, so affected as to part with tuberculous matter, might infect the others without it being possible to remove the infection from among them. Unless such premises *could* be thoroughly disinfected it would be of no use to substitute a *fresh herd free from the* disease and to expose them to the danger of being infected. Something, however, has been done in Manchester since 1896 to reduce the quantity of tuberculous milk taken into the city. The cowsheds of the city have been largely reconstructed. The Manchester Pure Milk-Supply Company has effected much good. In 1899 the Manchester milk clauses were obtained and by the way in which they have been carried out the *amount* of tuberculous milk going into the city has been reduced more than one half, the mortality from tuberculous diseases has fallen considerably and the stock kept in dairies supplying Manchester has much improved. Professor S. Delépine bears witness that the general disease-*producing* power of the milk *going into the city* has been greatly reduced and that the degree of cleanliness is much higher. But, as Dr. Niven remarks, all these means "are not calculated to lead to the entire suppression of tuberculous milk." There seem to be two courses open: "One is to schedule open, or clinical, tuberculosis as a contagious disease and to remove from the herds plainly tuberculous animals. The other is to eradicate tuberculosis from dairy herds." This would involve the creation of a veterinary public health service. Their duty should be to determine what farms are at present fitted to have their stock rendered non-tuberculous and *to* take the necessary action. Such farms, few at first, would gradually increase and might be used for raising non-tuberculous stock. Dr. Niven goes on with an ingenious scheme, dealing with millions sterling, the elaboration of which must have been a *joy to* a mathematical mind, which scheme would in about 15 years have well repaid the cost to the country in the economy of life and the *increased prosperity of the dairying* industry. But if tuberculosis is eradicated from our dairy cows there still remain the dangers of contamination between the cow and the *consumer. Scarlet* fever and enteric fever are easily carried and it may prove *almost more* difficult to guard against such dangers than to eradicate tuberculosis.

durable than one obtained by any other system of treatment. It is advisable that the patient should always wear a knitted stocking bandage (*Trikot-Schlauchbinde*). At the same meeting of the society a second paper on this method of treating ulcers was read by Dr. Faullimmel of the district hospital at Bischweiler. He said that he had many cases of ulcer of the leg under his care, and after trying a variety of methods of treatment he had found Professor Unna's to be by far the most successful, economical, and convenient.

THE FORMATION OF LACTIC ACID AND CARBONIC ACID DURING MUSCULAR CONTRACTION AND RIGOR MORTIS.

THE *Cambridge University Reporter* of March 17th contains an interesting communication from Dr. P. W. Latham on the above subject. He points out that by combining prussic acid with pyruvic acid (acetyl formic acid formed by the dry distillation of tartaric acid) and subsequent hydrolysis methyl-tartronic acid is produced. This acid on decomposition resolves exactly into lactic acid and carbonic acid. Dr. Latham suggests that the nitrile of methyl-tartronic acid which by hydrolysis is resolved into carbonic acid and ammonia formed one of the constituents of proteid matter and that during muscular contraction the ammonia group combined with other constituents, the lactic acid and carbonic acid being alone set free. Some support is given to this view from the fact that in the earlier stages in the genesis of organic matter in plants the nitrile of methyl-tartronic acid can be formed from acetic anhydride and prussic acid. Schutzenberger in his experiments on the decomposition of albumin obtained among other products an isomeride of aspartic acid which differed from it, however, by being highly soluble in water. The suggestion now is that this body was iso-aspartic acid originating from the nitrile of methyl-tartronic acid. Another substance obtained by Schutzenberger was probably a compound of glycocoll and iso-aspartic acid. The conclusion is that these two substances being derived respectively from amino-malonic nitrile and methyl-tartronic nitrile may be regarded as constituents of the living protein molecule.

INFANTILE MORTALITY AT GRIMSBY.

Dr. W. B. Simpson, the medical officer of health of Grimsby, has prepared a careful report for the instruction of his fellow townsmen upon the subject of infantile mortality, wherein he lays stress upon the municipal responsibility for checking the wastage of human life. The total death-rate of infants under 12 months is still as high as 176 per 1000, and the report suggests certain conclusions, having regard to the admitted facts that a high infantile mortality is a feature common to the majority of our large provincial towns, and that those towns having a large proportion of women working in factories are prone to suffer most severely. Dr. Simpson considers that infantile mortality in the borough of Grimsby is excessively, if not abnormally, high, and alludes to the fact that the total of infantile mortality in Grimsby is largely augmented by the excessive prevalence of diarrhœal diseases. He goes on to point out that diarrhœa is a "filth" disease, is infective, and is associated with decomposing organic material, adding that its incidence coincides with the "swarmi [illegible] housefly, and [illegible] ticles and
houseflies r [illegible] carriers [illegible] aterial.
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visitor; the [illegible] the establishment of a model crèche school; the replacement of all box privies by water closets; and more frequent removal of all refuse from the vicinity of dwellings, especially during the autumn months, urging that accumulations of decomposing organic refuse in the vicinity of dwellings are at all times a menace to health, and especially so in the case of infants. We thoroughly believe in the efficacy of taking the public into the confidence of the medical officer in dealing with such matters as infantile mortality, and Dr. Simpson may rely on receiving general support for his views. We think it would have been well, however, if he had not pressed the virtues of the Notification of Births Act without allusion to its obvious unfairness to the medical profession.

AT a quarterly meeting of the board of management of St. Mary's Hospital held on March 19th the following motion was moved from the chair and carried unanimously:—

> That the best thanks of this board be given to Dr. Robert Henry Scanes Spicer for the valuable service he has rendered to the hospital for the past 20 years as surgeon for diseases of the throat and that he be, and is hereby elected, honorary consulting surgeon for diseases of the throat.

THE Department of Public Health of Queensland in a bulletin dated Feb. 15th states that no case of plague has been notified at Brisbane during the week ending on that date. The last case notified occurred on Feb. 7th. During the week ending March 21st the Acting Governor of the Gold Coast has reported five deaths from plague at Accra, two at Cape Coast, and three near Oblogo. All other localities are free from plague.

A VERY successful meeting of the Medico-Legal Society was held on Tuesday last, March 24th, when Mr. R. Henslowe Wellington continued the adjourned debate upon Death under Anæsthetics in a paper raising the question of the legal liability of the anæsthetist in case of catastrophe. An interesting debate followed and over 80 members were present.

THE death of Dr. Robert Barnes, which was followed at so short an interval by the death of his son, Dr. R. S. Fancourt Barnes, left vacant two posts as consulting physicians to the Royal Maternity Charity of London. Dr. Henry Gervis and Dr. George Ernest Herman have been unanimously elected by the committee to fill the vacant posts.

Dr. Philip Crampton Walker of Pretoria and formerly of Liverpool has since Feb. 10th been discharging the duties of medical officer of health of the Transvaal Colony in place of Dr. George Turner who has retired, and Dr. Walker will continue to do so until further official notice.

Looking Back.

FROM

THE LANCET, *SATURDAY*, March 27th, 1830.

MEDICAL INSPECTION.

WE understand that a medical inspection is now in pr[illegible]gress at all the depôt stations throughout England, for th[illegible] purpose of ascertaining the actual efficiency of the men, a[illegible] in order that such may be discharged, particularly those [illegible] limited services, who shall be reported to be, either from o[illegible] age or disability, unfit for active duty. The stations nort[illegible] of London, as far as Fort George in Scotland, have be[illegible] [illegible]sted to Staff-Surgeon Henry Marshall, accompanied b[illegible] [illegible]l M'Grigor; those to the south of London, to Sta[illegible] Sir Andrew Halliday, M.D.

persons in charge of the organ or not they come under the second section of the Cruelty to Children Act, 1904, which enacts that "If any person causes or procures any child, being a boy under the age of 14 years or being a girl under the age of 16 years, or having the custody, charge, or care of any such child, allows that child to be in any street, premises, or place for the purpose of begging or receiving alms or of inducing the giving of alms, whether under the pretence of singing, playing, performing, offering anything for sale, or otherwise, that person shall on summary conviction be liable at the discretion of the court to a fine not exceeding £25, or alternatively, or in default of payment, or in addition thereto to imprisonment with or without hard labour for any term not exceeding three months." The same section imposes similar penalties upon those responsible for children of the ages above mentioned singing or performing on licensed premises between 9 P.M. and 6 A.M., or at any time of the day when the child is under 11 years of age. It is likewise an offence to expose a child under 16 years of age to pain or to the risk of bodily injury by allowing him or her to be in any place for the purpose of being trained as an acrobat, contortionist, or circus performer, or of being trained for any exhibition or performance which in its nature is dangerous. Exceptions are permitted in order to prevent hardship in cases where no harm to the child is likely to result, and it cannot be said that children are not protected, so far as the law is concerned, from forms of ill-usage likely to be prejudicial to their physical and moral health.

THE TREATMENT OF PULMONARY TUBERCULOSIS.

WE have received a pamphlet entitled "Summary of Report on the New Remedies for Tuberculosis Prepared by Dr. Toru Ishigami, Director of the Ishigami Institute for Infectious Diseases and Sanatorium for Tuberculosis, Hamadera, Osaka." After prolonged investigation Dr. Ishigami has succeeded in obtaining two products for the treatment of tuberculosis which, he maintains, are of great efficacy and without any detrimental "side action." The one is a chemical preparation from tubercle bacilli and is applicable to patients without fever and the other is an immunisation serum and is suitable for patients in an advanced stage of the disease. The chemical product he has named "tuberculo-toxoidin." It is obtained by dissolving the culture of tubercle bacilli in pure sulphuric acid in order to destroy the toxicity and by a further series of processes the remedy is finally obtained in the form of a weak alkaline solution. This substance can be injected subcutaneously without producing any local irritation and may be given in comparatively large doses without injurious effects. Dr. Ishigami gives statistics of the cases which he has treated, and out of 160 patients, 69, or 43·13 per cent., are reported as being completely cured. 219 patients were treated in the same manner by other physicians, and 36·1 per cent. were stated to have been cured, and another 36·1 per cent. were "partially cured." With regard to the immunisation serum, Dr. Ishigami commenced his investigations in 1897. At first he found it difficult to obtain a strong serum free from the characteristic reaction of animal serum so detrimental to tuberculous patients. He finally succeeded in obviating this reaction and in making a thoroughly efficient immunisation serum by injecting his tuberculo-toxoidin. An account is given of the action of the serum in cases of acute tuberculous meningitis, of tuberculous peritonitis, and of painful tuberculous arthritis. The results were encouraging. In cases of pulmonary tuberculosis with high fever or with disordered nutrition, and when the patient is unfit for the tuberculo-toxoidin treatment, the serum injection may be first resorted to until the symptoms become alleviated and the fever disappears and nutrition is improved, when the tuberculo-toxoidin can be employed. 169 patients were treated in this manner, of whom 22·7 per cent. were "completely cured" and 33·33 per cent. "partially cured." Dr. Ishigami has ascertained that the internal administration of the tuberculo-toxoidin and of the immunisation serum is harmless and efficacious. He indicates the classes of cases suitable for this method of treatment. We are informed that a supply of tuberculo-toxoidin will be supplied gratis to any hospital or medical practitioner on application to Mr. R. Wilkinson, care of Messrs. Curtis and Co., Limited, 51, High Holborn, London, W.C.

AN INTERNATIONAL MEDICAL ASSOCIATION AGAINST WAR.

THE International Medical Association for the Suppression of War celebrated the fourth year of its existence by a reunion held on March 21st at the residence of Dr. J. A. Rivière, the founder and President. The association now numbers 3000 medical men of all nationalities. Dr. Rivière in his presidential address mentioned that it was hoped that the association would organise a great manifestation in the cause of peace at the forthcoming International Exhibition which it was intended to hold at Paris in 1911. Various motions dealing with the causes which the association has at heart were proposed and carried, among which were one congratulating Sir Edward Grey on his action regarding Macedonia and another congratulating the Chinese Government upon being willing to submit the difficulty with Japan to arbitration. While, unfortunately, it cannot be considered that the total abolition of war is within sight at present, yet the desire for such is widespread. No body of men knows better than the medical profession the horrors of war as a cause of disease not only among the fighting ranks but also among the inhabitants of the countries concerned, and it is therefore fitting that medical men should be leagued together to insure, if possible, the preservation of peace.

THE SANITARY SAFEGUARDING OF A GREAT RELIGIOUS FESTIVAL IN INDIA.

THE religions of the East are the cause of the gathering together at regular intervals of greater concourses of people than European cities are accustomed to accommodate, if we except the massing of armed forces, and these religious gatherings are occasioned by pilgrimages to some temple or sacred city from far and near. It is obvious that such pilgrimages are fraught with the gravest danger to the public health, for the devotees may come with the seeds of all sorts of infective disease developing in them and one case of cholera or plague breaking out in such a herded company is as a spark dropped into gunpowder. During the summer of last year we published a series of articles from the British Sanitary Commissioner with the Constantinople Board of Health dealing with the accommodation and arrangement of the nine lazarets, or quarantine and disinfecting stations, by means of which the Turkish Empire defends the confines of Europe against the importation of Asiatic epidemic disorders by pilgrims returning from the holy places of Islam. We have recently received an account of the sanitary precautions which were taken in Calcutta at the festival of "Ardhodaya Jog," which was celebrated at the beginning of this month, precautions which show that the Indian authorities are put to no less anxiety from the concourses of the pious than are the sanitarians of Constantinople. We have not yet received advices as to the success of the precautions recently taken in Calcutta, but it is of interest to record them, as they form a noteworthy piece of municipal sanitary organisation which is of good augury for the developing sanitary service of India. In the or a Pravaz syringe contain $\frac{1}{5000}$th (0·0002) of a cubic centimetre, which is the initial dose required.

We have felt ourselves compelled to discuss these proportions somewhat fully because experience shows that erroneous views are held regarding the preparation and dose of T.R., and especially regarding the quantity of solid substance contained in one cubic centimetre of this preparation. For instance, on p. 1218 of THE LANCET of Nov. 2nd, 1907, in a paper entitled "Studies in Connexion with Therapeutic Immunisation," Sir A. E. Wright says:—

> Owing to the fact that the quantum of dry tubercle powder in Koch's T.R. (tuberculin) was, owing to an unaccountable error on the makers' part, declared by them as 10 milligrammes in one cubic centimetre, when it was in reality, as they now inform me, only 2 milligrammes in one cubic centimetre, the dose here inoculated would in reality be only $\frac{1}{2500}$th milligramme. A similar correction would, be it noted, be applicable to the doses of tuberculin as stated in this paper and in all my previous publications.

The practical application of tuberculin T.R. in clinical work has produced excellent results, as has been unanimously declared by a variety of authorities. For the treatment of patients it was of very little consequence to know the real amount of dry substance which the preparation contains, provided that the selection of the dose, and above all things the increase of the dose, was rightly undertaken. There was certainly no mistake on the part of the manufacturers of the preparation. From the earliest beginning to the present day the preparation has always been supplied in the same degree of concentration and consequently possessed of the same degree of activity. We believe that in the present article we have cleared up all the doubts and errors which exist, and we hope that the preparation of dilutions of tuberculin T.R. will not in future present any difficulty.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the President and general council of King Edward's Hospital Fund for London to receive the accounts and the report of the general council for the year 1907 was held at Marlborough House on March 20th, His Royal Highness the Prince of Wales, the President of the Fund, being in the chair.

The PRINCE of WALES moved the adoption of the balance sheet, which was presented by Lord Rothschild, the honorary treasurer of the Fund.

Lord STRATHCONA seconded and the motion was carried unanimously.

Sir SAVILE CROSSLEY then read the draft report of the Council for the year 1907 which stated that the total receipts for the year amounted to £484,069 10*s.* 9*d.* This sum was made up as follows: donations, £5656 2*s.* 5*d.*; contributions to capital, £517 14*s.*; special donation, £100,000; annual subscriptions, £25,412 4*s.* 10*d.*; contribution of the League of Mercy, £18,000; from the Lewis estate, £212,500; legacies, £69,472 12*s.* 3*d.*; interest from investments, £51,260 17*s.* 3*d.*; together with £1000 from the trustees of the London Parochial Charities and £250 from the trustees of the Bawden Fund. The amount distributed was £121,000, including the £1000 entrusted to the Fund for distribution among convalescent homes by the London Parochial Charities. In addition to this, amalgamation grants of £2750 became due during the year and were paid. Since the inauguration of the Fund the amount spent on administration had been £1 5*s.* 8*d.* per cent. of the total amount received. During the year the sum of £212,500 was received from the executors of the will of the late Mr. Samuel Lewis on account of the legacy of £250,000 left to the Fund. The legacies from the late Mr. Alfred Beit of £20,000, the late Mr. John Nicholas of £10,000, and the late Lord Grimthorpe of £5000 (less duty) announced in 1906 were received, while a sum of £15,000 was received on account of the residue of the estate of the late Lieutenant-General G. E. Baynes, and a further sum of £10,932 on account of the residue of the estate of the late Mr. G. H. Heigham. The Fund had also to acknowledge the munificent donation of £100,000 from Mr. Andrew Carnegie. The amounts received in donations and subscriptions, excluding Mr. Carnegie's gift, showed, as compared with 1906, an increase of £1165 4*s.* 5*d.* The Drapers' Company had generously increased their annual subscription from £1500 to £3000. The League of Mercy had contributed £18,000, being the same amount as in the previous year. During the nine years of its existence the League had furnished in all £97,000 to the Fund. Every eligible hospital which had applied for a grant had been inspected and reported upon. On July 26th, 1907, the Bill for the incorporation of the Fund became law, and on the same day a meeting of the President and General Council was held at which all the committees were reappointed, and the same powers as they previously exercised, in so far as these powers were not inconsistent with the Act, were delegated to them. The Council states that the Act has appeared to work satisfactorily in every way. In February, 1907, a committee, consisting of Sir Eyre Massey Shaw and Captain Wells, was appointed to inquire into the best means of assisting the various hospitals to secure a greater degree of protection against fire, and in July they issued a report containing suggestions which had been circulated to the hospitals. A committee, consisting of the Presidents of the Royal Colleges of Physicians and Surgeons, together with Sir William Church and Sir Cooper Perry, had been appointed to revise the form of report supplied to the visitors to hospitals and that committee had improved this form and brought it up to date. During the year the Royal National Orthopædic Hospital took over the patients and some of the members of the staff and governing body of the City Orthopædic Hospital, and this amalgamation was now complete. The efforts to amalgamate the five throat, nose, and ear hospitals still continued, but the difficulties of negotiating with so many bodies is necessarily great and it has not been found possible yet to arrive at any definite conclusion. In connexion with the proposed amalgamation between the North-West London Hospital and the Hampstead General Hospital the Fund had made an offer with a view to the first-named institution being converted into an outpatient department in connexion with the Hampstead General Hospital.

The PRINCE of WALES, in moving the adoption of the report, said:—My Lords and Gentlemen,—The draft report which has just been read shows that the Fund has had a busy year. ...... Since our council meeting in December, acting on the advice of the Executive Committee, and in accordance with the powers given under the Act, I have decided to appoint a committee to inquire into the system prevailing in the London voluntary hospitals regarding the admission of out-patients. It is to be hoped that the labour involved in the holding of such an inquiry may perhaps, to some extent, be lightened by the results of the work of the Royal Commission on the Poor Laws, the issue of whose report we look forward to with great interest. In so far as the Commission may deal with certain aspects of the question of medical relief we cannot fail to profit by a perusal of the evidence given before them, and of the conclusions at which they arrive. We shall, therefore, defer our inquiry until the Commission has reported. Another matter to be brought to your notice is a development of the scope of the operations of the Fund which I have approved upon the recommendation of the distribution committee. Hitherto the hospitals with which we have dealt have been those lying in the County of London, or within seven miles of Charing Cross. This limitation was wisely imposed when the Fund was instuted in 1897. But in the 11 years which have since elapsed London has grown rapidly and it is felt that the time has come when we should enlarge our area. The radius from Charing Cross has, therefore, been extended from seven to nine miles. We also propose this year to consider the claims of consumption sanatoria in the country which take a large proportion of their patients from London. It must be obvious that such institutions are better situated in the country than in London or even in the suburbs. ...... The total of last year's distribution exceeded the income from investments by £70,000. With the extended area an increased income from subscriptions and donations will be necessary, and I trust that the public will recognise this and continue to give us their substantial support. ...... I now move the adoption of the report.

The motion was seconded by the Lord Mayor (Sir JOHN BELL), supported by the Chairman of the London County Council (Mr. R. A. ROBINSON), and by Lord BESSBOROUGH, chairman of the Executive Committee, and carried unanimously.

The Bishop of SOUTHWARK moved, and Lord REVELSTOKE seconded, a vote of thanks to the Prince of Wales for presiding. The vote being carried by acclamation,

His Royal Highness said: My Lords and Gentlemen,—I only a strong belief in a "physical basis for pain" which prevented an error in diagnosis. The probable course of events would seem to have been a nasal catarrh spreading into the antrum, into which the roots of the third molar projected, forming among them undrainable pockets; tissue infection spreading to the bone and periodontal membrane; absorption of tooth tissue (as in pyorrhœa alveolaris) and chronic pulpitis. This last would account for the neuralgic pain and the osteitis would account for the after pain. The case would seem to illustrate the importance of noting the smallest sign.

A PENSION FOR MR. J. HALL-EDWARDS.

IT was announced in the House of Commons on Monday last that a Civil List pension had been granted to Mr. J. Hall-Edwards, the well-known worker in x rays, who, as we have already reported, has suffered terribly in the prosecution of his scientific researches. The official pension is £120 per annum but the pension fund is so very small that hardly any larger sum could be expected from this source. The local fund which is being raised for Mr. Hall-Edwards should therefore still be vigorously supported. The treasurer, Mr. F. Marsh, 95, Cornwall-street, Birmingham, will give every information and will acknowledge subscriptions.

THE BACTERIOLOGY OF NOMA.

THE pathology of noma has been studied within recent years by many observers but at the present time there is considerable difference of opinion on the subject. Dr. E. Hellesen of Christiania has published a paper in the *Jahrbuch für Kinderheilkunde* for March in which he discusses the views put forward by other observers and records his own exhaustive observations on a fatal case of the disease. The commonly received explanation of noma is that it is a non-specific gangrene associated with debilitating or exhausting conditions, while some authorities postulate some disturbance of the innervation of the parts affected as a predisposing cause. Within the last few years a considerable number of observations have been carried out with the object of discovering some pathogenic organism or organisms in this condition. As Dr. Hellesen points out, the difficulties in the way of such researches are very considerable owing to the fact that the gangrenous tissues offer a very favourable culture medium for the growth of many organisms which may reach them from the mouth or from the air. It is not surprising therefore that the results hitherto obtained have not been concordant. In 1890 Grawitz observed numerous bacilli in sections made from the necrotic tissues of a case of noma; it was at first thought that these were identical with a bacillus necroseos which produces necrotic and diphtheroid processes in several of the domestic animals, but subsequent observations have failed to confirm this view. A fusiform bacillus like that found in Vincent's angina has been discovered in cases of noma, either alone or in association with other organisms, by numerous observers. In a similar manner the diphtheria bacillus has been found not infrequently in cases of gangrenous stomatitis and vulvitis, sometimes associated with other bacilli. Various pyogenic organisms have also been found in cases of this disease and it has been suggested by Comba that the gangrene is not the result of the action of any specific organisms but that it may result from the presence of any pyogenic agent when its virulence is enhanced by the simultaneous growth of symbiotic organisms. A similar conclusion has been arrived at by Durante, who found staphylococcus pyogenes aureus with bacillus proteus vulgaris in a case of noma, and by Ravenna, who found the staphylococcus and the typhoid bacillus in another case. Dr. Hellesen quotes several other observers who have described organisms in this disease, the nature of which it is difficult to determine exactly; these comprise cocci and bacilli, both Gram-positive and Gram-negative, some of which appeared to be capable of producing necrotic processes in animals. Dr. Hellesen investigated the case alluded to above with great care by means of cultures made from the necrotic tissues, inoculation experiments both with these cultures and with the necrotic tissue, and microscopical examination of sections of the latter. The patient was a boy, aged three and a half years, who suffered from measles in the month of May, 1905, but recovered completely. In August of the same year he developed some swelling of the right cheek which increased, causing considerable swelling of the side of the face, some fever, and great pain. After a few days ulceration commenced on the inner side of the cheek, associated with intense fœtor. The urine contained neither albumin nor sugar. The general condition of the child was good and he was well nourished. The cheek became gangrenous and the process spread to the gums. Death occurred about three weeks from the commencement of the process. Cover-glass preparations made from the gangrenous tissue showed numerous cocci, including diplococci and short rods, and a few fusiform bacilli and spirilla. Plate cultures were made, with the result that the cocci proved to be staphylococci and streptococci of ordinary characters. The bacilli were short and were decolourised by Gram's method but were not further investigated. The diplococci were isolated and their cultural and tinctorial characters were carefully investigated. They resembled the pneumococcus in shape and size but did not possess any capsule. They stained well with the ordinary aniline stains and also by Gram's method. They rendered bouillon turbid and in 24 hours produced an acid reaction in it. Upon agar slopes they produced punctate, whitish-grey, translucent colonies in 24 hours. They coagulated milk in 24 hours and here again developed an acid reaction. They grew well in grape-sugar agar without forming gas. Cultures made from the blood both before and after death yielded diplococci identical in character and no other organism. The same diplococcus was invariably found in sections made from the affected tissues, not only in the necrotic areas but also in the area of infiltration around them and even in the apparently healthy tissue adjacent. On inoculation into animals a typical and apparently a specific necrosis was produced both by means of the gangrenous tissue and the cultures of diplococci. In these experiments the diplococci could be recovered from the necrotic areas and from the blood. The virulence of the organism became weakened if repeatedly transferred to fresh bouillon; on the other hand, growth with other organisms rendered it more active. Dr. Hellesen concludes that the diplococcus isolated by him was the pathogenic agent in the case under his care but is of opinion that the view expressed by other observers that noma is not a specific process and is not always produced by the same organism is most probably correct. This paper is one of great value, not only from the thorough way in which he investigated his case but also from the interesting *résumé* which he has given of previous observations on the subject.

THE UNIVERSITY OF LONDON UNION SOCIETY.

THE friends of the University of London both before and since its reconstitution have always felt that if it is to attain a proper solidarity and to lay the foundation of a "tradition," which, in the nature of things, none but its future generations can hope to feel as a guiding force, advances must be made along other lines than the purely academic. A community of social interests must be fostered which will afford opportunity of good-fellowship amongst its scattered members, such as is not to be found in lecture-room or examination hall. That such a spirit is stirring is evident from the report for 1907 of the University of London

Subscribers of One Pound.

Cecil H. Leaf, London.
W. A. Morris, Lieutenant-Colonel R.A.M.C.
G. C. Wilkin, Paignton.

Subscribers of Half a Guinea.

A. V. Clarke, Leicester.
Alfred Cox, Gateshead.
Alexander Don, Dundee.
H. Howell Evans, London.
W. E. Gibbons, Leicester.
W. B. Jones, Llangammarch Wells.
Priestley Leech, Halifax.
M. E. Mitchell, Guildford.
E. O. Price, Bangor.
R. W. Roberts, Port Talbot.
G. R. Rickett, Sherborne, Dorset.
J. P. Whittingdale, Sherborne.

Subscribers of Five Shillings.

W. Ainslie, Kingston, Herefordshire.
F. G. Layton, Walsall.
H. L. Pearson, Birkenhead.

Anonymous ... ... 2s. 6d.

MEDICINE AND THE LAW.

Prosecutions for Sending Indecent Matter by Post.

ON March 17th two prosecutions took place at Bow-street police court, under the Post Office Protection Act, 1884, for sending indecent matter through the post. In the first the defendant was Robert S. Sievier, editor of a sporting newspaper, the *Winning Post*, which has lately attracted to itself attention by publishing on its first page paragraphs and anecdotes of such a character that even the defendant could not have expected legal proceedings in respect of them to be delayed much longer. It was urged in his defence that the *Winning Post* was a sporting publication, the principal contents of which commended it to bookmakers and others addicted to racing and kindred pursuits and that the morals of such persons were not likely to be rendered worse by reading paragraphs of the kind in question (a line of defence which surely libels the racing public). At the same time, it was stated that the defendant was willing to discontinue the matter complained of if it were thought that there were people who bought the paper and who were likely to be offended. The magistrate, Mr. Marsham, in convicting the defendant, whom he fined £10 with £5 5*s.* costs, spoke of the *Winning Post* as a good sporting paper, the tone of which was spoilt and its value deteriorated by paragraphs such as those which formed the subject of the prosecution. In this case the newspaper was, and is, published in the usual manner and recourse had been had to the Post Office Protection Act apparently as a matter of convenience, a detective having written to the publisher in consequence of complaints received and having thereby obtained through the post the copies produced in evidence. The second prosecution to which reference has been made was a more genuine instance of the usefulness of the statute. The defendants were the Cardinal Manufacturing Company (Limited), of Wilson-street, Finsbury, which had sent through the post a mass of indecent matter addressed to a married lady who had recently borne a child and had announced the birth in the usual manner in the newspapers. It so happened that her husband was a medical man who, naturally incensed by such conduct, had the courage and public spirit to set on foot proceedings against those responsible, with a view to protecting himself and others, if possible, against a repetition of it. He is to be congratulated upon the result of his action, as the company was convicted and fined £10 with £5 5*s.* costs. In commenting upon these two cases it may be said fairly that both convictions were deserved, but that whereas none need endeavour to minimise the harm done by obscene innuendoes put in a form intended to raise mirth among the more brutalised of the readers of a sporting newspaper, the other class of obscenity referred to represents a more insidious form of corruption of the mental and bodily health of the public. The forwarding by post of advertisements intended to enable the limitation of families may be an outcome of prosecutions which have cleared the pages of respectable newspapers of the invitations of the quack abortionist and his tribe. There has been great improvement in this respect, and no doubt there is a large class of persons who cannot be reached as easily as at one time was possible. It must not, however, be supposed for a moment that these very objectionable advertisements do not now appear anywhere in public prints. We have before us a copy of *Photo Bits*, a publication selected at random owing to the vulgarity of its illustrations and general contents, as one apparently appealing to a class likely to be allured and corrupted. On the last pages of the number under notice appear no less than 13 advertisements of "rubber goods," which, we believe, would not be permitted in a public urinal, six advertisements directed expressly to married persons, and about the same number addressed to "ladies" and "females," the character of all of which is obvious. We do not suggest that all these advertisements emanate from different firms; it is fairly plain that several of them are from the same source although different addresses are used. We do not pretend that all are of equal flagrancy but we note that in one the removal of the familiar "obstructions arising from any cause whatever" is promised, and the names of this and of other advertisers have been frequently seen appended to paragraphs which might well have commended them to the observation of the police. All advertisements such as we have described above are of a character discreditable to the newspaper which inserts them, and some of them suggest the desirability of close scrutiny of the trade sought to be furthered by them. The possible liability of the newspaper inserting them might also be considered seriously by those responsible for its production. There is no need to comment upon the fallacies underlying the suggestion made in the *Winning Post* case to the effect that indecent matter is blameless if laid before indecent-minded people because it cannot make them worse than they are already, but we would place to the credit of the sporting weekly that no advertisements of the class criticised defile its pages.

Mr. Plowden and the Evidence of Divisional Surgeons of Police.

At Marlborough-street police court recently Mr. Plowden expressed disapproval with regard to what he considered the unduly large number of cases before him in which the divisional surgeon had been summoned to examine persons arrested upon charges of drunkenness. This course was apparently adopted by the police on all occasions when the person arrested denied being drunk. Mr. Plowden said, according to the report published in the *Daily Telegraph*, that "such a frequent calling upon the doctor was putting him in the magistrate's place. It was for a magistrate to say whether a prisoner was drunk or not, and sending for a medical man in this way was simply paralysing justice. The medical fees were out of all proportion to the fines in these cases and he should disallow the fees in imposing fines in all cases where the medical man had been sent for on shallow grounds." Mr. Plowden then proceeded to ask the prisoners in turn whether they had asked for a medical man to be summoned or had consented to be examined by him, and when they said that they had done so he added the fee to the fine, but disallowed it when they said otherwise. It would not be easy for Mr. Plowden to justify any such statement as that with which he is credited above. It is for the magistrate to convict or to acquit the prisoner on the evidence before him and to punish him if he finds him guilty, and it is usually considered desirable that the decision whether for or against the prisoner should be founded upon the best evidence obtainable. If the evidence of a medical man is not the best evidence obtainable it is difficult to explain why Mr. Plowden should attach so much weight to it that he feels practically bound to decide in accordance with it—which is apparently the meaning of his saying that sending for a medical man was "paralysing justice." If the persons charged with drunkenness deny being drunk at the time of their arrest the police cannot possibly prophesy whether on the following morning they will claim to have been sober the night before and accuse the police of misconduct or will admit the charge against them, and in fairness to their prisoners and to themselves they call in the assistance of an independent expert. To convict a man in the morning of drunkenness and at the same time to accept his statement as to what he said the night before when drunk and excited by arrest is also hardly logical. The medical man, whether a police surgeon or not, is an expert whose evidence is less liable to the suggestion of bias than that of the constable who effected the arrest or that of the officer in charge of the police-station who orders the prisoner to be placed in a cell. The medical man is not "put in the magistrate's place"; he is called in in order that he may form and give an opinion upon a question which may be in dispute and he expresses that opinion in the witness-box in addition to, or in contradiction of, the evidence of the police and of other witnesses according as the facts under his observation may require. If he is "put in the magistrate's place" by being sent for, then the umour of about the size of the fœtal head, very moveable and fluctuating. A diagnosis of ovarian cyst was made and was confirmed on operation. The cyst had a long narrow pedicle but was free from adhesions. It was easily drawn outside the abdomen after puncture and the pedicle was ligatured with kangaroo tendon. The operation lasted 20 minutes and recovery was uneventful. At no time did the pulse rise above 80 or the temperature above normal. She was allowed to sit up on the twelfth day. On the twentieth day after operation, after being dressed and seated in a chair, she suddenly developed dyspnœa without any warning. She became cyanotic and unconscious and the pulse became so small that it could not be counted and she died in ten minutes. At the necropsy the peritoneum was found to be perfectly normal; the omentum was slightly adherent to the abdominal incision. The stump of the pedicle was in perfect condition. The diaphragm was high on both sides, reaching the lower border of the fourth ribs. The right lung was contracted and at the junction of the middle with the lower lobe showed a dark subpleural discolouration. On section the lung was found still to contain air, to be of a brownish-red hue, and to contain a little blood. A large branch of the pulmonary artery supplying the lower portion of the lung contained fresh brownish thrombi slightly adherent to the vessel walls. Corresponding to the discolouration described was a black focus of about the size of a hen's egg. The left lung was similar to the right; it was somewhat collapsed and of a dark brownish-red hue. The large branches of the pulmonary artery were thrombosed. The heart was somewhat enlarged and the muscle was soft and reddish-yellow.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE Sixteenth International Congress of Medicine will be held at Budapest from August 29th to Sept. 4th, 1909, under the august patronage of H.I.M. Francis Joseph, Emperor of Austria. The President of the Congress will be Professor C. Müller and the Secretary-General Dr. Emil Grósz. The president of the national committee for Great Britain is Dr. F. W. Pavy, and the secretary Mr. D'Arcy Power. The work will be carried out in 21 sections, with one subsection (of orthopædics), each with its own president and secretary, and although an elaborate provisional programme of proceedings has been issued already, offers from medical men to contribute papers are now being solicited by circular; we do not find many British names in the preliminary list. At both plenary and sectional sittings the English, French, German, or Italian language may be employed. The full programme of the papers to be read will be published by the end of the present year, and manuscripts of such papers, which must be clearly written, are to be sent to the Bureau du XVI^{e} Congrès International de Médecine, Esterházy-utcza 7, Budapest VIII., Hungary, by Jan. 31st, 1909, at the latest, so that members of the sections may receive printed copies before the Congress opens. The time for reading each paper is limited to 20 minutes. Discussion is limited to ten minutes for each speaker. The subscription for each member is 25 crowns (£1), which will entitle him to take part in the business of any section and to receive the literature of the section to which he has attached himself. Facilities for reduced fares will be obtained from the principal railways concerned. Wives and daughters of members will have similar advantages on a payment of half the subscription for each. Subscriptions are to be sent to the treasurer of the Congress (M. le Trésorier du XVI^{e} Congrès International de Médecine, Esterházy-utcza 7, Budapest VIII.), with an intimation as to the section to which the member wishes to be attached. Intending members are asked to send at the same time a card on which the applicant's position and full private address are legibly inscribed. Subsequent changes of address should be notified without delay. All further information can be obtained from the general secretary at the Bureau of the Congress.

THE TREATMENT OF CHRONIC ULCER OF THE LEG.

ABOUT 20 years ago Professor Unna of Hamburg devised a method of treating ulcers of the leg which proved very successful in his hands and has quite recently been strongly recommended by Dr. H. Hecker of Strassburg in an address delivered at a meeting of the Medical Society of Lower Alsace. The principal feature of the treatment is the use of an adhesive zinc dressing (*Zinkleimverband*), and full details relating to it were given by Dr. Hecker in his address which has been published in the *Strassburger Medizinische Zeitung* (No. 2, 1908). The basis of the dressing is formed by mixing gradually in a water-bath with constant stirring 40 grammes of glycerine, 40 grammes of water, 10 grammes of gelatin in small pieces, and 10 grammes of oxide of zinc. This mixture solidifies on cooling; it may be kept for any length of time in a tin box and is liquefied by warming when required. Bandages moistened with solutions of antiseptics such as lysol or chinosol are first of all applied to the ulcer in order to cleanse it and to reduce the irritability of the surrounding parts. The skin of the whole leg is then thoroughly cleansed with soap and water, shaved, and freed from greasiness by means of ether, so that the dressing may adhere readily to it. The skin of the whole leg is next brushed over with the above-mentioned warm mixture applied with a stout hair pencil, after which the ulcer is covered with antiseptic powder to such a depth that the surface is no longer visible. A variety of powders may be used for this purpose, airol being the one preferred by Dr. Hecker. When the ulcer has received its coating of powder it is covered with a layer of wadding free from grease and overlapping the edges of the ulcer in all directions for a distance of two or three centimetres. The interposition of protective silk or guttapercha tissue between the ulcer and the wadding is unnecessary and has the disadvantage of preventing the absorption of the discharge by the wadding. The parts of the foot and leg where the bandage exerts most pressure are also protected with wadding. For bandaging the limb two starched gauze bandages are required, each ten centimetres wide and ten metres long and rolled in two halves from each end to the middle. The bandages having been wetted with water and well squeezed out the foot is bandaged from the ankle to the toes, which are left uncovered, and the process is continued in the reverse direction, each turn overlapping half of the previous one, until it comes to a hand's breadth below the knee. The second bandage is then applied in exactly the same way over the first one. The size of the ulcer makes no difference in the treatment. Even the largest ones, almost quite surrounding the leg, can be made to heal by this simple means. The leg must now be kept in the horizontal position either exposed to the heat of the sun or near a stove; it must not be covered with stocking, trousers, or bedclothes until the bandage is quite hard. The dressings are not usually changed until after the lapse of three weeks. This may be necessary at an earlier date if the discharge is so profuse as to soak through the bandage, but if the discharge is scanty the whole may be left undisturbed for four weeks. The bandage is best slit up with shears but it may also be unwound after wetting with warm water. In changing the dressings the ulcer must not be left uncovered long enough to become dry. One advantage of this treatment is that the patients may walk about and follow their usual occupations during the whole course of it. The resulting scar is of firm consistence and far more a copy of the Local Government Board's circular should be forwarded to every medical practitioner in England and Wales in a modified form. They had omitted the names of those medical practitioners residing in certain streets in the large towns, where only consultants could be reasonably expected to be found. In addition to this, the matter had been the subject of continual conversation between the officials of the Privy Council on the one side and the chairman and the secretary of the Board on the other. The point that ought to be understood was that the omission in the Act could only be cured by fresh legislation, and although that had been repeatedly urged upon the Privy Council, it had not hitherto seen its way to undertake it. The Board therefore had not neglected its duties in regard to that subject. Mr. Parker Young took a gloomy view about the Midwives Act being unworkable; in a sense it was so, but in spite of certain clogs on its wheels the Act had been worked, though they all agreed it was not working as it ought to. Midwives must be supplemented and medical men must be paid and when that was done it would not be a long time before it would be a profitable expenditure and would put money in the pockets of the country by securing the health of the women and the children. The Central Midwives Board must indicate to the proper authorities in what way the Act can be amended. A step in the right direction had been made by the issue of the circular of the Local Government Board and it was of great importance because a great principle was thus accepted.

Mr. WARD COUSINS said the Board had not done enough and the difficulty had not been overcome which rendered the working of the Act impossible.

Dr. CHAMPNEYS here explained that it must not be understood that he was in any way opposed to the motion proposed by Mr. Ward Cousins.

Mr. WARD COUSINS, resuming, said that if the Board voted for the motion then the Board must interview Mr. John Burns.

The motion was then put with the addition mentioned above and was carried unanimously.

The question of formulating definite proposals to be submitted to the Privy Council and the Local Government Board was referred to the Standing Committee.

A letter was received from the Under Secretary of State for the Home Department informing the Board that the chief constables of counties and boroughs and the commissioners of police of the metropolis and of the City of London had been requested to report convictions of midwives directly to the Board.

A letter was received from the Clerk of the Privy Council stating that the Treasury had authorised the Controller of His Majesty's Stationery Office to arrange with the Board for the supply of copies of the Midwives Roll of 1908 and to distribute the same to the coroners of England and Wales.

A letter was considered from the Devon and Cornwall Training School for Nurses asking the Board to hold an examination at Plymouth. It was decided that the request should be refused, the probable number of candidates being at present insufficient to warrant the holding of an examination at Plymouth, but when 20 candidates can be guaranteed the Board would reconsider the matter.

A letter was considered from the clerk of the London County Council as to the construction of Rule E 26, and it was decided that the London County Council should be informed that the amendment of Rule E 26 having been dealt with the Board does not propose to reopen the question at present.

A letter was received from the registrar of the General Medical Council concerning the communication made to it by the Board with reference to the late master of the Coombe Hospital, Dublin, stating that the Council did not propose to take any steps in the matter. A letter was received from the registrar of the Coombe Hospital, Dublin, forwarding a copy of a resolution passed by the board of governors of the hospital requesting the Central Midwives Board to reinstate the Coombe Hospital as an approved training school, and it was decided that the request should be granted and that the name of the Coombe Hospital, Dublin, should be replaced on the list of approved training schools. The chairman also stated that the Central Midwives Board had reason to be satisfied with the straightforward way in which the authorities of Coombe Hospital had met the Board in regard to their representations.

A letter was considered from Dr. H. Handford, county medical officer of Notts, as to the construction of Rules E 1 and 5 which deal with directions to midwives concerning their duties to patient and child and their obligations with regard to disinfection, &c. It was decided that Dr. Handford should be informed that the case of a midwife suffering from septic ulcers or kindred complaints appears to fall within the terms of Rules E 1 and 5, or might be dealt with by the local sanitary authority under the Public Health Acts.

On the question of the training and supply of midwives the Board affirmed the following propositions and decided to forward a copy of them to the Privy Council:—

1. That midwives (who are "a necessity") will be unable to make a living in many localities without extraneous aid.
2. That such localities are very often exactly those in which their presence is most necessary from the poverty and (in some cases) the sparseness of the population.
3. That voluntary contributions cannot be relied upon to supply the whole of the necessary financial aid.
4. That for this purpose a Government grant is a necessity.
5. That if such a grant were provided a representative council of competent persons should be appointed to administer the fund thus constituted.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on Friday, March 20th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

Licences to practise physic were granted to Bertram Arthur Lloyd, Birmingham University, and David Ranken, Durham University.

The following communications were received:—1. Three communications from the secretary of the Royal College of Surgeons of England reporting proceedings of the Council. One of these conveyed a proposal that the committees which have been separately appointed by the two Colleges on the subject of the medical inspection of school children and the teaching of hygiene should act together to form a joint committee. The proposal was agreed to. The physicians appointed are Sir W. S. Church, Dr. G. A. Heron, Sir Lauder Brunton, Dr. B. L. Abrahams, and Dr. W. H. Hamer. 2. From Dr. H. Cooper Pattin, medical officer of health of the city of Norwich, asking leave to have a sketch made from one of the portraits of Dr. Caius in the College for a medallion by a London sculptor. The request was granted. 3. From the secretary of the International Congress on Laryngology and Rhinology with a Türck-Czermak commemoration, to be held in Vienna on April 21st to 25th, 1908, inviting the College to send a delegate. The invitation was accepted and Sir Felix Semon was appointed to represent the College.

The Harveian Librarian (Dr. J. F. PAYNE) proposed, and the Treasurer (Sir DYCE DUCKWORTH) seconded, the following motion:—

> That in pursuance of a resolution adopted at the meeting of the library committee, January 23rd last, a commencement be made of preparing a new printed catalogue of the College library.

The motion was adopted.

A report, dated March 3rd, was received from the committee of management. The report, which was adopted, recommended that University College School, Frognal, Hampstead, should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics.

The PRESIDENT then dissolved the Comitia.

A LINK WITH THE PAST.—The late Mr. John Joseph Ayre, M.R.C.S. Eng., L.S.A., of Eastlemes, Colne, Lancashire, whose death has been recently announced at the age of 96 years, was educated at King's College, London, and became a Licentiate of the Society of Apothecaries in 1832. He received the Membership of the Royal College of Surgeons of England in 1859. He belonged to a family which contributed several of its members to the medical profession. His father was Dr. John Ayre, and his uncle, with whom he was brought up, was Dr. Joseph Ayre, a physician of repute in London. Mr. Ayre lived during five reigns and told with interest his experiences as a medical practitioner during the long period over which his active work extended. Till the end of his life Mr. Ayre took an intellectual interest in all scientific discovery.

THE METHOD OF PREPARING "NEW TUBERCULIN" (TUBERCULIN T.R.): A CORRECTION.

BY PROFESSOR W. G. RUPPEL.[1]

(*Translated for* THE LANCET.)

IN his well-known article entitled "New Tuberculin Preparations" which appeared in No. 14 of the *Deutsche Medizinische Wochenschrift* in the year 1897, Professor Robert Koch referred to the endeavours which had been made to discover a specific remedy for tuberculosis and discussed his reasons for believing that the discovery of tuberculin did not mark the final limit of these endeavours. In tuberculin Koch had found a substance which on the one hand enabled tuberculosis to be diagnosed with certainty even in the earliest stages of the disease, and on the other hand exercised a perceptible influence on tuberculous processes. The therapeutic value of tuberculin was at the same time practically established. The only obstacle to the general employment of tuberculin as a remedy was the frequent occurrence of violent reactions. Koch's efforts were therefore directed to the preparation of substances which would possess the immunising and curative properties of tuberculin but would not set up an intense general reaction in tuberculous subjects inoculated with them. Such substances, he thought, must be looked for in the material of which the tubercle bacillus is composed.

Many attempts to immunize animals with the help of dead tubercle bacilli led to no satisfactory result. This failure was attributed to the fact that dead tubercle bacilli injected subcutaneously were not properly absorbed by the deep layers of the skin but gave rise to the formation of abscesses. When injected into the veins, however, the dead bacilli were deposited in the lungs where they brought about pathological changes exactly similar to those produced by bacilli which were alive and capable of propagation; these changes were therefore genuine pulmonary tubercles. This being so it became necessary to convert the tubercle bacilli into a form in which they would be absorbed. In this process chemical agents had to be avoided, because there was reason to fear that they would have an injurious effect on the immunising substances of the tubercle bacilli. After many experiments Koch by means of a purely mechanical method succeeded in breaking up the bacilli and converting them into a form capable of absorption. For this purpose they were strongly dried and rubbed in an agate mortar into a powder so fine that entire tubercle bacilli capable of characteristic staining could no longer be seen in it under the microscope. By extraction with distilled water all the soluble matter could be removed from the tubercle bacilli which had been rubbed in the mortar, and the resulting solution when freed from the insoluble residue by centrifugalising is a slightly opalescent but quite clear fluid. Koch denoted it by the initials T.O. It contains the toxic constituents of the tubercle bacilli. Its action upon tuberculous patients and animals is analogous to the action of the old tuberculin. Admixture of an equal amount of glycerine with T.O. does not throw down a precipitate, showing that T.O., like old tuberculin, contains such portions of the tubercle bacilli as are soluble in glycerine.

The whole of the insoluble residue which has been freed from T.O. by centrifugalising can by appropriate treatment, many times repeated, be converted into a series of solutions. This treatment consists in successively drying the substance thoroughly, rubbing it in a mortar, extracting with water, and centrifugalising. These solutions may be regarded as possessing identical properties. Unlike T.O., they contain substances which are precipitable by 50 per cent. glycerine and which produce only a small toxic effect on tuberculous individuals. These solutions are called by Koch the residual portion of the tubercle bacilli (*Tuberkelbazillenrückstand*) and are denoted by the abbreviation T.R. The whole of the immunising substances present in the tubercle bacilli are contained in these solutions in a form perfectly capable of absorption by the organism.

In the above-quoted article Koch draws attention to the difficulties and dangers associated with the working up of tubercle bacilli in the preparation of T.O. and T.R., and mentions that for this purpose it is necessary to have such mechanical appliances as are only used in a factory. He has therefore intrusted the manufacture of these preparations to the firm known as the Farbwerke vorm. Meister, Lucius, and Brüning in Höchst on the Main. Since the year 1897 these preparations have been manufactured in the bacteriological department of this establishment, where Koch's directions are most carefully observed.

In a particular instance the process of manufacture is as follows. One gramme of strongly dried tubercle bacilli is pulverised in a suitable apparatus until entire tubercle bacilli are no longer recognisable in a sample. The pulverised mass is then treated with 100 cubic centimetres of sterile distilled water and centrifugalised. The result of this operation is a fluid which is called T.O. and an insoluble residue which is called T.R.I. The latter is now strongly dried, pulverised, treated with water, and centrifugalised, yielding for the second time a solution and a solid residue. The residue is again dried, pulverised, treated with water, and centrifugalised. It is found that by two or three repetitions of this process the whole of the insoluble residue T.R.I. originally obtained on the removal of the T.O. can be converted into a series of solutions without any insoluble matter remaining at last except accidental mechanical impurities. All these solutions are now combined. In the successive conversion of the T.R.I. into a series of solutions care must be taken that the total volume of the combined fluids shall be less than 100 cubic centimetres. The amount of solid substance present in it is ascertained by submitting a small portion (five cubic centimetres) to a dry process—namely, evaporation *in vacuo* and weighing. To the rest of the fluid there are now added a little glycerine and formaldehyde and finally a sufficiency of water to make one cubic centimetre contain exactly 0·002 gramme of dry residue. The T.R. is now quite ready. For the preparation of tuberculin T.R. we always make use of the same culture which is grown upon a special nutrient medium of constant composition. Commencing in this way the preparation of the tuberculin T.R. proceeds quite uniformly, so that approximately 100 cubic centimetres of T.R. are always obtained from one gramme of dried tubercle bacilli. These 100 cubic centimetres of T.R. therefore contain according to Koch's view the immunising substance of one gramme of dried bacilli. One cubic centimetre of T.R. therefore corresponds to 10 milligrammes of dried bacilli, but 100 cubic centimetres of T.R. in reality contain only 0·2 gramme of dry constituent and one cubic centimetre therefore contains only 0·002 gramme, or two milligrammes of dry constituent.

In his above-quoted article Koch gives the following detailed instructions for the clinical use of T.R.:—

> The fluid contains 10 milligrammes of solids per cubic centimetre (*im ccm 10 mg fester Substanz*) and for use it must be brought to the required dose by dilution with physiological solution of common salt, not with carbolic acid solution. A beginning is made with $\frac{1}{500}$th of a milligramme.

From the above full description of the method of preparation it follows that Koch's expression, "the fluid contains 10 milligrammes of solids per cubic centimetre," must be understood to mean "one cubic centimetre contains the active or immunising substance of 10 milligrammes of dried tubercle bacilli." Consequently in beginning a course of tuberculin treatment with an initial dose of T.R., which, as Koch's directions require, corresponds to $\frac{1}{500}$th of a milligramme of tubercle bacilli, it is necessary to dilute the T.R. to such an extent that the operator may inject $\frac{1}{5000}$th (0·0002) of a cubic centimetre of the original fluid.

Practical experience has shown that dilution is best effected with a 20 per cent. solution of glycerine. With this there is no fear of precipitating the solid constituents of the T.R. because it has been stated above that they are not precipitated until the addition amounts to 50 per cent. of glycerine. This solution, hereinafter called glycerine water, is prepared by mixing 20 cubic centimetres of pure glycerine with 80 cubic centimetres of distilled water and boiling for 20 minutes. The fluid must be quite cold when used. The operator takes 0·3 cubic centimetre of tuberculin T.R. from an original bottle with a pipette divided into tenths of a cubic centimetre and adds to it 2·7 cubic centimetres of glycerine water. This gives a dilution of 10 per cent. strength (*eine 10 procentige Verdünnung*). Of this fluid 0·1 cubic centimetre is added to 9·0 cubic centimetres of glycerine water. This gives a thousandfold dilution, and of this 0·2 cubic centimetre or two divisions of a Koch syringe

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[1] From the Bacteriological Department of the Farbwerke at Höchst am Main.

13 deaths attributed to diarrhœa, six occurred in Glasgow, four in Dundee, and two in Aberdeen. Three of the five fatal cases of scarlet fever were returned in Glasgow. The three deaths referred to "fever" showed a marked decline from recent weekly numbers, and were fewer than in any previous week of this year; of the two in Glasgow, one was certified as enteric and one as cerebro-spinal meningitis; the one in Leith was due to cerebro-spinal meningitis. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 156 and 142 in the two preceding weeks, rose again to 158 in the week under notice, and exceeded by 11 the number returned in the corresponding week of last year. The causes of 14, or 2·1 per cent., of the deaths in these eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·1 and 24·8 per 1000 in the two preceding weeks, declined to 23·9 in the week ending March 21st. During the first 12 weeks of the current quarter the death-rate in the city averaged 25·3 per 1000, the mean rates during the same period being only 17·7 in London and 18·4 in Edinburgh. The 181 deaths of Dublin residents registered in the week under notice showed a decline of seven from the number returned in the previous week, and included but four which were referred to the principal epidemic diseases, corresponding with the number in the preceding week; these four deaths included one each from measles, scarlet fever, whooping-cough, and "fever," while no death resulted from diphtheria, diarrhœa, or small-pox. These four deaths were equal to an annual rate of but 0·5 per 1000, the death-rate last week from these principal epidemic diseases being equal to 1·1 in London and to 1·3 in Edinburgh. The 181 deaths from all causes in Dublin last week included 26 of infants under one year of age and 63 of persons aged upwards of 60 years; the deaths of infants showed a decline, while those of elderly persons exceeded those returned in recent weeks. Two inquest cases but no deaths from violence were registered, and 95, or 52·5 per cent., of the deaths occurred in public institutions. The causes of four, or 2·2 per cent., of the deaths in Dublin last week were not certified; in London all but one of the 1455 causes of death were duly certified, while in Edinburgh the proportion of uncertified deaths was 4·0 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Surgeon Herbert Lyne Geoghegan has been promoted to the rank of Staff Surgeon in His Majesty's Fleet (dated May 15th, 1907).

The following appointments are notified:—Fleet Surgeons: R. Miller to the *President*, additional, temporarily. Surgeon: E. A. G. Wilkinson to the *Racer* for Osborne College. Civil Practitioner: D. Hadden, appointed surgeon and agent at Wexford.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Charles W. Thiele retires on retired pay (dated March 21st, 1908).

Lieutenant-Colonel W. Rowney has been appointed to the medical charge of the Connaught Hospital, North Camp, Aldershot. Lieutenant-Colonel H. J. Barratt has been appointed to medical charge at Shorncliffe. Major W. H. Horrocks has been appointed sanitary officer in London.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Edgar W. Livesey to be Surgeon-Major (dated March 14th, 1908).

IMPERIAL YEOMANRY.

Royal East Kent (The Duke of Connaught's Own): Campbell Tilbury Fox to be Surgeon-Lieutenant (dated Feb. 28th, 1908). Northamptonshire: Surgeon-Lieutenant Edward M. Knott resigns his commission (dated Feb. 24th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): The Highland: Surgeon-Major J. M. Moir to be Surgeon-Lieutenant-Colonel (dated Feb. 10th, 1908). 2nd Lancashire: Surgeon-Captain Thomas Stevenson to be Surgeon-Major (dated March 3rd, 1908).

Rifle: 7th (Isle of Man) Volunteer Battalion, The King's (Liverpool Regiment): Surgeon-Captain William Richardson to be Surgeon-Major (dated Feb. 13th, 1908). 2nd (Prince of Wales's) Volunteer Battalion, The Devonshire Regiment: Surgeon-Captain Ernest P. A. Mariette to be Surgeon-Major (dated Feb. 18th, 1908). 1st Cinque Ports Volunteer Rifle Corps: Alfred Alexander to be Surgeon-Lieutenant (dated Feb. 24th, 1908). 1st Volunteer Battalion, The Durham Light Infantry: Douglas Vercoe Haig to be Surgeon-Lieutenant (dated Jan. 30th, 1908); David Leonard Fisher to be Surgeon-Lieutenant (dated Jan. 31st, 1908); George Greig Farquhar to be Surgeon-Lieutenant (dated Feb. 1st, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

London District: London Companies: George Langrigg Leathes Lawson (late Surgeon-Captain, 6th Regiment, Imperial Bushmen, New South Wales) to be Lieutenant (dated June 1st, 1907).

ROYAL VISIT TO MILLBANK.

On March 20th the Queen, accompanied by the Dowager Empress of Russia and Princess Victoria, paid a surprise visit to the Royal Military Hospital and to the Royal Army College, Millbank. Lord Roberts, Sir Frederick Treves, Sir Alfred Keogh (Director-General of the Army Medical Service), and others received the Royal party, who carefully inspected all the buildings. In the pathological laboratory of the Royal Army Medical College Colonel Bruce, explained the work done in that department of the College.

THE ALEXANDRA MILITARY HOSPITAL.

The Alexandra Military Hospital at Cosham, which has recently been formally occupied, the projected Royal opening having been abandoned, will accommodate 220 patients. The new hospital is situated on the slopes of Portsdown Hill and will serve the Southern Military Division. It was built to replace Netley Hospital and the Station Hospital at Portsmouth.

Captain F. J. Brakenridge, R.A.M.C., has received the King's permission to accept and to wear the Imperial Ottoman Order of the Medjidieh of the Fourth Class which has been conferred upon him by the Khedive of Egypt in recognition of valuable services rendered.

It is announced that officers of the Royal Army Medical Corps cannot be considered regimental officers for the purpose of drawing detention allowances under Clause 1 of Indian Army Order No. 405 of 1907.

Correspondence.

"Audi alteram partem."

CHANGES IN THE HEART DURING ADOLESCENCE.

To the Editor of THE LANCET.

SIR,—In a recent leading article you did me the honour to quote from my observations on the changes, in size and proportion, of the heart during the period of adolescence, published in the "Report of the Health of the Navy" for the year 1902. Permit me to add that further experience and investigation have convinced me that this condition is physiological rather than pathological and is much more common than is generally supposed. The present state of athletics in excelsis renders obvious the necessity of a vigilant observation on growing youths by their responsible medical advisers. Fortunately, our increased knowledge of the normal evolution of the heart and the disorders of its structures and mechanism indicates both a preventive hygiene and a rational therapeusis, if these cases are only taken in time. In my report I alluded to the following points which may interest some of your readers and which I submit to their judgment and criticism.

Since Hope in 1839 laid down that a certain class of cardiac murmurs were due to altered physical properties of the blood, to unfilled vessels, and modified velocity of current, his views were almost universally accepted until quite recent years, although Skoda in 1853 expressed some doubt that a depraved state of the blood should necessarily create thank you for your kind vote of thanks which you have so cordially received. I am indeed gratified at the present most satisfactory state of the Fund. These excellent results are due to the many good friends who support me and who carry out the hard work—and it is very hard work—of administering this large sum of money. It is impossible for me to express sufficiently my gratitude to them for all they do in helping the Fund.

The proceedings then closed.

LYNN THOMAS AND SKYRME FUND.

THE following list of subscriptions (up to March 20th) has been received from Mr. William Sheen, 2, St. Andrew's Crescent, Cardiff, who is acting as secretary to the Fund:—

Subscribers of Ten Guineas.

Sir Charles B. Ball, Dublin.
George Lenthal Cheatle, C.B., London.
W. T. Edwards, Cardiff.
W. Lloyd Edwards, Barry, Glam.
A. Pearce Gould, London.
W. Arbuthnot Lane, London.
G. H. Makins, C.B., London.
C. W. Mansell Moullin, London.
J. Rutherford Morison, Newcastle-on-Tyne.
J. H. Nicoll, Glasgow.
E. J. Parry, Pontycymmer, Glam.

Subscribers of Ten Pounds.

Robert Jones, Liverpool.
A. Garrod Thomas, Newport.

Subscribers of Six Guineas.

Honorary Staff of Stockport Infirmary, per E. Rayner, Stockport.

Subscribers of Five Guineas.

E. L. Adams, East Croydon.
Sir Lauder Brunton, London.
Edred M. Corner, London.
Henry Davy, Exeter.
A. Francis Dixon, Dublin.
W. Washington David, Llwynypia, Glam.
Sir H. M. Ellis, K.C.B., Director-General, Royal Navy.
T. D. Griffiths, Swansea.
R. W. Jones, Penrhiwceiber, Glam.
D. J. Jones, Pontypool, Mon.
R. Conway Joyce, Porth, Glam.
C. B. Keetley, London.
Pagan Lowe, Bath.
E. J. Maclean, Cardiff.
B. G. A. Moynihan, Leeds.
Edmund Owen, London.
William Osler, Oxford.
J. Powell, Newcastle Emlyn.
H. M. Rigby, London.
William Sheen, Cardiff.
A. H. Tubby, London.
W. E. Thomas, Ystrad, Glam.
J. Tatham Thompson, Cardiff.
T. W. Thomas, Caerphilly.
D. J. Williams, Llanelly.
H. P. Waterhouse, London.
Sinclair White, Sheffield.
J. L. W. Ward, Merthyr.

Subscribers of Five Pounds.

Anthony A. Bowlby, C.M.G., London.
Sir John Williams, Bart., K.C.V.O., Llanstephan, Carm.

Subscribers of Three Guineas.

W. F. Brook, Swansea.
H. G. Barling, Birmingham.
G. A. Brown, Tredegar, Mon.
E. R. Bickersteth, Liverpool.
C. A. Ballance, London.
A. E. Barker, London.
Andrew Clark, Uxbridge, Middlesex.
F. Richardson Cross, Bristol.
E. Goodall, Cardiff.
Honorary Staff, General Infirmary, Macclesfield (per J. B. Hughes).
J. Hutchinson, London.
J. Arnallt Jones, Aberavon, Glam.
Evan Jones, Aberdare.
Sir William Macewen, Glasgow.
D. Naunton Morgan, Gilfach Goch, Glam.
Medical Society, Watford (per Thomas Smith, hon. sec.)
D. R. Paterson, Cardiff.
D. T. Richards, Risca, Mon.
W. Mitchell Stevens, Cardiff.
Alexis Thomson, Edinburgh.
C. T. Vachell, Cardiff.
W. J. Williams, Middlesbro-on-Tees.

Subscribers of Two Guineas.

W. Alexander, Liverpool.
A. T. Blease, Altrincham, Cheshire.
H. B. Butler, Guildford.
James Berry, London.
H. Langley Browne, West Bromwich.
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P. Rhys Griffiths, Cardiff.
J. Gutch, Ipswich.
W. S. Haughton, Dublin.
G. S. Hatton, Newcastle, Staffs.
W. Ll. Jones, Merthyr.
Surgeon-General Sir Alfred Keogh, K.C.B., Director-General, Army Medical Service.
F. W. Kent, Barry, Glam.
H. A. Latimer, Swansea.
A. J. Lawrence, Chepstow.
John Langton, London.
R. Clement Lucas, London.
J. A. Macdonald, Taunton.
G. A. Morton, Bristol.
J. W. Mulligan, Abersychan, Mon.
J. H. Morgan, London.
William Martin, Cardiff.
R. H. Mills-Roberts, Llanberis, N. Wales.
P. Macgregor, Huddersfield.
Sir R. Douglas Powell, Bart., K.C.V.O., London.
G. H. Percival, Northampton.
T. W. Parry, Ferndale, Glam.
R. J. Pye-Smith, Sheffield.
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(FROM OUR OWN CORRESPONDENT.)

Walsall's New Sewage Scheme.

THE pressure brought to bear by the Local Government Board and the county council has compelled Walsall to face the question of a proper solution of its sewage problem. The desire of a town council to put off the adoption of a costly scheme is quite easy to understand in a period when taxes and rates are advancing in a way which is quite out of proportion to the returns from productive labour, but a proper sewage scheme has become a necessity and Walsall will have to face an increased rate of about 3*d.* in the £, for if the scheme be approved it will be necessary to ask the Local Government Board to sanction a loan of £62,734 to meet the costs, and the interest on that sum and other incidental expenses can only be met by an increased rate of 3*d.*

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March 23rd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Ladies' Sanitary Association and Infantile Mortality.

THE Liverpool Ladies' Sanitary Association is endeavouring to raise a fund of £1500 to cope with the great waste caused by the appalling death-rate among infants and young children in the city. A suitable house has been purchased by the generosity of two ladies and will be used as a hostel for the children's nurses trained by the association. It will contain a day nursery where these nurses can obtain practical instruction in the care of infants. The association, in addition to the work of the hostel and day nursery, intends to send mothers' visitors out into the city to give advice and personal help to expectant mothers before confinement and to render some further assistance after midwives, medical men, or district nurses have ceased to visit these cases. A suitable matron has been engaged for the hostel and day nursery and it is intended to employ a trained lady to superintend the mothers' visitors. These mothers' visitors will have practical help in their work by magistrate should take the place of the medical man and cause himself to be sent for when drunkenness is disputed at the police station in order to form his opinion at the time and on the spot. Otherwise he has to form it next day upon the evidence of the less qualified of the witnesses available after having declined to allow better evidence within easy reach to be presented to him, a course more likely to "paralyse justice" than the summoning of a medical man in a few instances in which his presence is not absolutely necessary. The fact that a medical man in some cases of apparent drunkenness and in others where the prisoner is, in fact, intoxicated may be able to render valuable assistance is also one not to be lost sight of.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on March 19th, Dr. F. H. CHAMPNEYS being in the chair.

Mr. J. WARD COUSINS moved the following :—

> That as no arrangement for the payment of fees to medical men summoned to assist certified midwives has been made satisfactory to the medical practitioners of the country, the time has arrived for the Board to reconsider the question, with special reference to the efficient operation of the Midwives Act, 1902.

He said that the Central Midwives Board should reconsider the question of payment to medical men summoned to assist certified midwives. All the great medical colleges and corporations, the British Medical Association, and the Society of Apothecaries were of opinion that the Board should reconsider the question. Up to the present time that Board had not achieved anything. They knew that certain places like Liverpool, Manchester, and Birmingham had arranged for the payment of fees to medical men summoned to assist certified midwives, but the Midwives Act extended over England and Wales and practically nothing had been done. No method of dealing with this question would be sufficient unless it applied to the whole of the area under the control of the Board. Medical men would never be satisfied with the partial suggestions contained in the circular of the Local Government Board dated July 29th, 1907, addressed to all boards of guardians. In that circular the Local Government Board intimated that if the guardians would only be kind and liberal and pay medical men called in by midwives if the guardians thought fit, then there would be an end to the difficulty and the medical men would have nothing to complain about. But there was *not* a single argument proving that those directions to the guardians were in any way satisfactory to the medical profession. His own feeling was that if anything was done it must be done by the Central Midwives Board. By the third section of the Midwives Act it was provided that the duties and powers of the Board were to do any act or duty which might be necessary for the due and proper carrying out of the provisions of the Act. He must, however, leave the exact legal meaning of those words to those who interpreted Acts of Parliament, but he maintained that it was absolutely impossible for the Act to be successfully carried out unless the difficulty in regard to the payment of medical men summoned by certain midwives was fairly met. He further wished to emphasise the fact that if the Act was not carried out it was the poor women and children of this country who would suffer. In 1910 all the old "Sairey Gamps" would be cut off from the practice of midwifery, and unless provision was made for the payment of medical men the certified midwives would be left without assistance, for it was absurd to expect medical men to attend cases for nothing. The suggestion that the difficulty could be met by an amendment of the Midwives Act was useless because there was not the slightest prospect of that coming about. It seemed to him, therefore, that the Central Midwives Board must find a solution of the difficulty and they must arrange for another interview with the Local Government Board to discuss the matter. He was quite sure that the idea of leaving the question of the payment of medical men to the boards of guardians was futile, for the boards of guardians would not think fit to pay the fees. From his experience of guardians if the question of a fee to a medical man was before them it would be discussed for hours and nothing would be done. The whole matter would assume a different aspect if the Local Government Board ordered boards of guardians to pay the fees of medical men, directing that the applications for such payments should be made to the guardians through the local supervising authorities. The important point was that the Central Midwives Board should draw up a fair scale of fees for medical men called in by certified midwives and then interview the Local Government Board and explain the difficulties attending the working of the Midwives Act. In that way a great deal of good would be produced, and he hoped by that means the breach between medical men and midwives would be healed.

Mr. E. PARKER YOUNG, in seconding the motion, said that the Government ought to take the matter up. The Act ought to act smoothly instead of being, as it was at present, unworkable. The Government ought to make proper provision for the payment of medical men and the matter ought not to be left to the decision of guardians whether they thought fit to pay or not. If the motion was carried they could go to Mr. John Burns, who was a fair man, and discuss it with him.

Dr. STANLEY B. ATKINSON suggested that the words "and certified midwives" should be added after the word "practitioners," and this was accepted by the mover and seconder of the motion.

Dr. CHAMPNEYS *said that they had reason to be grateful to* the Local Government Board for issuing the circular of July 29th, 1907. The circular did not solve the whole question, but that was another matter ; at any rate it was a recognition that something ought to be done. He then proceeded to read out the circular of the Local Government Board of July 29th, and said it was a document that could not be passed over as unsatisfactory and it ought to be known to medical men. More was required than had been done but it was not in accordance with facts to state that the Central Midwives Board had not done anything in regard to this question of payment of medical men. The following record taken by the secretary, Mr. Duncan, from the minutes of the Board showed how much attention and care the Board had expended on that important subject. Dr. Champneys then read out the following :—

> On February 25th, 1904, it was moved by Mr. Parker Young, seconded by Mr. Ward Cousins, and unanimously resolved : "That inasmuch as no provision is made in the Midwives Act, 1902, for the payment of legally qualified medical practitioners, the Government be requested to take the necessary steps for amending the Act, by introducing a section or otherwise, to provide for the payment of legally qualified medical practitioners when called in by midwives in difficult cases. Resolved further that a copy of this resolution be sent to the Privy Council. Resolved also that the secretary do include this resolution in the summary of the proceedings of the Board as supplied by him to the press."
>
> On November 24th, 1904, a letter was read from the hon. secretary of the Metropolitan Counties Branch of the British Medical Association inclosing a copy of a letter addressed by the branch to the London County Council, with accompanying pamphlet, and asking for the coöperation of the Board with the London County Council in obtaining powers from Parliament to pay registered medical practitioners when called in by midwives in emergencies. It was moved by Mr. Parker Young, seconded by Mr. Ward Cousins, and unanimously resolved : "That the hon. secretary of the Metropolitan Counties Branch of the British Medical Association be informed, (1) that this Board agrees that statutory provision should be made for the payment of the services of a registered medical practitioner when called in by a midwife in accordance with the rules of the Board ; (2) that the Board has already forwarded a resolution to this effect to the Privy Council."
>
> On July 26th, 1906, a letter was read from the clerk of the London County Council inclosing a copy of a letter from a certified midwife as to the payment of fees to medical practitioners when summoned in cases of emergency. Resolved : "That the London County Council be informed that the Board has repeatedly urged the amendment of the Midwives Act so as to provide for the payment of such fees, and that in some cases boards of guardians pay such fees where the poverty of the patient appears to justify such a course without insisting on the order of the relieving officer being obtained beforehand."
>
> On June 27th, 1907, the adjourned consideration of the report of the Midwives Act Amendment Committee was then proceeded with. Resolved : "That provision should be made for the payment out of public funds of reasonable fees to medical practitioners sent for in emergencies in accordance with the rules of the Board, with power to recover such fees from the patient or other person responsible, in suitable cases."
>
> On November 28th, 1907, a letter was read from Dr. W. P. T. Daniel, of 273, Cable-street, London, E., forwarding a copy of a resolution adopted at a meeting of medical men residing in the parish of St. George-in-the-East and neighbourhood, declaring their intention, after November 30th, not to proceed to any case of parturition, &c., occurring in the parish, on the requisition of a midwife, unless a minimum fee of one guinea is guaranteed either by the guardians or by the Central Midwives Board. Resolved : "(*a*) That a copy of the correspondence be sent to the Privy Council, pointing out the difficulties and dangers of the situation, and suggesting that a copy of the Local Government Board's circular on the subject, dated July 29th, 1907, should be forwarded to every medical practitioner in England and Wales. (*b*) That the Board's action in the matter be communicated to Dr. Daniel, and that he be informed that the Board has no power to pay fees in such cases."

The Privy Council had adopted the Board's suggestion that of two cases of pancreatitis with jaundice which I had the opportunity of investigating in Sir Thomas Fraser's wards in the Edinburgh Royal Infirmary. These cases were examined by me incidentally in the course of an extensive investigation into the clinical value of the pancreatic reaction in the urine (Cammidge). One of the cases was a patient with simple "catarrhal jaundice," the other was a case of malaria (malignant type) with jaundice. In each case a diagnosis of pancreatitis was made, from the association of (*a*) jaundice, (*b*) marked tenderness in the region of the head of the pancreas, and (*c*) a marked positive reaction in the urine by the pancreatic reaction. The results of my observations on these cases led me to conclude that the jaundice occasionally met with in malaria has its origin in pancreatic disease, and further that inflammation of the pancreas is an important factor in the development of simple "catarrhal jaundice." These views are in close accord with those expressed by Dr. Phillips, and in view of the clinical importance of the subject I have ventured to draw fresh attention to it.—I am, Sir, yours faithfully,

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LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Ladies' Sanitary Association and Infantile Mortality.

THE Liverpool Ladies' Sanitary Association is endeavouring to raise a fund of £1500 to cope with the great waste caused by the appalling death-rate among infants and young children in the city. A suitable house has been purchased by the generosity of two ladies and will be used as a hostel for the children's nurses trained by the association. It will contain a day nursery where these nurses can obtain practical instruction in the care of infants. The association, in addition to the work of the hostel and day nursery, intends to send mothers' visitors out into the city to give advice and personal help to expectant mothers before confinement and to render some further assistance after midwives, medical men, or district nurses have ceased to visit these cases. A suitable matron has been engaged for the hostel and day nursery and it is intended to employ a trained lady to superintend the mothers' visitors. These mothers' visitors will have practical help in their work by

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

The City of Carlisle.—Commenting upon the Notification of Births Act, 1907, Mr. William Brown expresses the opinion that the Act, if adopted by the urban district council, can exert no beneficial effect unless provision for personal supervision by a trained staff of nurses is made. There is no doubt that this is quite a sound conclusion and apparently the Local Government Board is taking the view that its consent to the adoption of the Act should not be given unless it can be shown that good use is likely to be made of the information obtained; in other words, the Act is apparently to be used as a lever for the appointment of health visitors. There has been a remarkable reduction in the number of cases of enteric fever in Carlisle during recent years and Mr. Brown, who has taken much interest in the matter, attributes such reduction to the removal of private slaughter-houses, of ashpits, and of privies, and to general sanitary measures making for cleanliness.

Ilkley Urban District.—Dr. Augustus H. Bampton has not found the slop-closet method of excrement disposal satisfactory owing to the impracticability of keeping the upper portion of the closets clean. In some instances such closets are, he thinks, no better than the old-fashioned rural privy and he inclines to the view that they may have been instrumental in the causation of diphtheria; indeed, he goes so far as to suggest that the "general adoption of slop water-closets in towns may account for the incidence of diphtheria being transferred from the rural to the town district, the town district having practically adopted the former rural privy." We are afraid that slop-closets are not of sufficiently wide distribution in the country generally to render this explanation a very probable one. The infantile mortality in the district is a low one, the rate for 1907 having been only 88·5 per 1000 births and the average for the last ten years only 110 per 1000. The alleged cause of deaths was in the majority of cases either premature birth or congenital defects, neither of which are, Dr. Bampton thinks, preventable. Defective germ plasm cannot, he thinks, "be controlled by legislation. The fault is *ab initio*. There always will be addled eggs." As regards tuberculosis the medical officer of health suggests that this disease may be becoming less and less fatal owing to the fact that we are as a community becoming to a certain degree protected, possibly by repeated small doses of the bacillus.

Borough of Sutton Coldfield.—Dr. A. Bostock Hill refers in his current annual report to a case of diphtheria in which he regards the evidence as pointing to the conclusion that the disease was contracted from a cat which had been unwell before the patient showed signs of the malady. Later the cat became so ill that its destruction was considered advisable and upon some of the secretion from the throat being examined the diphtheria bacillus was detected.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8663 births and 5257 deaths were registered during the week ending March 21st. The mean annual rate of mortality in these towns, which had been equal to 17·6 and 17·2 per 1000 in the two preceding weeks, further declined to 16·9 in the week under notice. During the first 12 weeks of the current quarter the annual death-rate in these towns averaged 18·1 per 1000; the mean rate in London during the same period did not exceed 17·7. The lowest annual death-rates in the 76 towns last week were 8·8 in Great Yarmouth, 9·0 in Hornsey, 10·3 in York, and 10·5 in Aston Manor; the rates in the other towns ranged upwards to 25·0 in St. Helens and in Wigan, 25·2 in Bootle, 25·7 in Middlesbrough, and 27·6 in Hanley. The rate of mortality in London last week did not exceed 15·8 per 1000. The 5257 deaths in the 76 towns last week showed a further decline of 92 from the number in recent weeks, and included 409 which were referred to the principal epidemic diseases, against 414 and 400 in the two preceding weeks; of these, 151 resulted from whooping cough, 112 from measles, 62 from diphtheria, 38 fro diarrhœa, 30 from scarlet fever, and 16 from "fever" (principally enteric), but not one from small-pox. Th deaths from these epidemic diseases in the 76 towns wer equal to an annual rate of 1·3 per 1000, correspondin with the rate in each of the two preceding weeks; the rat from the same diseases in London did not exceed 1·1. N death from any of these epidemic diseases was registered la week in Leicester, Walthamstow, York, Devonport, Coventry or in eight other smaller towns; the annual death-rates fro these diseases ranged upwards, however, to 4·0 in Burnley 4·3 in Rhondda, 4·8 in Salford, and 6·6 in Warrington The fatal cases of whooping-cough in the 76 towns, whi had been 138, 149, and 134 in the three preceding weeks, rose to 151 in the week under notice; the highest death-rate. from this disease last week were 2·0 in Newport (Mon.), 2·3 in Sunderland, 3·0 in Wallasey, and 5·1 in Warrington The 112 deaths from measles were, however, fewer by 1 than the number in the previous week, but caused death rates equal to 2·0 in Burnley, 2·2 in Preston, 2·4 i Salford, 2·9 in Stockton-on-Tees, and 3·1 in Rhondda. Th deaths referred to diphtheria, which had been 66 and 58 i the two preceding weeks, rose again to 62 in the wee under notice; the highest death-rates from this diseas last week were 1·5 in Bournemouth, in Smethwick, and in Warrington. The 30 fatal cases of scarlet fever showed a decline of five from the number the previous week but included 11 in London, three Salford, and two in Birmingham, Birkenhead, and in Burnley. The 38 deaths attributed to diarrhœa exceeded those in the previous week by ten. Of the 16 deat referred to "fever" two were registered in London, in Liverpool, and in Leeds. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 15 preceding weeks from 5591 to 3429, had further fallen to 3356 on March 21st; 378 new cases were, however, admitted to these hospitals during the week under notice, against 345 and 312 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined in the five previous weeks from 481 to 317, rose to 320 in the week under notice, but were ten below the corrected average number in the corresponding week of the five years 1903–07. The deaths directly referred to influenza in London further declined last week to 68, from 141, 122, and 93 in the three preceding weeks. The causes of 60, or 1·1 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Hull, Salford, and in 48 other smaller towns; 14 uncertified causes of deaths were, however, registered last week in Liverpool, 11 in Birmingham, eight in Sheffield, four in Sunderland, and three in South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 19·3 and 20·3 per 1000 in the two preceding weeks, declined to 18·5 in the week ending March 21st, but exceeded by 1·6 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates last week ranged from 14·6 and 15·2 in Edinburgh and Aberdeen, to 21·3 in Dundee and 22·2 in Perth. The 652 deaths in these eight towns showed a decrease of 62 from the number returned in the previous week, and included 84 which were referred to the principal epidemic diseases, against 96 and 97 in the two preceding weeks; of these, 37 resulted from measles, 24 from whooping-cough, 13 from diarrhœa, five from scarlet fever, three from "fever," and two from diphtheria, but not one from small-pox. These 84 deaths were equal to an annual rate of 2·4 per 1000, which exceeded by 1·1 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight towns, which had been 47 and 46 in the two preceding weeks, further declined to 37 in the week under notice, and included 30 in Glasgow and five in Edinburgh. The 24 deaths from whooping-cough showed a further increase of four upon the numbers in recent weeks; 13 were returned in Glasgow, three each in Edinburgh, Leith, and Dundee, and two in Greenock. Of the in reply to the statements made against him, but he was shouted down. Mr. William McLeod then remarked that the parish council could dismiss a medical officer at any time without giving any reason, and went on to say: "A doctor is like a herd boy. You can dismiss him at any time by giving him notice." On a vote being taken five members voted in favour of Mr. Homer's dismissal and five against it. The chairman then gave his casting vote against the dismissal, which was the signal for a howl of disapproval and a chorus of violent protests. The disorderly incidents of this meeting and the threatening attitude of a large proportion of the parish council make it plain that a medical officer in the service of such a council must necessarily be a mere dependent, holding office under conditions which are hardly compatible with the position of a professional man. This system of providing medical advisers for sick paupers is evidently ripe for reform, and the Bill introduced in the House of Commons by Mr. Cathcart Wason, as mentioned in THE LANCET of March 21st, is a step in the right direction.

March 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Richmond Lunatic Asylum.

AT its monthly meeting on March 19th the joint committee of the Richmond District Asylum (Dublin) proceeded to the appointment of a resident medical superintendent in succession to the late Dr. Conolly Norman. At the meeting a report was submitted from a special committee of 21 members which had been appointed for the purpose of recommending changes in the staff consequent upon Dr. Norman's death. The resulting report included a minute to the effect that the vacant post should be filled by promotion from the staff and it was unanimously recommended that Mr. John O'Conor Donelan should be advanced to the position of resident medical superintendent, with the same authority and powers which had been given to the late resident medical superintendent, subject to the orders made by the joint committee regarding the responsibility of the various officers in connexion with the work assigned to them in their respective departments, and that Mr. Donelan's salary was to be fixed at £800 per annum, with house and other allowances estimated at £100 per annum. The committee further recommended that Mr. H. M. Cullinan, who had for many years been senior assistant at the Richmond Lunatic Asylum, should be promoted to the position of first medical officer at Portrane, at a salary of £600 per annum, with allowances similar to those given to Mr. Donelan. Some minor recommendations were also made regarding the subordinate members of the staff. The committee recommended no addition to the medical staff—making a special note expressive of a strong opinion "that the staff as now proposed ought to be sufficient to carry on the medical work of the institution, including annual leave." All the recommendations made were unanimous. The chairman, in moving the adoption of the report, after having referred in warm terms to the record of Mr. Donelan during the considerable number of years which he had spent in their service, pointed out that the readjustment which had been recommended by the special committee would effect a saving of nearly £600 per annum. The report was unanimously adopted.

Club (Contract) Practice.

Contract practice has not hitherto reached any considerable dimensions in Ireland, as it has done in the neighbouring island. Nor is it at all likely to as things go, either in the present generation or during the course of that next succeeding. There is, however, a somewhat similar arrangement in the club medical practice in Dublin, although this has not the wide prevalence of the analogous English growth which is now so characteristic of the large towns. Still, there exists a goodly proportion of club practice and club patients in the Irish metropolis, and the origin and survival thereof are due to very much the same source from which arises the crying evil of hospital abuse—the excess of professional supply over professional demand, with the jealousies and want of *esprit de corps* which flourish so readily in a profession of which the members can be subjected to no criterion of skill or attainments whereof the average public is qualified, as a body, to form anything approaching a just estimate. There are a good many clubs at present in Dublin the members of which pay an annual sum varying from 3*s.* to 5*s.* per annum, in return for which they receive medical and surgical advice, medical and surgical attendance at their homes, medical and surgical remedies and preparations required for the patient's use in every case of sickness, with medical, surgical, and obstetric advice, treatment, and medicine for all members of his family—in the case of every married member. It is, of course, quite superfluous to criticise the profit to either of the parties concerned in the fulfilment of this contract.

Epidemic Cerebro-spinal Meningitis.

It is announced that a special meeting of the Dublin corporation will shortly be held "to declare cerebro-spinal meningitis to be a notifiable disease for the period to the end of the 31st December, 1908, under the provisions of the Infectious Disease (Notification) Act, 1889." This is not due to any new or special apprehension. The conspicuously high death-rate of Dublin compared with that of the other large cities of the Empire makes the relatively easy escape which Dublin has had from cerebro-spinal meningitis a source of special satisfaction to the public health department for the conditions in Dublin have certainly been such as tended to make it a special focus of attraction for the germs of "spotted fever," a statement which is well borne out by the fact that the earliest description of "cerebro-spinal arachnitis" as a distinct clinical entity emanated from Dublin (in 1846).

Employers' Liability.

How very circumspectly employers must walk within the limits of the domain governed by the Employers' Liability Act has been sharply demonstrated by a decision that has just been given by the Recorder of Dublin. A gardener had had the sole of his foot penetrated to a slight depth by a dirty nail. Tetanus developed a few days afterwards and led to a fatal result. The bereaved widow sued the employer for damages under the recent Act of Parliament, and the latter had apparently not foreseen the almost boundless reach of the new law and had omitted the precaution to take out any inclusive policy of insurance. The Recorder, although apparently not devoid of sympathy with the employer's over-confidence, gave judgment in the widow's favour, with £150 damages, pointing out that the letter of the law absolutely forbade his taking any other course.

High Death-rate in Belfast.

For the week ended March 14th the death-rate from all causes was unusually high, 26·5, the mortality from chest affections alone being 12·3. The zymotic death-rate was only 1·9 and of this 1·5 was due to measles and whooping-cough, the death-rate for all the other infectious diseases being 0·4. There were on March 14th still 23 cases of cerebro-spinal fever in Purdysburn municipal fever hospital. It is a pity that the medical officer of health of Belfast attributes in his report the death-rate at present from chest affections in that city as being "entirely due to climatic conditions." This mortality was, as stated above, 12·3. Now at the same time in Edinburgh the total death-rate was only 17·3 per 1000 from all causes, and the climate of that city does not differ much from that of Belfast; indeed, most people who have lived in both places would say, from a chest point of view, that the climate of Edinburgh was the worse of the two towns. In 1862 the death-rate was from all causes in Edinburgh 25·88. In Belfast the latest returns give the death-rate from all causes as 26·5 and 12·3 from chest affections. What is the reason of the difference in the two places?

Queen's College, Belfast, Annual Dinner.

The annual dinner under the auspices of the amusements committee of the Students' Representative Council of Queen's College, Belfast, was held in the great hall on the evening of St. Patrick's Day, Dr. E. Letts (professor of chemistry) presiding. After the usual loyal toasts, Mr. A. B. Mitchell proposed "Queen's College, Belfast," pointing out the prominent part which it had played in the life of the country, to which the President (Rev. Dr. Hamilton) responded, saying that no matter what might befall the institution during the coming year they wanted room to do their work and to afford all classes of His Majesty's subjects, without distinction of creed or class, the benefit of a liberal education. Professor W. St. Clair Symmers proposed the toast of "The Queen's College Clubs and Societies," to which Mr. C. R. Crymble murmur, considering that in malignant disease and in some forms of phthisis in which the heart becomes atrophied *and not dilated* the so-called hæmic murmurs are absent. Now, however, the subject has been reconsidered by Balfour, MacAllister, Heitler of Vienna, and many others, and some of the interest hitherto monopolised by the valvular apparatus has been transferred to the state of the cardiac muscle and its nervous relations, with the result that it is now conclusively proved that dilatation *per se* apart from any purely valvular defects or abnormalities leads to regurgitation at the auriculo-ventricular orifices. ...... This condition, as long as it remains only slight and being associated with a normal physiological developmental process, naturally tends to repair or to a spontaneously favourable end. ...... Similar symptoms occur also later in life in adults, previously healthy, who have been subjected to unaccustomed forced exertion ...... these cases, in my opinion, are nearly always curable if they are treated rationally and with patience. No medicine is of the slightest use to obtain relief which can only be effected by providing a prolonged rest in the recumbent position for at least two hours in the middle of the day, so as to improve the muscular tone of the heart in allowing it to recover its exhausted energies and strength. ...... I submit a few practical points in determining the condition of the heart of the young adult, often a question difficult to decide accurately during the peculiar period of development at which it so often comes under our notice. In estimating the area of cardiac dulness choose the erect posture and the period of expiration. In the recumbent posture the intervening loose cellular tissue is not strong enough to keep the heart close to the sternum and ribs and preventing its receding by the force of gravity, and during inspiration either a large portion of lung may be brought in front of the heart, or the portion which is always in front of it may be so thickened by inflation as to thrust backwards for the time more of the heart than it actually covers. Even in the healthy heart the sound admits varieties in kind. A more clear sound proceeds from a thin heart and a duller sound from a thick heart; a sound of great extent from a large heart, of less extent from a small heart. Greater impulse is given by a thick heart, feebler by a thin one. Impulse is conveyed further from a large heart, to a shorter distance from a small one. The sounds and impulses mutually interpret each other. A clear sound indicates probability of an attenuated heart; joined to a weak impulse it becomes almost certain. A very strong impulse infers probability of an hypertrophied heart; joined with a diminished sound we argue its certainty. Impulse and sound increased together do not indicate hypertrophy, but forcible action from pure excess of nervous energy; impulse and sound decreasing together indicate defect of nervous energy, not atrophy. In persons of a nervous temperament the sounds of the healthy heart are of a high degree of intonation and acquire a greater audible extent under actual emotion far beyond the normal area. If I mistake not, after having examined nearly 8000 hearts in the past 15 months this condition is much more common in youths brought up in the bustle of great cities than in those of corresponding age reared in country districts. Never consider the sounds or impulse apart from the extrinsic circumstances which can so powerfully affect them. The condition of the diaphragm, of the abdominal cavity, the amount of adipose deposit in the superimposed structures, the configuration of the bones enclosing the thorax.

While recently doing a post-graduate course at St. Thomas's Hospital I think I heard Dr. Dyke Acland remark "that he had met somewhat similar conditions in lads from the public schools and that his treatment based on rest and modification of athletic exercises had been entirely successful." I am, Sir, yours faithfully,

THOS. E. H. WILLIAMS, F.R Hist.S.,
Deputy Inspector-General R.N. (retired).
Junior United Service Club, S.W., March 15th, 1908.

TANSINI METHOD FOR THE CURE OF CANCER OF THE BREAST.

To the Editor of THE LANCET.

SIR,—May I venture, with all respect for Italian surgery and its distinguished exponents Professor Tansini and Dr. Francesco Purpura, to criticise the Tansini method for the cure of cancer of the breast as described in THE LANCET of Feb. 29th. However ingenious, the method is not, I think, a reliable one because it fails to take into account certain facts of pathology. Save in regard to the precise shape of the area of skin removed, the method differs from that of Halstead only in the ingenious means adopted to cover in the raw area left by the operation. It has along with the merits the two capital defects of the Halstead operation. The first of these defects is that the area of skin removed is unnecessarily large, at any rate in the long axis of the oval portion ablated. The second defect is that no attempt is made to undermine the skin for the purpose of removing an extensive area of the deep fascia—a step which is absolutely essential on account of the proved fact that breast cancer spreads centrifugally by permeation of the deep fascial lymphatic plexus.

If only the moderate area of skin which is likely to be infected be removed, an area circular in shape and four or five inches in diameter, and if the skin flaps are undermined sufficiently to allow the removal of a possibly infected circle of deep fascia ten inches in diameter, it will be found in nearly every case that the long and mobile skin-flaps come together without any difficulty. The cutting of a large for transplantation, which must increase the severity duration of the operation, becomes quite unnecessary. F these reasons it appears to me undesirable that the method of flap transplantation should be used, save in exceptional cases. I am, Sir, yours faithfully,

W. SAMPSON HANDLEY.
Wimpole-street, W., March 14th, 1908.

ISOLATION HOSPITALS AND SCARLE FEVER.

To the Editor of THE LANCET.

SIR,—On June 8th, 1896, I wrote to you thus: "I that it has yet to be proved that the adoption of and the removal of every detected case to a fever have any material effect in lessening the prevalence spread of scarlet fever in London and what chance is th of stamping it out?"

I think that my sceptical forecast has been amply I read in THE LANCET of Jan. 4th, 1908, p. 42, that it w unanimously decided at a meeting of the Asylums Board "that in view of the continued prevalence scarlet fever, notwithstanding the extensive isolation modation provided, the Local Government Board be asked cause an inquiry to be instituted into the cause of the and whether any, and if so what, further means can adopted for its prevention." The further particulars added that the ratio of scarlet fever cases to population increased from 3·7 per 1000 in 1890 to 4·3 per 1000 in 19 Over £234,000 had been expended on sites and nearl £3,000,000 on building and equipment, besides a very amount, doubtless, on maintenance. Yet "for expenditure they were in no way better off from the of view of the spread of infectious disease."

I think that if inquiries were pushed still further matters of detail it would be found equally true, as I also, that patients are longer in recovering if treated in hospitals than if treated at home—ten weeks and instead of six weeks; and that cases of scarlet fever have better chance of recovery and avoiding complications treated at home. I have not seen any reason to alter opinion since then. Not only is it a grievous injustice the ratepayers to bear this heavy burden of expenditure but I believe that this indiscriminate charity does harm the recipients.

A passage in Lockhart's "Life of Sir Walter Scott" *apropos* and may serve as a warning: "And take care, [Sir Walter Scott] added, not to give them [the poor] any thing gratis; except when they are under the gripe of diate *misery*—what *they* think misery—consider it as a sin to do anything that can tend to make them lose their precio feeling of independence ......" This sound principle is, seems to me, habitually broken nowadays. Free education, free meals, free clothing, and free medical attendance for children, too abundant hospital treatment, old-age pensions, and other similar desiderata clamoured for by hot-headed Socialists cannot but tend to lessen this "precious feeling of independence." What the outcome of it will be the next few generations will show, but I do not think it will be satisfactory to the national welfare. I constantly see that there is no surer way of killing a patient than by (mistaken) kindness, and the same well-meant cause may produce wholesale moral ruin.

I am, Sir, yours faithfully,
F. LUCAS BENHAM, M.D., M.R.C.P. Lond.
Exeter, South Australia, Feb. 18th, 1908.

PANCREATITIS WITH JAUNDICE.

To the Editor of THE LANCET.

SIR,—In your issue of March 21st Dr. Sidney P. Phillips records an interesting case of pancreatitis with jaundice and acute parotitis in scarlet fever. In his comments Dr. Phillips states that "the case suggests a probable explanation of the jaundice occasionally occurring in scarlet fever, and incidentally, it may be added, it supports the contention that the so called 'catarrhal *jaundice*' is more often due to obstruction of the common bile-duct by the presence of an enlarged head of the pancreas than by thickened mucus within the duct." The probability of the correctness of this view has recently been demonstrated to me by observation advanced by three important observations, namely—(1) the discovery that syphilis might be communicated to the lower animals; (2) the discovery of the spirochæta pallida; and (3) the discovery of serum diagnosis, which might be performed by the method of agglutination or by the method of precipitation or by Wassermann's method of *Complementbindung*. The last mentioned was, in Dr. Citron's opinion, the oldest and most trustworthy method and its usefulness was ascertained by clinical observation. Necropsies of persons who had given a positive reaction invariably showed that they suffered from syphilis although there might be no obvious clinical symptoms. A positive reaction was a certain proof of syphilis but a negative one did not exclude it. The following principles to be observed in the treatment of syphilis might be derived from the new discovery. If a primary chancre was present together with spirochætæ and a positive serum reaction antisyphilitic treatment should be begun at once and not postponed till the appearance of constitutional symptoms. The same course should be followed where there was a positive serum reaction without spirochætæ. In the case of a negative serum reaction with spirochætæ the chancre should be excised and general antisyphilitic treatment adopted. If the serum reaction was negative and no spirochætæ were found in the supposed chancre no specific treatment was necessary but the test by serum diagnosis should be repeated subsequently.

The Treatment of Rabies.

The report of the rabies department of the Institution for Infectious Diseases quoted in the *Sachverständigen-Zeitung* states that in the year 1905 there were 234 persons treated for rabies by Pasteur's method and that four of them died. In 67·6 per cent. the diagnosis was made by inoculating animals from the patients, whilst in the remainder it was made from the clinical symptoms only. Of the total number of patients 94 had been bitten by dogs, whilst five had contracted the disease from other persons. Of these five patients three were medical men and one was an attendant at a dissecting-room who became infected at a post-mortem examination; two other medical men had been bitten by dogs and so were four veterinary surgeons, whilst nine of them had been infected at post-mortem examinations of animals. Local treatment was adopted for 115 patients only. According to observations made in the institution it is very difficult to destroy the virus in the wound, even a short time after the receipt of the injury, so that in every suspected case the Pasteur treatment should be used as soon as possible. The treatment consisted in injections of solutions prepared from dried medulla for 21 days; in severe cases a second series of injections was commenced a month later and continued for a fortnight. All the patients were treated as out-patients. The four who died came under treatment on the second, third, sixth, and eleventh days respectively, so that in the two former the treatment was begun in good time. Death was probably due in these instances either to the advanced age of the patient or to a very short period of incubation. In the two other cases the late beginning of the treatment was probably the cause of the fatal issue. One patient who did not return for treatment after the first injection died three weeks afterwards, probably from rabies. Deaths of persons without treatment came to the notice of the institution in six cases, death occurring from one to four months after the injury. From the opening of the institution in 1898 till April 1st, 1906, there had been 2900 persons treated with 25 deaths. If, however, those who died before the end of the treatment or within two weeks afterwards were deducted the number of deaths is reduced to 13, giving a mortality of 0·448 per cent.

The Etiology of Psoriasis.

At a meeting of the Berlin Medical Society Dr. Nagelschmidt read a paper on the Connexion between Psoriasis and Affections of the Pancreas. He said that psoriasis was probably the result of a diathesis and there seemed to be a connexion between it and diabetes, for psoriasis was rather frequent in diabetic patients and conversely glycosuria was often present in sufferers from psoriasis. At a necropsy of a diabetic patient affected also with psoriasis he found cirrhosis of the pancreas. He accordingly prescribed pancreatin in psoriasis, the result being that eight out of 13 patients either recovered or were considerably relieved. Pigmentation of the skin remained after the treatment. Good results were, however, also obtained by the administration of an extract of the thyroid gland and of the testicle.

March 23rd.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

A Department of Health for Canada.

SIX years ago, in 1902, at the Montreal meeting of the Canadian Medical Association, a resolution was unanimously passed calling on the Dominion Government to consolidate the various medical services of the Dominion into one department under one of the existing Ministers of the Crown. Year after year that resolution has been reaffirmed at the annual meetings and a special committee on public health has repeatedly urged upon the Federal Government the feasibility and desirability of the proposition. As matters now stand the various medical services are scattered over five different departments, often necessitating confusion and much delay in health matters. On March 3rd the special committee on public health, accompanied by the medical members of the House of Commons and the Senate, waited on the Prime Minister and his colleagues. The way was open for a free discussion and presentation of the subject, as there had been held in the House of Commons an interesting debate on the subject on a motion introduced by Dr. Black, M.P., Windsor, Nova Scotia. Dr. Lachapelle, chairman of the Board of Health of the Province of Quebec, presented a memorandum on behalf of the association which, in addition to setting forth the above desired object, also called upon the Government to establish, equip, and maintain a national laboratory for the examination of vaccines, sera, &c. Addresses were delivered by Dr. Lachapelle, the convener of the special committee; by Dr. R. W. Powell, Ottawa, who had been for five years the convener of this committee; by the general secretary of the Canadian Medical Association, Dr. George Elliott, Toronto; by Dr. Schaffner, M.P., Manitoba, and by Lieutenant-Colonel Carleton Jones, M.D., Director-General of the Canadian Army Medical Services. In reply thereto the Premier, Sir Wilfrid Laurier, and the Hon. the Minister of Agriculture considered the plan a feasible one but that there might be some difficulties in the way. The matter is to come up for fuller debate later in the House of Commons.

Annual Report of the Provincial Board of Health, British Columbia.

In presenting his eleventh annual report, that for the year 1907, Dr. C. J. Fagan, the secretary of the Board of Health for the province, states that it is a better one than that of the previous year. On the subject of small-pox he stated that the disease had been present during the year in nine centres with 38 cases in all. In almost every instance the trouble was imported from the United States. He referred to bubonic plague, which had also appeared in the State of Washington, yet had gained no foothold in British Columbia. This probably has been due to the fact that British Columbia has established a laboratory for diagnostic purposes with Dr. Bapty in charge. Dr. Fagan states that the infection has been present in San Francisco for the past seven years and that it has spread to six or seven other places in the State of California. A point which has been established in British Columbia is that the rat flea is not the same as is found in England but is the true India rat flea. It has been further found, and this is contrary to English views, that the pulex cheopis infests both the brown and the black rat. Dr. Fagan refers at length to the medical inspection of schools and strongly recommends that public school teachers should qualify to impart instruction in sanitary science.

Conference on Tuberculosis in Ontario.

A conference on tuberculosis was held in Toronto on March 4th, having been convened at the instance of the National Sanitarium Association. His Excellency the Governor-General came from the capital to preside. Delegates were present from 44 municipalities of the province and from 17 counties. By a unanimous vote a motion was carried calling on the Ontario Government to increase the grants for the stamping out of tuberculosis throughout the province. Mr. W. J. Gage (Toronto), the founder of the National Sanitarium Association which now administers four sanatoriums, two in Muskoka and two at or near Toronto, delivered an address. In the course of his remarks he stated that the Ontario board of health returns for the past ten years showed that there had been over 30,000 deaths in the province from tuberculosis. There was encouragement in the fact that in the past seven years there being able to visit the day nursery, to tend the infants there, and to consult with the matron. An urgent appeal is made to the charitable for funds to carry out this worthy object.

Warrington Infirmary Extension: Opening by Lord Cross.

The new extension to the Warrington Infirmary, which has been erected at a cost of £15,000, was opened on March 21st by Viscount Cross, G.C.B., in the presence of a large gathering of townspeople. The new block of buildings comprises a pavilion three storeys high, consisting of three wards, each ward containing 22 beds, and a nurses' home affording accommodation for 25 nurses. The growing requirements of the town have been of such a nature that an extension of the present building was deemed necessary. Towards the cost the sum of £14,913 has already been raised and it is confidently anticipated that the remainder will be shortly forthcoming. Lord Cross arrived at the town hall shortly after one o'clock, when he was met by the mayor and the representatives of the infirmary. A procession was formed, headed by the Volunteer band, and proceeded to the main door of the building. On arrival Sir Gilbert Greenall, Bart., invited Lord Cross to open the new extension and presented him with a gold key suitably inscribed. Lord Cross, who met with a warm reception, said that in the year 1877 he had had the honour of laying the foundation-stone of increased buildings to the infirmary. They had again given him the pleasing duty that day to do something towards further buildings. In the first place, one could readily see how the town and neighbourhood had increased in prosperity. The works had grown and the population had grown also. As the population had grown the cares and needs of the infirmary had increased. Although since 1877 a considerable addition was made it was found necessary to provide further accommodation. In 1677 there were only 87 in-patients, 948 home patients, and 1992 out-patients. The figures last year showed that there were 607 in-patients, 1441 home patients, and 3652 out-patients. Those increased figures made it quite clear that a want existed. He had great pleasure in declaring the building open. A tour of the buildings was then made by the visitors, after which luncheon was served in the drill-hall.

March 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Retirement of Sir Henry D. Littlejohn.

THERE has been a rumour current for some weeks that Sir Henry D. Littlejohn contemplated resigning the public offices which he has so long held. It is now known that he has tendered his resignation to the Edinburgh town council as its medical officer of health and as police surgeon. Two years ago he resigned the professorship of medical jurisprudence in the University after occupying the chair for ten years. As Sir Henry Littlejohn was born in 1828 everyone will feel that he is well entitled to relief from the strain of official duties and responsibilities. The two public offices mentioned have been held for 46 years, 1862 having been the year of his appointment to both. His term of office thus covered a period marked by great advances in sanitary science and the practical application of these by local authorities. It was his report on the sanitary condition of the city—one of the first things which he was called upon to do on his appointment in 1862—which led to the scheme for the improvement of the slum districts in the city and which has been carried out on an extensive scale. It was during the early years of his tenure of office that the Vaccination Act was applied to Scotland. It was also during his time that the city authorities provided a hospital for the reception and care of infectious cases first in the old Royal Infirmary buildings and later in the modern and well-equipped hospital at Colinton Mains. Before he occupied the chair of medical jurisprudence in the University he had for many years been a popular lecturer on the same subject in the extra-mural school. In addition he was medical adviser to the Local Government Board and to the Crown in Scotland in criminal cases. He was thus employed in all the great criminal trials of the past 60 years; indeed, as a medical expert he had a large practice and was a well-known figure in Parliament House. In 1895 the late Queen conferred on him the honour of knighthood. Although Sir Henry Littlejohn has wisely decided to curtail his activities he still shows a physical an a mental alertness that might well be envied by younger me and which will enable him to continue to interest himself i the various works of beneficence which he has alway encouraged by his presence.

Royal Edinburgh Hospital for Sick Children.

The forty-ninth annual general meeting of those intereste in this hospital was held on March 18th. The annual repo showed that during the year 1907 2348 children had bee treated in the wards. Of this number 534 were infant under one year. The average daily number of patients wa 100. In the out-patient department 27,070 had been treatec The number of operations performed in the surgical theatr was 798, while minor operations in the out-patient depart ment numbered 1361. The convalescent home had proved most valuable adjunct to the hospital. The cost of carryin on the home had been £477. The ordinary income of th hospital was £6374, while the ordinary expenditure wa £8475. The legacies received during the year amounted t £4895. The medical staff urges the need of a more adequat convalescent home and also of increased balcony accommodation in connexion with the wards.

The Medical Education of Women in Edinburgh.

The close of the winter session has been marked b some excitement amongst the women students of medicin in Edinburgh the cause of which will be dealt with n week.

The "Enteric Carrier."

A striking example of an "enteric carrier" and the damag that he or she may unwittingly do is brought to light in th report of the city bacteriologist on his work in connexio with the recent epidemic of enteric fever in the west-end o Glasgow. At one farm where investigations were carried ou the investigators failed to obtain any enteric bacilli by examination of the dairy vessels, the drains and surroundings of the steadings, or the milkers—with one exception This exception was an elderly woman who had suffered fro enteric fever 16 years before, and bacteriological tests showe that she was still infective. The source of infection a this farm appears to have been responsible for the first eigh cases, including that of the farm patient whose illness was a first diagnosed as pneumonia. This last patient, it will be remembered, was nursed for some time in the farm kitchen and she was apparently directly responsible for the spread o the outbreak in Glasgow. A danger of missed diagnosis, however, as in that case is one easily understood and one that can be combated by compulsory notification of any illness occurring in a farm supplying milk to the public. It is a much more alarming state of matters if one has to bear in mind the possibility of an epidemic being started by farm workers or dairymen who at some far remote period of their lives have suffered from enteric fever.

The Tenure of Office of Scottish Poor-law Medical Officers.

The unsatisfactory state of the law with regard to tenure of office by Poor-law medical officers in Scotland is a frequent subject of comment in THE LANCET and a remarkable example of the mischievous effects of the present system is published in a recent issue of the *John o' Groat Journal*. On the extreme north coast of Scotland there is a parish called Farr in the county of Sutherland. It has an area of about 188 000 acres with a population of about 2000 persons. Since 1903 the Farr parish council has had five medical officers. Three of those have been dismissed and another left suddenly. The present holder of the appointment, Mr. Thomas Homer, who has now been more than two years in the parish, has incurred the hostility of a section of the council and a motion for his dismissal was discussed at a meeting of that body held on Feb. 11th. According to the published report the proceedings formed a scene of almost continuous uproar and altercations. After Mr. Homer's dismissal had been duly moved and seconded a deputation came forward headed by a Mr. Donald Mackay who in stirring language made accusations against the officials of the parish charging them with endeavouring to take sole control of the parish business. He declared that he was going to fight for the interests of the parish while he had a breath left in his body. Several petitions were then produced by Mr. Mackay. One of these had reference to the "intolerable position" which had been created "owing to the doctor not working harmoniously along with the nurse," and several speakers made various charges against Mr. Homer. Mr. Homer in his turn several times appealed to the meeting for a hearing

Forensic Medicine.—G. K. Aubrey, King's College Hospital; and A. H. Turner, Leeds.

Midwifery.—V. P. Norman, Durham; H. T. Roberts, St. Mary's Hospital; and A. H. Turner, Leeds.

The diploma of the Society was granted to the following candidate, entitling him to practise medicine, surgery, and midwifery:—A. H. Turner.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Heinrich Grabower has been appointed Professor of Laryngology.—*Budapest:* Dr. Michael Horvath has been recognised as *privat docent* of Orthopædic Surgery.—*Copenhagen:* Dr. Axel Trolle has been recognised as *privat-docent* of Gynæcology.—*Göttingen:* Dr. Heit Müller, Lecturer on Odontology, has been granted the title of Professor.—*Halle:* Dr. Mohr of Berlin has been appointed Extraordinary Professor of Medicine and Director of the Medical Policlinic.—*Jena:* Dr. Wilhelm Busse has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Leipsic:* Dr. Hieronymus Lange has been appointed Extraordinary Professor of Children's Diseases. Dr. Richard Seefelder has been recognised as *privat docent* of Ophthalmology.—*Odessa:* Dr. Joseph Pozbariski has been recognised as *privat-docent* of Pathological Anatomy.—*Pavia:* Dr. Alberto Ascoli has been recognised as *privat-docent* of Physiological Chemistry.—*Prague (German University):* Dr. Eduoard Pietrzikowski has been appointed Extraordinary Professor of the Surgery of Accidents.—*Rome:* Dr. Ugo Lombroso has been recognised as *privat-docent* of Physiology.—*Rostock:* Dr. Johannes Müller has been appointed Extraordinary Professor of Physiology and Dr. E. Schwalbe of Karlsruhe, Professor of Pathology and Director of the Pathological Institute, in succession to Professor Thierfelder. Dr. E. Martini has been recognised as *privat-docent* of Anatomy.

SANATORIUMS FOR TUBERCULOSIS.—There was a large attendance of delegates from the various boards of guardians in Somerset at a conference held at Wellington on March 17th. Dr. J. Meredith read a paper entitled "The Provision of a County Hospital for the Treatment of Consumption," and after some discussion it was unanimously resolved that it was not desirable to provide a county hospital for this purpose.

COMPLIMENTARY DINNER TO SIR MALCOLM A. MORRIS.—An interesting dinner party took place on March 19th, at the Imperial Restaurant, Regent-street, London, when a number of the friends and colleagues of Sir Malcolm Morris, K.C.V.O., desiring to tender their congratulations on the honour recently conferred upon him by His Majesty, determined that a suitable occasion would arise while entertaining him as their guest. A party was therefore arranged numbering 35, including Mr. Frederick Morris, one of the sons of the guest of the evening. Dr. H. Radcliffe Crocker was in the chair. During the course of the evening, and after the King's health had been duly honoured, the chairman proposed the toast of their guest. He spoke of the friendly relationships which had existed for so many years among those especially interested in the study of dermatology in this country. In this connexion he referred to the good work done during the period of its existence by the Dermatological Society of London, now included in the Royal Society of Medicine. The result of the work of this society had been, he said, to advance the collective study of cutaneous diseases to an extent unequalled by any other agency, while it had fostered the growth of friendship among its members, of whom Sir Malcolm Morris had been one of the original. He then referred to the influence exerted in the advance of dermatology by Sir Malcolm Morris and to the high position which he occupied in the medical world generally, evidence of which was now clearly given by the recent gracious action of the King in knighting their guest. Dr. Crocker concluded by congratulating Sir Malcolm Morris "as a valued professional colleague and an esteemed friend, on behalf of all those present, upon the high honour conferred upon him by His Majesty." In his reply Sir Malcolm Morris referred to the growth and recent developments in the study of cutaneous medicine and to the valuable influences which had been exercised by the old Dermatological Society. The work of every one of its members had been laid before the others for criticism and for mutual instruction. It deserved in a special sense the epithet of a "College of Dermatology." He made mention in cordial terms of the peculiarly harmonious character of the comradeship of the members, adding that while he appreciated in the highest degree the personal character of the honour conferred upon himself, he preferred to look upon the King's act more from the point of view of a recognition of the position gained for dermatology as a branch of scientific medical study in this country than as a purely personal Royal favour. Dr. J. Mitchell Bruce proposed the health of the chairman in cordial terms, so bringing an interesting meeting to a conclusion.

THE PROPOSED UNIVERSITY FOR BRISTOL.—Sir F. Wills has again contributed £5000 to the fund for establishing a university in Bristol. This brings his contribution up to £10,000 and will found a chair in the new university.

MEDICAL MAGISTRATES.—The names of Mr. David John Thomas, M.R.C.S. Eng., L.R.C.P. Edin., of Nantymoel and Mr. Daniel Jenkins Thomas, M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., of Bargoed, have been added to the commission of the peace for the county of Glamorgan.

NEW ISOLATION HOSPITAL.—The new small-pox hospital which has been erected for the Barry district in Glamorganshire at a cost of £4624 has just been completed. The cost of the building and maintenance is borne equally by the Glamorganshire county council and the Barry sanitary authority.

VACCINATION FEES.—For some months past vaccination has not been carried out by the Launceston board of guardians. The guardians adopted the reduced minimum fee of 3*s.* 6*d.* per case, and as the public vaccinators refused to accept these terms they were given notice to terminate their contracts and the matter was referred to the Local Government Board. At the last meeting of the guardians a letter was read from this authority stating that the fees should be as formerly—viz., 5*s.*, with the exception of the town of Launceston, in which the fees should be 3*s.* 6*d.*

ROYAL MICROSCOPICAL SOCIETY.—Lord Avebury, President of the Royal Microscopical Society, delivered the presidential address at a meeting held on March 18th. At the commencement of his discourse, which was entitled "On Seeds, with special reference to British Plants," he said that he would confine himself that evening to dicotyledons and that on the corresponding occasion next year he hoped to discuss the conifers and monocotyledons. He then proceeded to discuss various methods by which seeds were dispersed round the parent plant or conveyed to a distance or otherwise placed in conditions suitable for germination. Many seeds and fruits, he said, were provided with hooks which adhered to the bodies of passing animals, many seeds had downy attachments which enabled them to be carried by the wind, and many seeds were contained in elastic capsules which at the moment of bursting projected their contents to a considerable distance. Lord Avebury had made careful observations of the elastic capsules of the common wild *Geranium Robertianum* and had found that they could throw the seeds for a distance of 25 feet. Some capsules appeared to present phenomena of mimicry, simulating edible berries and caterpillars. Birds therefore picked them from the parent plant but after carrying them some distance discovered the deception and let them fall to the ground where they eventually germinated.

THE MEDICAL INSPECTION OF CHILDREN IN WEST SUSSEX.—There is ample evidence already that the duties imposed upon education authorities under Section 13 of the Education (Administrative Provisions) Act of 1907 will not be perfunctorily performed in West Sussex. The actual work has been commenced, much good has resulted, and if anything is necessary to show the great need of the new regulations is the fact that in one school alone the percentage of needy cases was as high as 50. The principal defects reported were defective eyesight, adenoids, and enlarged tonsils. It is felt that in many cases it will be necessary that there should be some agent, as it were, between the medical officer and the parents who would drive home to the parents the seriousness of the defects which have been found, their responsibility in the matter, and the advantage not only to the children but to themselves of having those defects remedied. And more particularly is the need of such an agent felt necessary in the cases of the poorest of the poor who are quite unable to bear any expense. In such cases the agent would be the means of securing hospital letters and the wherewithal with which the parent could take the child to a hospital or infirmary, perhaps many miles distant. The chairman of the West Sussex education

(President of the Students' Representative Council) replied. Dr. J. W. Browne proposed "The Chairman," to which Dr. Letts replied.

March 24th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Accident and its Sequel.

ON Feb. 29th the driver of a tramcar was summoned before a magistrate's court to answer the following charge. Over a year ago, in January, 1907, the car which he was driving ran into a cab, the driver of which, a man called Chebance, was thrown to the ground. In his fall he sustained severe injuries and he died six months afterwards. His widow claimed 10,000 francs (£400) damages. The court held the car-driver responsible for the accident but it decided that expert evidence was necessary to discover whether the cabman's death was really due to the injuries which he sustained in his fall. The judgment was an interesting pronouncement and I will quote from it, as it affords an excellent comment on the paragraph which I wrote last week about the professional scandal regarding certificates for compensation. The judgment is to the effect that the evidence shows a state of affairs that is all too common in accident claims—that is to say, the intervention of a commission agent, who by the exercise of a vivid imagination, backed by medical certificates, has tried to make the defendant pay compensation money, the ultimate destination of which is only too evident. This is clear from a study of the letter of claim written on April 3rd by the agent and signed by Chebance, to which a medical certificate is appended, with a letter in the same hand and signed by the widow, and with a third letter, dated Feb. 4th, 1908, also written by the same person, who this time, instead of getting the woman's signature, signed it outright "Widow Chebance" in his own hand, since it is obvious that the woman in question could not have written such a good signature. It is also suspicious that a cab-driver with hardly enough means to get properly looked after outside hospital could have afforded a consultation of two medical men, and in this connexion it must be remembered that the commission agent had intervened on the very first day. Taking these facts into consideration, the court has commissioned a medico-legal expert to take the evidence of the two practitioners who had medical charge of Chebance and to report whether his death on June 25th, 1907, was really the result of the accident in the preceding January.

Military Hygiene and Epidemiology.

The decree instituting a Supreme Commission of military hygiene and epidemiology, which is to last until 1914, has recently been slightly modified, as follows. The commission is to be composed of 20 members, one *ex-officio*, the Director-General of the Army Medical Service, and 19 to be nominated by the Minister of War. Among these 19 are to be the following: one senator, one deputy, two civil medical men chosen from the members of the Academy of Medicine, seven army surgeons, either surgeon-inspector-generals or surgeon-inspectors of the active or reserve forces, and a general officer of engineers.

The Adulteration of Drugs.

The Parliamentary Commission on Public Health has approved a Bill to repress fraudulent dealing in drugs. It provides for the regular inspection, not less often than once a year, of druggists' shops, surgeries of medical men and veterinary practitioners, pharmaceutical laboratories, herbalist and grocery shops, hairdressers' and perfumers' establishments, factories and stores of natural and artificial mineral waters, and in general all places where pharmaceutical or hygienic commodities are made, stored, or exposed for sale. Pharmacists, druggists, and all purveyors of pharmaceutical products will be liable to produce any of these which they may have on their premises for inspection by officers whose powers will be exactly laid down and who will be appointed by an order of the Public Administration.

The Roland Bonaparte Benefactions for Scientific Research.

At a meeting of the Academy of Science on March 2nd Prince Roland Bonaparte offered to put at its disposal the sum of 100,000 francs not to be invested as capital but in a series of annual grants to be awarded quickly. He wishes these grants to stimulate progress by helping the researches of workers who have already shown some promise by their original investigations but who, not being members of the Academy, are hampered by lack of funds in pursuing them. The Academy has decided that applicants must ask for the grants before Jan. 1st in each year, except in the present year, when May 1st will be the day. The successful applicants must during the ensuing year submit to the Academy a summary of the use that they have made of their subsidies and the results which they have obtained. If anyone who has received a grant fails to send in his report in the specified time he will be disqualified from any further aid from the fund. The Academy will have the sole right of publishing the discoveries that are made with the help of these grants, whatever form they may take. If this condition is transgressed the offender will forfeit any claim to a further subsidy.

Congress of Climatotherapy and Urban Hygiene.

This congress will be held at Biarritz from April 20th to 26th. The mornings of each day will be devoted to the reading of papers and the afternoons to excursions. On April 25th the congress will be held in Spain at San Sebastian, and on the following day it will meet at Arcachon. The meetings are open not only to medical men but also to anyone who is interested in the two subjects under discussion.

March 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Serum Diagnosis of Syphilis.

THE serum diagnosis of syphilis according to the methods devised by Dr. Bordet and Dr. Gengou of Paris and by Dr. Wassermann of Berlin was the subject of several papers read and discussed at meetings of the Berlin Medical Society on Feb. 19th and 26th and March 4th. Dr. Fleischmann said that the Bordet-Gengou reaction was of great value, as in 89 cases of syphilis with manifest symptoms a positive result was obtained; in 64 patients known to be syphilitic but not showing manifest symptoms the reaction was positive in 52 per cent. and in 38 cases of non-syphilitic persons it was negative. He considered that the reaction was of special importance when in certain cases symptoms have developed which were suspected to be of syphilitic origin, although there was no antecedent history of the primary stage of that disease. A positive reaction might be regarded as a certain proof that the patient was syphilitic. The result of the reaction might, moreover, be of value in deciding whether anti-syphilitic treatment was indicated or not. Dr. Blaschko gave a summary of 400 cases examined by himself and Dr. Julius Citron. In no instance did non-syphilitic patients suffering from eczema, psoriasis, balanitis, herpes, and cancer give a positive reaction. In some doubtful instances the result of the reaction, whether positive or negative, was always verified by the further development of the case. Observations made on 300 syphilitic patients gave the following results. During the primary stage the reaction was positive in 90 per cent.; during the secondary stage attended with obvious symptoms it was positive in 98 per cent.; during the secondary stage without characteristic symptoms it was positive in 80 per cent.; during the tertiary stage with obvious symptoms it was positive in 91 per cent.; and during the tertiary stage without characteristic symptoms it was positive in 57 per cent. Under anti-syphilitic treatment the positive reaction might sometimes become negative but in some cases it remained unaltered. Dr. Blaschko, however, stated that a positive reaction was not to be regarded as indicating an unfavourable prognosis. Many persons who had given such a reaction had nevertheless been to all appearance in good health for years, were married, and had healthy children. Obviously the positive reaction must spontaneously become negative after the lapse of some years. A positive reaction in patients who did not show characteristic symptoms was not an indication for a continuation or repetition of antisyphilitic treatment, because it often happened that even after prolonged treatment by Fournier's intermittent method the reaction remained positive. Dr. Citron read a paper on Modern Researches in Syphilis and their Value in Connexion with Treatment. He said that in recent times our knowledge of syphilis had been

Williams and Isaac Davies do attend the said committee to-morrow, at half-past eleven of the clock." The House thereupon made an order requiring the attendance of the two gentlemen.

The Funds of the General Medical Council.

The return of the receipts and expenditure of the General Medical Council and of the branch councils, and also of the receipts and expenditure of the Dental Registration Fund, for the year 1907 has just been presented to Parliament.

Tropical Diseases Research.

The report of the Advisory Committee for the Tropical Diseases Research Fund for the year 1907 has been presented to Parliament.

A Public Health Bill.

Mr. COOPER has presented a Bill in the House of Commons "to amend the Public Health Act, 1875, and the Local Government (England and Wales) Act, 1888." It has been read a first time.

HOUSE OF LORDS.

WEDNESDAY, MARCH 18TH.

Malta Fever.

Earl CAWDOR in his speech on naval matters incidentally asked the First Lord of the Admiralty what had happened to the goats in Malta through the agency of which Malta fever had been spread amongst the sailors of the fleet.

Lord TWEEDMOUTH, in reply, said that the goats in Malta still lived. It was their milk that spread the microbes. The way in which the naval authorities had got rid of Malta fever was by preventing the sailors and marines of the fleet from using any of the goats' milk. As a matter of fact the Malta goat lived in a very dirty manner. It fed on filthy garbage and consequently it was liable to get its milk contaminated.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 18TH.

Trained Nurses in Ireland.

Mr. CULLINAN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would state what proofs of efficient teaching, of efficient examining, and of the possession of adequate *matériel* and of a capable and industrious staff the Local Government Board required before sanctioning any hospital for the training of nurses, whether trained or merely qualified; and whether they would take the medical profession generally into their confidence on those points.—Mr. BIRRELL replied (by written answer): Under the Local Government Board's Nursing Order, 1901, a trained nurse means any person who has resided for not less than two years in a general clinical or other hospital recognised by the Board and who, after examination, has obtained from such hospital a certificate of proficiency in nursing; and the term qualified nurse means any person who, after examination, has obtained a certificate of proficiency in nursing from any (1) public general hospital, or (2) workhouse infirmary and fever hospital, or (3) nursing institution, that may be recognised by the Board as an efficient school for medical and surgical nurses. The Board require, as evidence of the due training or qualification of a nurse, the production of the original certificate of proficiency from a recognised hospital. Before recognising for the purpose in question any hospital other than a general clinical hospital the Board make careful inquiries respecting such hospital. The Board have always received and welcomed assistance from the medical profession, both as regards the general question of recognition of the training of nurses and as regards the capacity for teaching of any particular hospital. It may be added that a general clinical hospital is one recognised by examining bodies for the instruction of medical students.

Proof Spirit in Temperance Drinks.

Mr. STAVELEY-HILL asked the Chancellor of the Exchequer whether he would state the number of samples of herb beer and other beverages sold as temperance drinks analysed at the Government laboratory during the past three years; the number found to contain more than 2 per cent. of proof spirit; and the percentage of proof spirit there disclosed.—Mr. ASQUITH, in reply, furnished the following tabular statement:—

Herb and Botanic Beer and similar Beverages examined in the Government Laboratory.

Year to March 31st.	Number of samples containing proof spirit in excess of legal limit of 2 per cent.	Containing proof spirit of—			Highest percentage of proof spirit contained in one sample.
		3 per cent., but less than 4 per cent.	4 per cent., but less than 6 per cent.	6 per cent. or more.	
1905	361	78	42	8	8·3 ginger beer.
1906	349	58	35	8	9·5 ginger beer.
1907	422	71	37	8	10·5 herb beer. 12·3 dandelion stout.
April 1st, 1907, to March 10th, 1908	417	81	32	6	8·5 herb beer.
Total	1549	288	146	30	—

The total number of samples examined in the year to March 31st, 1905, was 1011; in 1906, 924; in 1907, 1133; and from April 1st, 1907, to March 10th, 1908, 1079—a grand total of 4147.

THURSDAY, MARCH 19TH.

Medical Referees and the Workmen's Compensation Act.

Mr. ARTHUR HENDERSON asked the Secretary of State for the Home Department whether any case had been considered by the medical referees appointed under the Workmen's Compensation Act; and, if so, in what trade and with what result.—Mr. GLADSTONE replied: The total number of cases considered by medical referees in the six months from July 1st, 1907, the date on which the Workmen's Compensation Act, 1906, came into force, up to Dec. 31st, 1907, after which date figures are not yet available, is 117. The numbers in the respective branches of employment were as follows: Railways, 4; factories, 27; mines, 64; engineering, 2; building, 9; agriculture 3; not stated, 8. I cannot give the results, as the reports of the referees are not made to the Home Office but to the county court and other persons. Such information as is furnished to the Home Office is principally required for the proper payment of the fees. I should like to add that I do not think any trustworthy inference as to the working of the provisions of the new Act can be drawn from the results of the first six months of its operation.

Mr. WEDGWOOD: May I ask whether any steps are being taken to see that the medical referees have not previously been interested in the cases as certifying surgeons or otherwise?

Mr. GLADSTONE: Yes, steps have been taken.

Meat Inspection in Scotland.

Answering Mr. CATHCART WASON, Mr. SINCLAIR, the Secretary for Scotland, said: I am informed that there are six qualified veterinary surgeons in Glasgow who act as inspectors for inspecting cattle in public sale yards. Three act under the Diseases of Animals Act and three under the Public Health Acts. None of these inspectors have any official information from Dublin that cattle unfit for human food are sent to Glasgow to be consumed there. In all such cases, however, the carcasses of the animals are seized and destroyed.

In reply to a question put by Mr. MORTON, Mr. SINCLAIR said: There is no provision requiring local authorities in Scotland to see that animals exposed for sale in any market, whether provided with weighing machines or not, are inspected by a veterinary surgeon and certified as to their fitness for human food. There is no power to fix a standard of inspection, but on Oct. 19th, 1899, the Local Government Board for Scotland issued a circular suggesting that in the inspection of tuberculous carcasses of cattle the principle laid down in the report of the Royal Commission on Tuberculosis of 1898 should be followed. There is no intention to recommend any standard for the inspection of living animals.

Insane Persons and Marriage.

Mr. EDWARD DUNN asked the Prime Minister whether he was aware that, according to a recently published report of the Commissioners in Lunacy, of 123,938 persons certified as incurably insane in England and Wales over 40 per cent. were married, and that consequently upwards of 57,000 persons were thus condemned by law to enforced celibacy; and whether, having regard to the fact that the greater number of such persons were in poor circumstances and to the evils arising from the existing state of the law he would afford facilities for the consideration of the Bill for the amendment of the present law of divorce.—Mr. ASQUITH (in the absence of Sir HENRY CAMPBELL-BANNERMAN) replied by written answer: My right honourable friend has asked me to answer this question for him. The number of persons certified to be insane and known to be under care is, I understand, as stated. Of the males so certified the official statistics show that 47·6 were married and of the females 45 per cent. These persons, however, are not certified as incurably insane and a proportion of them recover. The Government cannot undertake to afford facilities for the consideration of the Bill for the amendment of the present law of divorce.

FRIDAY, MARCH 20TH.

Housing of the Working Classes in Ireland.

Mr. HOGAN, in moving the second reading of the Housing of the Working Classes (Ireland) Bill, explained that the measure was designed to facilitate the granting of loans for the erection of houses for the working classes in the cities and towns of Ireland and also for improving the administrative machinery in connexion with this question.

Mr. CLANCY, in supporting the motion, said that one was appalled by the state of the housing of the working classes in all the cities and towns in Ireland. In Dublin the state of things amounted to a national scandal. There, in 1903, out of 70,000 families there were no fewer than 21,747 families living in one-room tenements. Comparing the condition of affairs in Ireland with that in England and Scotland he said that in Manchester there were 0·04 per cent. of one-room tenements having five or more occupants, in Liverpool 0·22 per cent., in London 0·57 per cent., in Edinburgh 1·80 per cent., in Glasgow 3·28 per cent., while in Dublin there were 8·69 per cent. Overcrowded as Glasgow was it was still not so bad as Dublin. Local authorities were being urged to build sanatoriums all over the country, but what earthly use was it to erect sanatoriums if they allowed these breeding haunts of consumption to exist by the thousand in Dublin and by the hundred in small centres of Ireland? If the satisfactory housing of the people was not carried out more rapidly in the future than it had been during the last 30 years then the prospect was one to make his heart sink within him. He did not suppose that any objection to the provisions of the Bill would be taken except with respect to the money clauses.

Mr. LONSDALE, in the course of the debate, said that the Ulster Members were in favour of improving housing for the working classes in Ireland which would promote the welfare of the whole people. There had been great improvement but further financial aid from the State as proposed by the Bill was required. The census figures showed that there was still much overcrowding, especially in Dublin, where in 1901 40·6 per cent. of the population occupied overcrowded dwellings. Belfast, on the other hand, had only 8·28 per cent. of its population in overcrowded conditions. Correspondingly the death-rate was lower in Belfast than in Dublin. While he cordially supported the principle of the Bill he thought that some of the novel provisions required such careful consideration that he suggested the measure should be referred to a Select Committee.

Mr. BIRRELL (Chief Secretary to the Lord Lieutenant of Ireland), replying to the debate, said that it would be impossible for the House to refuse a second reading to a measure which had received such happy and unusual support from all quarters of the House. The city of had been a decrease in the death-rate of 15 per cent. In the opinion of Mr. Gage the National Sanitarium Association had materially helped in this decrease. During the course of its deliberations the conference appointed a deputation to approach the Government and to solicit an increase from $1.50 a week for the patients to $5 per week. The Premier (Hon. Mr. Whitney) stated for his government that the proposition would receive at their hands more than ordinary consideration.

Hospitals and Charities in Ontario.

The report of the Inspector of Hospitals and Public Charities in Ontario for the year ending Sept. 30th, 1907, has been laid before the Ontario legislature now in session. There are now 65 hospitals in Ontario, four new ones having been established in the year—35 refuges, 31 orphanages, three homes for incurables, two convalescent homes, two Magdalen asylums, and 28 county houses of refuge, each of which shared in the Government grants. The hospitals have enjoyed a most successful and prosperous year and the total number under treatment during the year was 45,551, not including those who received medicine and treatment as outside patients. The expenditure of $1,415,140 for the support and maintenance of the hospitals of Ontario indicates a spirit of liberality that has never been equalled in any past year in the province. Referring to hospitals for consumptives the inspector in his report says that there is a necessity for some action being taken by the Government which will result in the establishment of sanatoriums in accordance with the Act relating thereto. In Ontario during the past year 2667 persons died from tuberculosis. The Government grant to every municipality establishing a sanatorium for the treatment of consumptives is $4000 and afterwards $1.50 a week is paid by the Government for each patient's maintenance while in residence. The municipalities in Ontario, however, have been slow to take advantage of the provisions of this Act, even though the many instances of consumption being cured in Ontario afford sufficient evidence to justify the establishment of these sanatoriums. The inspector found during the course of his visits of inspection to the various hospitals that want and suffering were particularly evident in immigrants newly arrived from the old lands and rather severely criticises the Federal Government with regard to its immigration inspection laws.

Annual Report of Montreal General Hospital.

At the annual meeting of the supporters of the Montreal General Hospital held on Feb. 18th there was announced a deficit of $20,000 for the year 1907. In referring to the work that this hospital has done in the last half-century the chairman of the board of governors said that in 1857 the number of indoor patients who received attendance in the wards of the hospital was 966, and in the outdoor departments, 4953, or a total of 5919, as against 54,187 for 1907. The number of patients who passed through the wards of the hospital in 1907 was 3347; out-patients numbered 50,840, being 3858 in excess of 1906. During the year an addition to the nurses' home had been completed at a cost of $16,623 and fire-proof galleries between the two surgical wards at a cost of $11,626. The income from all sources for the past year amounted to $105,907 and the expenditure to $124,738. To the endowment fund a total of $39,182 was added during the year, which brings that fund up to $137,182.

March 14th.

Obituary.

WILLIAM CLARKSON, L.F.P.S. GLASG., L.R.C.P. EDIN.

IN the death of Mr. William Clarkson of West View, Morpeth, a striking personality has disappeared from the medical practitioners of Mid-Northumberland. A native of Wiston, in the upper ward of Lanarkshire, from its parish school he entered the University of Glasgow at an early age. He studied first in the arts classes and then entered on the study of medicine, obtaining several distinctions. Having taken the Licence of the Faculty of Physicians and Surgeons, Glasgow, in 1856, he held appointments and assistantships in several places both in Scotland and England. In 1865 he was elected surgeon to the dispensary at Morpeth. The success which attended his treatment of his cases during a simultaneous outbreak of small-pox and scarlet fever led to his obtaining several public appointments. He took the Licence of the Royal College of Physicians, Edinburgh, in 1874. Among the appointments which he held were medical officer of health of the borough of Morpeth, surgeon to the workhouse of Morpeth Union, Poor-law medical officer and vaccination officer to several large parishes in Morpeth Union, and medical officer of health to Morpeth rural district council, the area of which is one of the largest and most populous in the country, including then what is now said to be the largest colliery in the world, raised some years ago to the independent position of Ashington urban district with a vigorous council of its own managing the health affairs of a population of 20,000. He was also medical officer to Pegswood colliery. His reports as a medical officer of health were recognised by the profession and by the public as models of what such reports should be as to the use of admirable English, the precision of acute inference, and valuable suggestions. The reputation gained at the dispensary secured him an extensive private practice. Having retired from the position of medical officer of health of the borough he was elected to the town council and in 1868 was chosen as mayor. From all the other appointments he retired some years ago except those of Poor-law and vaccination officer for the parishes alluded to. These he retained until his death which occurred on March 6th in the seventy-ninth year of his age. In his latter less arduous years he frequently lectured on Scottish songs, especially on those of Burns and of the Jacobite era, illustrating his subject matter by singing appropriate songs in his own inimitable style. These lectures were always freely given on behalf of literary, charitable, or religious institutions.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Isaac R. Trimble, professor of anatomy and surgery in the College of Physicians and Surgeons, Baltimore.—Dr. Richard Douglas, formerly professor of gynæcology in the Vanderbilt University, Nashville.—Dr. Robert Luedeking, professor of children's diseases in the Washington University, St. Louis.

Medical News.

UNIVERSITY OF OXFORD.—Mr. H. R. Dean, B.M., B.Ch., New College, M.R.C.P. Lond., formerly Senior Demy of Magdalen College, has been elected to a Radcliffe Travelling Fellowship for three years.—The following degrees have been conferred:—

B.M., B.Ch.—Samuel Ernest Whitnall, Magdalen College.
B.Sc.—Harvey Sutton (M.B. Melb.), New College.

—The degree days for next term are as follows: Thursday, April 30th, at 10 A.M.; Saturday, May 23rd, at 2.30 P.M.; Thursday, June 18th, at 10 A.M.; Thursday, June 25th, at 10 A.M.; and Saturday, July 11th, at 10 A.M.

UNIVERSITY OF LIVERPOOL.—At examinations held recently the following candidates were successful in the subjects indicated:—

DEGREES OF M.B. AND CH.B.

Second Examination, Part A., Anatomy and Physiology.—A. Adams, A. Bamforth, J. E. Barnes, J. Campbell, A. A. Dear, E. S. Miller, Phœbe M. Powell, W. R. Wade, and T. W. Wadsworth.
Part B., Materia Medica.—H. el Arculli, T. C. Clarke, and W. F. Young.
Final Examination, Part I.—J. A. Parkes and A. A. Rees.
Part II.—A. C. Edwards, J. F. L. McCann, and A. M. M. Roberts.

DIPLOMA IN DENTAL SURGERY.

Second Examination.—G. P. P. Clapham.
Third Examination.—R. P. Allenby.

DIPLOMA IN TROPICAL MEDICINE.

A. M. Caverhill, M.B., Ch.B. Edin.; Major G. Dansey-Browning, R.A.M.C., M.R.C.S. Eng., L.R.C.P. Lond.; Major J. Davidson, I.M.S., M.D. Edin.; A. M. Dowdall, M.R.C.S. Eng., L.R.C.P. Lond. L. L. Joshi, M.D. Cornell Univ.; C. V. M. E. Le Fanu, M.B., Ch.B. Aberd.; C. W. L. Luethgen, M.B., Ch.B. Edin.; F. W. McCay, L.R.C.P. & S. Edin., L.F.P. & S. Glasg; Major G. W. Tate, R.A.M.C., M.B., B.Ch. Irel.; and R. Whyte, M.B., B.Ch. Irel.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—S. Speelman (Section II.), Amsterdam; and A. H. Turner (Sections I. and II.), Leeds.
Medicine.—E. J. Crew (Section II.), Guy's Hospital; H. E. Middlebrooke (Section II.), London Hospital; and A. H. Turner (Sections I. and II.), Leeds.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Aberdare, Urban District Council Education Committee.—School Medical Officer. Salary £220, rising to £250.

Ayr District Asylum.—Junior Assistant Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

Bedford County Hospital.—House Physician. Salary £60 per annum, with apartments, board, and laundry.

Birmingham and Midland Free Hospital for Sick Children.—Resident Medical Officer, also Resident Surgical Officer. Salary in each case £80 per annum, with board, washing, and attendance.

Bristol Royal Infirmary.—House Physician. Salary £100 per annum, with apartments, board, and laundry.

Cambridge, Borough of.—Medical Officer of Health. Salary £500 per annum.

Cambridgeshire, &c., Asylum, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

Canterbury Borough Asylum.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, washing, and attendance.

Central London Ophthalmic Hospital, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence. (Incorrectly given last week as £70 per annum.)

Chelsea Guardians.—Medical Officer for No 3 Relief District. Salary £100 per annum and fees.

Cheltenham General Hospital.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

Cheshire County Council Education Committee.—Two Assistants to the Medical Officer of Health. Salary in each case £350 per annum and travelling expenses.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Clinical Assistant.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Physician to Out-patients.

Derbyshire, Devonshire Hospital, Buxton.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Dublin, Royal Victoria Eye and Ear Hospital, Adelaide-road.—House Surgeon. Salary £40 per annum, with board and residence.

Dumfries and Galloway Royal Infirmary.—House Surgeon, also Assistant House Surgeon. Salaries £80 and £40 respectively, with board and lodging.

East Suffolk County Education Committee.—School Doctor. Salary £350 per annum, with out-of-pocket expenses.

Eccles and Patricroft Hospital.—House Surgeon, unmarried. Salary £70 per annum, with board and washing.

Edinburgh District Asylum, Bangour Village.—Second Assistant Physician, unmarried. Salary £120, with board, apartments, and laundry.

Egyptian Government, Kasr El Ainy Hospital.—Resident Surgical Officer. Salary £250 per annum, with quarters, servants, washing, coal, and light.

Grocers' Company.—Two Scholarships for Research in Sanitary Science value £300 a year each, with allowance to meet the cost of apparatus and other expenses.

Hastings, St. Leonards, and East Sussex Hospital.—Assistant House Surgeon for six months. Salary £20, with residence, board, and washing.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Salary £25.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon for six months. Salary £20. Also House Physician for six months. Salary £20. Also Assistant Casualty Medical Officer for six months. Salary £20. All with board and residence.

Hospital for Women, Soho-square, W.—Resident Medical Officer for six months. Salary at rate of £60 per annum.

Ipswich, East Suffolk and Ipswich Hospital.—Senior House Surgeon. Salary £80 per annum.

King's College Hospital.—Senior Medical Registrar and Tutor.

Leyton Urban District Council.—Assistant Medical Officer of Health. Salary £250 per annum, rising to £300.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

London Fever Hospital, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

London School of Tropical Medicine, Royal Albert Dock, E.—Cragg's Research Prize. Value £50.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

Maidstone, West Kent General Hospital.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

Middlesex County Asylum, Upper Tooting, S.W.—Fourth Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

Middlesex Hospital, W.—Assistant Obstetric Physician. Also Second and Third Assistants to the Director of the Cancer Research Laboratories. Salary of Second Assistant £150 and Third Assistant £100 per annum.

National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, W.C.—Registrar. Salary £150 per annum.

Northamptonshire County Council Education Committee.—School Medical Officer. Salary £400 per annum and travelling expenses.

Nottingham General Hospital.—Assistant House Surgeon, also Assistant House Physician. Salary in each case £60 per annum, with board, lodging, and washing.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

Royal Navy, Medical Department.—Examination for not less than 15 Commissions.

St. George's Union, London.—Medical Officer. Salary £100 per annum, with fees.

Seamen's Hospital Society, Greenwich, S.E.—Two House Physicians and Two House Surgeons. Salary in each case £50 per annum, with board, residence, and washing.

Sheffield Education Committee.—Assistant Medical Officer. Salary £250 per annum, rising to £300.

Shrewsbury, Salop Infirmary.—House Surgeon. Salary £100 per annum, with board, washing, and residence. Also House Physician for six months. Salary at rate of £50 per annum, with board and apartments.

South Uist (Southern Division).—Medical Officer. Salary £77 10s.

Southwark Union Infirmary, East Dulwich-grove, S.E.—Assistant Medical Officer. Salary £100 per annum, with board, lodging, and washing.

Southport Infirmary.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

Stafford, Staffordshire General Infirmary.—Assistant House Surgeon. Salary £82 per annum, with board, residence and laundry.

Stoke-on-Trent, North Staffordshire Infirmary and Eye Hospital, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

Surrey County Council Education Committee.—Four Assistant Medical Officers. Salary of each £250 per annum, with expenses.

Taunton and Somerset Hospital, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Walsall, Education Committee for the County Borough.—School Medical Officer. Salary £200 per annum.

Warrington, County Borough of.—Assistant Medical Officer of Health. Salary £125 per annum, with board and residence.

West Ham County Borough Education Committee.—Two Medical Inspectors of School Children. Salary £250 per annum, rising to £300 in each case.

Wolverhampton and Staffordshire General Hospital.—Senior House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Worcester General Infirmary.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

Worcestershire, Barnsley Hall Asylum, Bromsgrove.—Second Assistant Medical Officer. Salary £150 per annum, with quarters, board, washing, and attendance.

Worcestershire Education Committee.—Inspector of School Children and Midwives. Salary £400 per annum, with travelling expenses. Also Two Assistant Inspectors. Salary £175 per annum, with travelling expenses.

York Dispensary.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Doneraile, in the county of Cork; at Turriff, in the county of Aberdeen; at Erith, in the county of Kent; at Lynton, in the county of Devon; at Worthen, in the county of Salop; and at Loftus, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

Bennett.—On March 21st, at Hillcrest, Northwood, the wife of Norman G. Bennett, M.A., M.B., B.C., L.D.S., of Brook-street, Grosvenor-square, W., of a daughter.

Lee.—On March 21st, the wife of Fredk. W. Lee, M.R.C.S., L.R.C.P., of Southdown House, Storrington, Sussex, of a son.

Lee.—On March 19th, at 45, Muswell-rise, the wife of William Edward Lee, M.D., F.R.C.S., of 45, Muswell-rise, N., and 36, Finsbury-pavement, E.C., of a son.

MARRIAGE.

Dickson—McLaggan.—On March 25th, at St. John's Church, Buxton, by the Rev. C. C. Nation, M.A., R.D., Vicar, Francis Henry Dickson, M.B., Ch.B. Edin., of 37, Holywell-street, Oxford, youngest son of the late Francis Kennedy Dickson, F.R.C.P. and F.R.C.S., J.P., to Margaret Sophia McLaggan, eldest daughter of the late Alexander McLaggan, of Bombay, and of Mrs. McLaggan, of Lake Chrissie, Transvaal.

DEATHS.

Abud.—On March 23rd, at Mount Park-road, Ealing, Richard Abud, M.R.C.S. Eng.

Attfield.—On the 23rd March, at San Remo, Italy, in his forty-second year, after suffering for five years from consumption and recently influenza, Donald Harvey Attfield, M.A., M.B., formerly Medical Officer of Health at Watford, and afterwards for several years Chief Maritime Medical Officer of Health for the Egyptian Government at Suez; son of Professor Attfield, F.R.S., of Watford. Friends please accept this, the only, intimation.

Lorimer.—On March 25th, at Nelson House, Nelson-street, Oxford-road, Manchester, George Lorimer, M.A., M.D. Edin., of Buxton, son of the late Rev. Archibald Lorimer of Cockenzie, N.B. Deeply regretted. Friends please accept this, the only, intimation.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births Marriages, and Deaths.

committee has issued a circular to all the correspondents of the council schools on the subject in the hope that some lady or gentleman in each parish will volunteer for the work outlined. The education committee may consider the desirability of having hospital collecting boxes permanently established in the schools and a periodical call made from the parents, through the children, in a similar manner as is being done now in very many business houses. Here would be the nucleus of a fund to assist in responding to the calls of the needy cases.

Cardiff Infirmary.—At the meeting of the board of management of the Cardiff infirmary held on March 11th it was stated that there had only been one applicant for the post of house physician to the institution, and he had afterwards withdrawn his candidature. It was decided to advertise the appointment again.

The annual general meeting of the governors and supporters of the Hospital for Women, Soho-square, London, W., will be held at the hospital on Thursday next, April 2nd, at 3 P.M., to receive the annual report of the committee of management and the audited accounts for the year 1907, and to elect governors and members of the committee of management and auditors for the ensuing year.

Donations and Bequests.—The late Mr. George Harrison, of Manchester, bequeathed £10,000 to the Owens College for scholarships or fellowships, or such like purposes as the council of the college may direct, subject to the words "George Harrison" being always associated with the objects provided for by the bequest.—The following bequests have been made under the will of Mrs. Margaret Stern of East Barnet, Herts:—£1000 to the Manchester Royal Infirmary; £500 to the Owens College, Manchester; £250 to the Children's Hospital, Manchester; £500 to the German Hospital, London; and £250 to the Earlswood Asylum for Idiots.

The London Biblewomen and Nurses Mission.—The report for the year 1907 of the nursing branch of the London Biblewomen and Nurses Mission gives some interesting particulars of the useful work which this institution is carrying out by means of a body of trained hospital nurses who nurse the sick poor in their own homes in various parts of London under the name of the "Ranyard Nurses." During the year under notice the number of cases nursed was as follows: maternity, 1164; medical, 3951; surgical, 2784; cases not requiring daily visits, 623; total, 8522. Subscriptions and donations should be sent to the honorary secretary, Miss Andrews, at Ranyard House, 25, Russell-square, W.C., or to Lord Kinnaird, addressed to the Bank of Messrs. Barclay and Co., 1, Pall Mall East, London, S.W.

Complimentary Dinner to Dr. A. Newsholme.—On March 21st a thoroughly representative gathering of all sections of the townspeople of Brighton, as well as of the adjoining town of Hove, attended at the Royal Pavilion, Brighton, on the occasion of a banquet to Dr. Arthur Newsholme as a mark of appreciation of his work for Brighton during the 20 years that he was medical officer of health. When Dr. Newsholme's appointment as principal medical officer of the Local Government Board became known the medical profession in Brighton and Hove contemplated entertaining him at a banquet but it was soon found that it was the desire of even a wider circle than the medical profession that some such gathering should take place; hence the coöperation of the civic authorities and the medical profession. Following loyal toasts and the toast of "The Medical Profession," proposed by the junior Member of Parliament for the borough (Mr. E. A. Ridsdale) and responded to by Mr. H. H. Taylor and Mr. T. Jenner Verrall, the Mayor (Councillor J. P. Slingsby Roberts) submitted the toast of "Our Guest," recalling Dr. Newsholme's great work in Brighton from the year of his appointment as medical officer of health. Dr. Newsholme was given a hearty reception on rising to reply. He spoke of his work in different directions and the gratification it was to him to see the death-rate of the town fall from 18·7 to 14·7 per 1000. Apart from the occasional invasions of that deadly foe, influenza, he saw no reason why it should ever go higher. Referring to the ravages made by tuberculosis and the successful results attained from the system of curative treatment at the Brighton Sanatorium, Dr. Newsholme expressed the hope that the vigorous prosecution of the fight against consumpton would be continued. He believed that, if they did all that was possible, in 20 years consumption would occupy as small a place in the list of deaths in Brighton as enteric fever did at the present time. Dr. Newsholme paid a warm tribute to the work of those under him and expressed a hope that Dr. Duncan Forbes, his successor, would receive the same assistance as he had done.

West Wales Sanatorium.—It is announced that Princess Christian will formally open the West Wales Sanatorium for Consumption at Alltymynydd on July 20th.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Royal Commission on Sewage Disposal.

A sum of £4537 is provided in the Estimates for the expenses of the Royal Commission on Sewage Disposal during the year 1903-09. This Commission, it is stated in a footnote to the Estimates, was appointed in May, 1898, and has issued several interim reports. The Commissioners hope to present a report early in 1908 dealing with the relative merits of different systems of sewage disposal. The work which the Commission has already done on the purification of distillery refuse will probably also be dealt with in this report. An experimental investigation of the effect on streams of sewage effluents of varying degrees of purity has already been commenced for the purpose of enabling the Commission to formulate a series of standards and in its final report the Commission proposes to deal with this matter and also with the means available for purifying various kinds of trade effluents when not mixed with sewage.

The Royal Commission on Tuberculosis.

For the expenses of the Royal Commission on Tuberculosis a sum of £5491 is earmarked in the Estimates for the year 1908-09. This sum compares with £8554 during the last financial year. This Commission was appointed in 1901 to inquire with respect to tuberculosis whether the disease in animals and man is the same; whether animals and man can be reciprocally infected with it; and under what conditions, if at all, the transmission of the disease from animals to man takes place. The Commission was not appointed for any fixed period and the Commissioners state that it is impossible to say definitely when they will be in a position to give a final answer to all the terms of the reference, but every endeavour will be made to terminate the work in the course of the year 1908-09.

The Royal Commission on Vivisection.

In the Estimates of 1903-09 a sum of £550 is set apart for the expenses of the Royal Commission on Vivisection, as against £1058 in the financial year 1907-08. This Royal Commission was appointed in 1906, and according to the footnote to the Estimate it may be expected to last for the greater part of the financial year 1908-09.

Hospitals and Charities in Ireland.

A sum of £17,110 has been placed on the Estimates to pay charges connected with hospitals and infirmaries and certain miscellaneous charitable and other allowances in Ireland. Last year the estimate was £17,139.

The Poisons and Pharmacy Bill.

Five peers and five commoners are to sit on the Joint Committee of both Houses of Parliament which will consider the Poisons and Pharmacy Bill. The names of the peers are Lord Saltoun, Lord Stanley of Alderley, Lord Lawrence, Lord Monk Bretton, and Lord Haversham, and of the members of the House of Commons Mr. Atherley-Jones, Mr. Godfrey Baring, Mr. Idris, Mr. Vincent Kennedy, and Sir John Batty Tuke.

Official Directory of Nurses Bill.

Lord Balfour of Burleigh has presented a Bill in the House of Lords to provide for the establishment of an official directory of nurses. It has been read a first time.

Another Pharmacy Bill.

Mr. Winfrey has introduced into the House of Commons a Bill to amend the Pharmacy Acts. The Bill has the support of Mr. Idris, Mr. Henniker Heaton, Mr. Gulland, Mr. Remnant, Mr. Dobson, Mr. Cowan, Mr. Crooks, Dr. Vickerman Rutherford, and Mr. Ellis Griffith.

The Evidence of a Medical Officer of Health.

An unusual procedure had to be followed last week to procure the attendance of Dr. William Williams, the medical officer of health of Cardiff, at a sitting of a Select Committee of the House of Commons on a private Bill. The chairman of the committee, Mr. Mooney, on March 18th made the following report to the House: "That the parties promoting the Glyncorrwg Urban District Council Bill had stated that the evidence of Dr. William Williams, medical officer of health, Cardiff, and Isaac Davies, of Abergwynfi, schoolmaster, was essential to their case; and, it having been proved that their attendance could not be procured without the intervention of the House, he had been instructed to move that the said Dr. William practitioners who are interested in the welfare of our children will report cases of illness of all kinds which result from the conditions of school life. The amount of illness, hysteria, insanity, and crime which result from our present educational system is beyond calculation.

I am, Sir, yours faithfully,
H. H. TIDSWELL, M.R.C.S. Eng., L R.C.P. Lond.

Torquay, March 19th, 1908.

MEDICAL MATTERS IN BASUTOLAND.

THE Colonial Office publishes the report of the principal medical officer, Mr. Edward C. Long, for the year 1906–07, during which period, he states, the people have shown an increasing inclination to utilise the Government hospitals and dispensaries. There were no epidemics of any importance and, with the exception of a small outbreak at a village in the Quthing district, the territory has been quite free from small-pox. There are references to an increase of leprosy in two districts. Efforts to ascertain the real extent to which the disease prevails have been made. On three occasions every leper who could be traced was examined and the case recorded. The first leprosy investigation was viewed with suspicion by the natives and doubtless many cases were concealed. The second count, made in 1902, was more successful and most of the cases were then under observation. In 1906 a third investigation was carried out and a special report thereon is in course of preparation. The numbers showed an increase over those observed in 1900 but the increase, after making allowance for cases which probably existed but were not observed on that occasion, was not sufficient to cause the disease to be regarded as a serious menace. The natives now fully realise its contagious nature and voluntarily segregate their lepers. The experiment of forming a leper colony, which is being tried by Chief Jonothan in the Leribe district, deserves encouragement. Mr. Long insists on the necessity of increasing the medical staff and the hospital accommodation of the colony. He also suggests that the time has arrived when the Basutoland Administration should have a public health department. Pending the organisation of such a department something might be done to make the Government reserves an object lesson in sanitary efficiency. Mr. Long adds: "I have lectured for the last two years on public health and sanitation to the native teachers at their vacation course. Unless the principles taught in these lectures are exemplified in practice and the practice enforced on the Government reserves we cannot look for much improvement in the habits of the people or the condition of their own villages."

COLOSSAL LIFE ASSURANCE FIGURES.

THE fifty-ninth annual report of the Prudential Assurance Company for the year ending Dec. 31st, 1907, states that the assets of the company are now over £68,000,000, of which sum in round figures £38,000,000 are assets of the ordinary branch and £30,000 000 are assets of the industrial branch. The total premiums received in the year amounted in round figures to over £11,000,000 and the claims of the year amounted to nearly £5,000,000. About £2,170,000 were also received in interest and rents. The expenses of management, commissions, and salaries amount to about £3,000,000, there being nearly 17,000 agents collecting weekly premiums. The total number of policies in force at the end of the year was 18,303,041. The directors regret the death of Dr. Robert Barnes who had been connected with the company from its foundation and had been a director for 23 years.

THE CAPSULOID COMPANY, LIMITED.

WE learn from our correspondents that the Capsuloid Company is now circularising medical men with the statement that many physicians have discovered the effect of "Capsuloids" upon the hair, the statement being meant to convey a suggestion that there are medical men who believe that the internal use of "Capsuloids" will prevent or remedy baldness. The last line of the circular respectfully calls the attention of the medical man to whom it is addressed to an analysis of "Capsuloids" which appeared in THE LANCET of August 11th, 1900. In this analysis we stated that a preparation which had been submitted to us contained a certain amount of iron in a certain form, and made no mention whatever of the possible use of "Capsuloids" in the treatment of baldness. The Capsuloid Company, Limited, however, diffused advertisements widely the significance of which could only be that we had recommended "Capsuloids" for the treatment of baldness. The circular on which we are commenting, though carefully worded so as to escape protest, is intended to create the old false impression. The company is not one that any medical man should have any dealings with.

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W.—We can hardly believe that any dentist ever gave such advice. It is dangerous not to remove false teeth on going to bed, while it is also insanitary and dirty.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*The Court Journal, Portsmouth Evening News, Lancashire Post, Daily Chronicle, Daily Mirror, Daily Graphic, Western Chronicle, Hereford Times, Wimbledon Gazette, Motor Car Journal, Liverpool Daily Post, Liverpool Daily Courier, Cardiff Times, Ely Gazette, Alnwick Express, St. James's Budget, Christchurch Times, Scientific American, Literary Digest (New York), Broad Arrow, Coventry Times, Edinburgh Evening News, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

SATURDAY (4th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

FRIDAY.

LARYNGOLOGICAL SECTION (Hon. Secretaries—W. Jobson Horne, H. S. Barwell): at 5 P.M.

Cases and Specimens:

Dr. Jas. Donelan: (1) Case of marked Nasal Obstruction resulting from Neglected Adenoids; (2) Case of Nasal Obstruction with Deflected Septum.

Dr. StClair Thomson: Two Radiographs illustrating Value of X Rays in Sounding and Washing out the Frontal Sinus.

Dr. Scanes Spicer: Case of Intrinsic Neoplasm of Left Vocal Cord.

Dr. Dundas Grant: (1) Case of Thyro-lingual Fistula treated by Electrolysis and Excision; (2) Case of Chronic Frontal Sinusitis treated by Irrigation.

N.B.—Fellows of the Society are entitled to attend and speak at all Meetings.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith road, W.

FRIDAY.—8 P.M., Clinical Meeting.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's General Hospital, Tottenham, N.

THURSDAY.—4.15 p.m., Discussion: (1) Does Chloroform Administration tend to the Production of Post-partum Hæmorrhage (opened by Dr. Bowie); (2) Anæsthetics in General Practice (opened by Mr. H. Wallace).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Sir James Sawyer: Points of Practice in Maladies of the Heart. (Lumleian Lectures).

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M. Lecture:—Dr. C. O. Hawthorne: The Clinical Anatomy and Physiology of the Nervous System.

TUESDAY.—4 P.M., Dr. C. T. Williams: Clinique (Medical). 5.15 P.M., Lecture:—Mr. H. Curtis: Some Interesting Cases of Cranial Surgery.

Glasgow, energetic and magnificent as indeed it was, had long enjoyed an unenviable reputation in this matter, but he did not think it had yet been brought home sufficiently to the minds of people in England and Scotland that the condition of the city of Dublin was twice as bad. The difficulty of dealing with the subject of the Bill arose from the poverty of Ireland. The towns had already borrowed pretty well up to their legal powers and the rates were oppressive. He therefore agreed that the financial proposals of the Bill would require consideration.

The motion for the second reading was ultimately agreed to without a division.

MONDAY, MARCH 23RD.

Tuberculosis in Ireland.

Mr. FFRENCH asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that the New Ross urban district council passed resolutions to the effect that all cases of pulmonary consumption should be notified, that there should be more stringent and uniform measures for the regulation of milk and food supplies, that county councils should be enabled to erect and maintain hospitals, sanatoria, and dispensaries for the treatment of consumption, and that there should be a system of medical inspection of schools and school children; and whether he could hold out any hope of legislation in the direction indicated.—Mr. BIRRELL answered: I have received several resolutions on this subject. The Tuberculosis Prevention (Ireland) Bill which I am to introduce will contain a clause providing for the compulsory notification of tuberculosis and will also deal with the official supervision of dairies and the sale of food. As to the medical inspection of schools I would refer to the answer given to the honourable Member for South Down on Feb. 26th.

TUESDAY, MARCH 24TH.

Lead Poisoning.

Mr. ALDEN asked the Secretary of State for the Home Department whether he was aware that during the months of January and February of this year there were 17 cases of lead poisoning in the china and earthenware industry, as against ten for the same two months of 1907; that seven out of the ten persons affected by lead poisoning during the month of February this year were females; whether he could inform the House as to the number of china and earthenware factories represented by these cases; and how many of these cases had resulted in death.—Mr. GLADSTONE replied: The figures quoted by my honourable friend are correct. The 17 cases occurred in 14 factories and one of them was fatal. I am appointing a committee to make a further inquiry with regard to lead poisoning in this industry.

The Children's Bill.

The LORD ADVOCATE (Mr. SHAW) moved the second reading of the Children's Bill. He explained its provisions, which have already been indicated in THE LANCET. The Bill, he mentioned, dealt with the overlying of children and the figures relating to this evil were of an appalling character. A part of the Bill which might cause a little trouble was the portion which related to juvenile smoking. He confessed that when he first read the clauses he thought that the Government was going somewhat far. He had now gone fully into the records of the investigations conducted under the authority of the Crown and he found that the evil was of a most serious kind. The report of the Royal Commission on Physical Training showed that tobacco smoking before maturity was reached had a most prejudicial effect upon physical development. This evil could not be too strongly denounced. The Government had done something to meet it in the Bill and he hoped that the House would assent to the clause dealing with it.

Mr. AKERS DOUGLAS, as Home Secretary in the last Government, expressed himself as in general sympathy with the Bill.

In the course of the subsequent debate, Mr. RAWLINSON criticised the clauses relating to the penalties proposed to be imposed in cases where children were burnt when left with access to unguarded fires and also in cases of the overlying of infants. The House ought not to make an act a criminal act unless the person doing it had a criminal intention. He also criticised the machinery of the clauses dealing with juvenile smoking.

Mr. H. SAMUEL, Under Secretary of State for the Home Department, defended the Bill. Public opinion generally approved of the clauses relating to the deaths of children from unguarded fires and from overlying. The Government would be very sorry to give up these clauses. As to juvenile smoking, he defended the provisions of the Bill, and although no law might suppress the evil finally, still it was necessary for the discipline of the State to step in where that of the home was absent. He firmly believed that the provisions of the Bill would do much to put down a practice which had been condemned by medical men.

The debate was adjourned.

WEDNESDAY, MARCH 25TH.

Medical Inspection of School Children in Ireland.

Mr. JOHN REDMOND asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to a statement recently made by the President of the Board of Education to the effect that the Education Department were prepared to recommend to the Treasury that provision should be made in the coming financial year for the medical inspection of children attending schools, and that this provision should be made in the form of a special grant; and whether he intended to take steps to have a similar procedure followed and a similar grant made in connexion with medical inspection of schools in Ireland, and more especially with regard to the medical inspection of the eyesight of children.—Mr. BIRRELL replied: My right honourable friend the President of the Board of Education informs me that the newspaper report to which the honourable gentleman evidently refers contains a very material mistake. My right honourable friend did not say that he was prepared to make the recommendation in question to the Treasury. What he said was that he was asked to make that recommendation, and the sense of his reply is shown in a subsequent passage of his speech in which he asked the deputation not to press him to go to the Chancellor of the Exchequer for the ensuing year, for in the first place he thought it would be a mistake to introduce any special grant at a moment when they were anxious to get rid of special grants, and secondly he feared that the Chancellor of the Exchequer would not be able to meet their demands at present having regard to the existing claims that were made upon him.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, London.

Modern Clinical Medicine. *Diseases of the Nervous System.* Edited by Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence, North-western University Medical Department, Chicago, Illinois. An authorised translation from "Die Deutsche Klinik," under the general editorial supervision of Julius L. Salinger, M.D. Price 28*s*. net.

Anatomy of the Brain and Spinal Cord, with Special Reference to Mechanism and Function. *For Students and Practitioners.* By Harris E. Santee, M.D., Ph.D., Professor of Anatomy in the College of Physicians and Surgeons, Medical Department, University of Illinois; Professor of Anatomy in Jenner Medical College, Chicago; Member of Association of American Anatomists. Fourth edition, revised and enlarged. Price 16*s*. net.

Manual of Diseases of the Ear, Nose, and Throat. By John Johnson Kyle, B.S., M.D., Professor of Clinical Otology, Rhinology, and Laryngology in the Medical College of Indiana, Department of Medicine of Purdue University. Second edition, revised and enlarged. Price 12*s*. 6*d*. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

A Text-book of Pathology. With an introductory section on Post-mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York, and T. Mitchell Prudden, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Eighth edition. Price 25*s*. net.

Meat and Food Inspection. By William Robertson, M.D. Glas., D.P.H., Medical Officer of Health, Leith. Price 10*s*. 6*d*. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

The Labyrinth of Animals, including Mammals, Birds, Reptiles, and Amphibians. By Albert A. Gray, M.D. Glas., F.R.S.E., Surgeon for Diseases of the Ear to the Victoria Infirmary, Glasgow. Volume II. Price 25*s*. net.

F. A. DAVIS COMPANY, 1914-16, Cherry-street, Philadelphia, Pa., U.S.A.

Personal Hygiene in Tropical and Semi-Tropical Countries. A Popular Manual, Written for the Use of Foreigners Residing in the Phillippines, Cuba, and Other Portions of the Tropics. By Isaac Williams Brewer, M.D., Member of the American Society of Tropical Medicine. Price $1·00 net.

GARDEN CITY PRESS, LIMITED, Letchworth, Herts.

Practical Housing. By J. S. Nettlefold, Chairman, Birmingham Corporation Housing Committee; Chairman, Harborne Tenants, Ltd. Price 1*s*. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. VII., Kerlin—Physiology (Tissues). Price 15*s*. net.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

Text-book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorised translation from the eleventh revised and greatly enlarged German edition, with numerous additions. By Alexander Duane, M.D., Surgeon, Ophthalmic and Aural Institute, New York. Third edition. Price 25*s*. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAYLEY, ERIC, M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Co-Divisional Surgeon to Police of G Division stationed at City-road, London.

COPE, V. ZACHARY, M.D., B.S. Lond., has been appointed Surgical Registrar to the London Temperance Hospital.

EDWARDS, ALBERT DAVIES, M.B., B.S. Lond., D.P.H. Edin., has been appointed Assistant Medical Officer and Assistant Schools Medical Officer by the Newport (Mon.) Education Committee.

EVANS, THOMAS, M.B. Lond., has been appointed a Medical Inspector of School Children for the County of Glamorgan.

GILES, JAMES A., M.B., B.S. Durh., has been appointed Assistant Medical Officer of Health of the County Borough of Devonport.

GRIMBLY, RICHARD HENRY, M.R.C.S., L.S.A., has been appointed Medical Officer for the Ipplepen District by the Newton Abbot (Devon) Board of Guardians.

HOWARD, RUSSELL, M.S. Lond., F.R.C.S. Eng., has been appointed Curator of the Museum of the London Hospital Medical College.

JONES, EDITH ANNE, M.B., B.S. Lond., has been appointed a Medical Inspector of School Children for the County of Glamorgan.

LANYON, GEORGE EDWARD, M.B., C.M. Edin., has been appointed Medical Officer of Health for the Falmouth and Truro Port Sanitary Authority.

MAGAREY, RUPERT E., M.B., B.S. Adelaide, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MILL, G. ROBERTSON, M.D. Edin., has been appointed Honorary Anæsthetist to the Liverpool Dental Hospital.

RICHMOND, D. S., M.B., Ch.B. Glasg., has been appointed Medical Officer and Vaccinator to the Parish of Dalry, Kirkcudbrightshire.

SPICER, R. H. SCANES, has been appointed Honorary Consulting Surgeon for Throat Diseases at St. Mary's Hospital.

Communications, Letters, &c., have been received from—

A.—Monsieur F. Alcan, Paris; Army and Navy Male Nurses' Co-operation, Lond., Secretary of; A. T.; Ayr District Asylum, Medical Superintendent of; Mr. E. Arnold, Lond.; Mr. R. J. Albery, Lond.; Dr. F. R. v. Arlt, Vienna.

B.—Dr. A. G. Bateman, Lond.; Mr. Shirley E. Blacker, Lond.; Bureau of Public Health and Marine-Hospital Service, Washington, D.C.; Berrow's Worcester *Journal Co., Manager of*; Mr. F. E. Bennett, Margate; *Birmingham and Midland Eye Hospital*, Secretary of; Messrs. *Foster Brown and Co.*, Montreal; Mr. W. Bryce, Edinburgh; Mr. C. Birchall, Liverpool; Surgeon-Captain Robert H. Bakewell, Onehunga, New Zealand; Dr. Cesare Ballabene, Berlin; Birmingham and Midland Free Hospital for Sick Children, Secretary of; Messrs. J. B. Brooks and Co., Birmingham; Mr. F. Burgis, Buenos Aires; Mr. F. A. Brockhaus, *Lond.*; *Messrs.* Burgoyne, Burbidges, and Co., Lond.; *British Oxygen Co., Lond.*; Messrs. Burroughs, Wellcome, and Co., Lond.; Bristol Royal Infirmary, Secretary of; Messrs. J. H. *Booty and Son, Lond.*; Mr. T. B. Browne, Lond.

C.—Mr. Warner Circuitt, Lond.; Mr. Harrison Cripps, Lond.; *Messrs. Crossley and Co., Lond.*; Messrs. Chandler, Ingram, and Bell, Toronto; Messrs. J. and A. Churchill, Lond.; Cremation Society of England, Lond., Secretary of; *Calcutta Medical Journal*, Editor of; Cheshire County Council Education Department, Chester, Director of; Messrs. Callard and Co., Lond.; Messrs. Cassell and Co., Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy; Cambridge Corporation, Clerk to the; Canterbury Borough Asylum, Clerk to the; *Chelsea Guardians, Clerk to the*; Mr. J. *F. Colyer, Lond.*

D.—Mr. R. W. Doyne, Lond.; Dumfries and Galloway Royal Infirmary, Treasurer of; Messrs. A. de St. Dalmas and Co., Leicester; *Devonshire Hospital*, Buxton; Mr. W. A. Dawson, Preston.

E.—East Suffolk County Education Committee, Ipswich, Secretary of; Edinburgh District Asylum, Medical Superintendent of; E. J.; East Suffolk Hospital, Ipswich; *Dr. Alex. M. Elliott*, Lond.

F.—Mr. W. Fairbank, Windsor; Mr. B. P. Frankfort, Amsterdam; Dr. D. A. R. Farquharson, Washington.

G.—Mr. H. F. Gray, Shanghai; Mr. John Gay, Luton; Dr. V. R. *Gorakshakar*, Hyderabad; Mr. Louis Gurcel, Monaco; Gloucestershire Historical Pageant, Cheltenham, Managers of.

H.—Mr. A. L. Henderson, Alloa; Hastings and St. Leonards Hospital, Secretary of; Heigham Hall, Norwich, Lady Superintendent of; Dr. W. Howells, Brecon; Messrs. Wm. Hodges and Co., Glasgow; Professor R. Howden, Newcastle-upon-Tyne; Mr. R. Ernest Humphry, Stone; Messrs. G. Humphrey and Co., Sevenoaks; Dr. Lawrence Hunt.

I.—Incorporated Institute of Hygiene, Lond., Secretary of; Ingham Infirmary, South Shields; Secretary of.

J.—*The Journal of the Irish Medical Association*, Dublin, Editor of; Messrs. Jolliffe and Flint, Bournemouth; J. K. F.; Dr. Watkin W. Jones, Worthing.

K.—Messrs. S. Kutnow and Co., Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. A. T. Lawrence, Letchworth; London Temperance Hospital, Secretary of; Local Government Board, Lond., Secretary of; London Biblewomen and Nurses' Mission, Lond.; Local Government Board, Lond., *Medical Officer of*; Leyton Urban District Council, Clerk of; Mr. *R. Lake, Lond.*; *London School* of Clinical Medicine, Dean of; *Messrs. Lloyd, Foskett*, and Co., Lond.

M.—*Mr. J. P. Milton*, Yelverton, Manchester Medical Agency, Secretary of; Maldon Sanatorium, Secretary of; Messrs. J. McQueen and Co., Leicester; Monsieur A. Maloine, Paris; Mr. F. Hone Moore, Prees; Dr. D. J. Morgan, Swansea; Messrs. Maple and *Co.*, Lond.; Mr. *C. F. Marshall, Lond.*

N.—North Staffordshire Infirmary, Stoke-on-Trent, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; Nottingham General Hospital, Secretary of; *Northamptonshire* Education *Committee*, Northampton, Secretary of.

O.—Mr. S. Osborn, Datchet.

P.—Mr. H. S. Pendlebury, Lond.; Poplar Guardians, Clerk to the; P. H. S.; Pathological Society of Manchester; Messrs. Peacock and Hadley, Lond.

Q.—Queen's Commemoration Fund (Queen Victoria's Jubilee Institute for Nurses), Lond., Hon. Secretary of.

R.—*Dr. J. A. Rivière, Paris*; Rotherham Hospital, Secretary of; *Royal College of Surgeons* of England, Lond., Secretary of; Dr. Risien Russell, Lond.

S.—Mr. George Stoker, Lond.; Dr. F. M. Sandwith, Lond.; Society of Apothecaries of London, Secretary of; St. Mary's Hospital, Lond., Secretary of; Society of Anæsthetists, Lond., Joint Hon. Secretary of; Salop County Council Education Committee, Shrewsbury, Secretary of; Sheffield Education Committee, Secretary of; Southport Infirmary, Secretary of; Star Engineering Co., Wolverhampton; Stella Motor Car Co., Lond.; Dr. Sydney Stephenson, Lond.; Messrs. Street and Co., Lond.; Sir James Sawyer, Birmingham; Salford Corporation, Clerk to the; *Scholastic, Clerical, &c., Association*, Lond.; Salford Royal Hospital, Secretary *of*.

T.—Messrs. Tozer, Kemsley, and Fisher, Lond.; Taunton and Somerset Hospital, Secretary of.

U.—University of Durham College *of Medicine*, Newcastle-on-Tyne, Secretary of; University of *Liverpool, Registrar of.*

V.—Dr. F. Vaz, Oporto.

W.—Mr. C. F. S. Wood, *Brighton*; Warrington Corporation, Clerk to the; Mr. C. Hamilton Whiteford, Plymouth; Dr. H. Whiting, Husbands Bosworth; Mr. Albert J. Walton, Lond.; Dr. E. R. Wuttke, Halstead, U.S.A.; Mr. C. H. West, Lond.; Mr. R. Henslowe Wellington, Lond.; Inspector-General *Williams*, R.N., Lond.; West Kent General *Hospital, Maidstone, Secretary of.*

Y.—*Dr. Meredith Young, Lond.*

Letters, each with enclosure, are also acknowledged from—

A.—Ardath Tobacco Co., Lond.; *A. M.*; A. R. M.; A. W. L. J.; Professor J. Attfield, Watford; A. E. B.

B.—Mr. P. Blake, Dundalk; Dr. L. T. Burra, Newcastle, co. Wicklow; Messrs. Barlow and Rowland, Accrington; Bellary, India, District Surgeon *of*; Messrs. Booty and Son, *Lond.*; Mr. A. Browne, Leicester; Mr. R. S. Betts, Bournemouth; Mr. F. N. Brown, Frimley; *Bury Times*, Manager of.

C.—Dr. E. Curtin, Bournemouth; Dr. S. R. Collier, Wimbledon Hill; Mr. H. W. Carson, Lond.; Dr. H. G. Cooper, Altrincham; C. A. P. R.; "*Chemicus*," Stratford; Messrs. T. Cook and Son, *Bombay*; Messrs. T. Christy and Co., Lond.; Mr. E. S. Cooke, Stannington; Dr. G. N. Caley, Lond.

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Notes, Short Comments, and Answers to Correspondents.

THE TITLE OF DOCTOR.

IN the course of an action recently heard in the Probate, Divorce, and Admiralty Division, a barrister appears to have addressed the following questions to a medical man:—

Q. What are your qualifications, Sir?
A. L.S.A. Lond., and also an M.A. Cambridge.
Q. Are you a doctor, Sir?
A. Most certainly.

The barrister, who was cross-examining, probably meant to be offensive, in which connexion it may be remembered that a member of the Bar recently said to a Licentiate of the Society of Apothecaries whose evidence he wished to discredit, "You hold the lowest degree in medicine." But we are not concerned so much with the barrister's manners as with the inability of an educated man to see that the title of doctor has two significances. Academically it belongs only to those who possess a doctorate granted by a recognised University; popularly it belongs to all medical men. Having asked the witness what his qualifications were, the further question was unnecessary unless the barrister wished to involve the witness in some dispute the outcome of which might be that the jury would fancy that the witness was claiming some title to which he had no right. We think that members of the Bar might master the differences between a degree and diploma and between the formal and colloquial usage of the title of doctor, while they might also remember that medical men do not possess their statutory right to give medical evidence because they possess this or that qualification, but because their names are on the Medical Register, after pursuing a course of studies which is satisfactory to the General Medical Council.

A COINCIDENCE IN INVENTION.

To the Editor of THE LANCET.

SIR,—In your issue of March 14th there appears a letter from Mr. H. R. Davies under the above heading. It refers to the similarity existing between a pessary invented by him in 1900 and one described by me in your issue of March 7th. He is correct in saying that they are to all intents and purposes identical, and indeed, so far as I can judge from the illustrations of his instrument, the only distinctive feature is that his instrument is composed of vulcanite throughout, whereas mine consists of a steel stem and bars supporting either an ordinary watch-spring or vulcanite ring, the object in this being that the more perishable ring portion may be replaced as frequently as required without the necessity of purchasing an entire new instrument.

I may add that I was in total ignorance of the existence of Mr. Davies's pessary when I had mine made, and also that I consulted several surgical instrument catalogues in search of an adequate pessary for the class of case I had to treat, but without finding any of the kind I required.

If I had known of Mr. Davies's pessary I should certainly have used it, and I congratulate him sincerely on the invention of his instrument.

I am, Sir, yours faithfully,
SEYMOUR STRITCH,
The Governor, the Apothecaries' Hall, Ireland.
Dublin, March 23rd, 1908.

THE FUTURE OF THE TELEPHONE SERVICE.

A QUESTION which is now exercising the public mind is that of the future of the telephone service, and although the "commercial" community is most directly interested, because the points at issue do not materially affect the medical profession, at the same time the use of the telephone is becoming so universal among medical men that many of our readers ought to know the pros and cons of the question. The administrators of the telephone services have in contemplation the doing away entirely with the "flat-rate" system—the payment of a fixed sum for an unlimited number of calls, and the substitution wholly of the "message-rate" system—the payment of a fixed sum for each call made. This latter system was more or less introduced some few years ago when the Post Office service was inaugurated. The authorities now claim that the enormous increase in the number of telephones compels them to do away with the "flat-rate" system, so as to secure the efficient working of the service, in the interests of telephone users themselves. Much opposition is being manifested towards the proposed change by chambers of commerce and large commercial houses on the ground that such a change would be a tax on trade and commerce, but the matter hardly strikes us in this way, while the "flat-rate" system is certainly a tax on the time and temper of the public. Anyone who has experience of "calling up" any of the large trading concerns knows only too well how persistently the reply is "line engaged," the line being blocked with outward calls. This nuisance is becoming increasingly grievous and is brought about by the systematic overloading of their lines by short-sighted users who will not put in the additional lines which they clearly require. Fortunately, most of the large wholesale houses with which the medical profession have to do business have long since recognised the futility of overloading their lines and have doubled and trebled them, one large firm of manufacturing chemists in particular having six lines running into their City premises. This is as it should be, because it makes for an efficient service, and an efficient service must in the long run be the least expensive service. Above all, it practically eliminates the "engaged" call—the worst feature of the present service. For the great majority of medical men—we should think for all of them—the "message-rate" system is sufficient, and whilst its cost is at present much too high it is obviously cheaper for them than the "flat-rate" system. We incline to the opinion that the "message-rate" system, fixed on an equitable basis, which should not exceed £3 3s. for the minimum service, is the better system: it is a system by which the user pays in proportion to service rendered, while it prevents the abuse under which some users pay an annual subscription greater than it should be because other users on a "flat-rate" or unlimited system do not pay their due share.

EXCESSIVE SMOKING BY A YOUTH.

To the Editor of THE LANCET.

SIR,—To break the cigarette habit in a youth there is nothing better than peppermint drops. He cannot smoke with a "bull's-eye" in his mouth, and even for some time after it is dissolved tobacco will not blend kindly with the taste that remains. Socially the cure may seem worse than the disease, but from a medical point of view the sucking of peppermints is far less hurtful. A common "bull's-eye" will prevent smoking for nearly an hour, so the amount of sweets used need not be great. It would be a good plan to insist upon the youth who will smoke making his own cigarettes without the aid of a machine. Few will smoke to excess if they have to make their own cigarettes.

I am, Sir, yours faithfully,
Silverton, March 24th, 1908. O. CLAYTON JONES.

A TURKISH PERMIT FOR BURIAL 100 YEARS AGO.

"THE following," writes Dr. J. Cropper of Chepstow, "was given me as a literal translation of a Turkish permit for burial. It is 100 years old and was translated for me by an Arab medical man (qualified in Beyrout) as a specimen of the treatment meted out to the 'dog of a Christian' in the old days when it was not permitted to such to carry a walking stick or to walk to the right of a Moslem when passing in the street. The growth of Western ideas and not less the influence of Christian medical missions has altered much of this and the cursing of Christians is now chiefly left to children and small boys who still often 'take the change' out of travellers."

[TRANSLATION.]

From the Most High Court, &c., &c.

Seeing that a petition has been presented by the Bishop of the Infidels on behalf of the deceased [here follows his name], and as he has perished and we know that if he is left unburied his smell will pollute the air breathed by the true Believers, we give hereby permission for him to be buried in their well-known dung hill and to go to his company in Hell.

[Here follow the seals of the signatories.]

"PINOMED" HANDKERCHIEFS.

THESE handkerchiefs are composed of two sheets of fine tissue paper interleaved with a very thin layer of absorbent wool which has been scented with oil of pine. They are very soft and pliable and can imbibe a considerable amount of moisture before becoming limp. They are intended to be destroyed when no longer serviceable and in this respect have an obvious sanitary advantage over cambric handkerchiefs in cases of pulmonary disease or when there is ulceration of the lips, nose, or mouth. They measure about 14 by 16 inches and may be obtained from Mr. Clement A. Graham, 55, Leigham Court-road, Streatham Hill, London, S.W.

CAUSES OF THROAT AND CHEST CATARRH IN CHILDREN.

To the Editor of THE LANCET.

SIR,—I am frequently coming across children suffering from throat and chest affections due to cold caught at school. I believe it is the custom in all schoolrooms in this town to keep the windows open all weathers. This is a crude and barbarous method of ventilating a schoolroom. About half the children who attend school appear to be always suffering from the effects of cold, having chronic rhinitis. About 15 months ago a patient of mine, a delicate boy, aged six years, had several severe colds on the chest in one winter while attending school. I discovered that he caught his colds at school and I ordered him to be kept at home the last winter. The result is most satisfactory; he has not once suffered in his health. One of his former attacks turned to croup and he was so ill one night that I was sent for and found him in a state of great exhaustion. No doubt the schools are responsible for many cases of adenoids.

Another fruitful source of these ailments is due to insufficient clothing and defective boots, not always on account of poverty. Some mothers imagine a boy of six is sufficiently clothed if he wears a thin jacket and pair of knicks of serge, with a shirt of flannelette beneath; the knees and legs are quite exposed. Half the children wear boots or shoes which are not waterproof; they are therefore worse off than barefooted children, because bare feet soon dry, but feet in waterlogged boots must be wet and cold until the boots are removed, by which time the blood is chilled and illness established. I hope other as their beast of burden, for riding purposes, and for war. They were unacquainted with camels, horses, and mules. They had no religious creed. Their food was millet, honey, and the flesh of animals. The Mahomedans carried on traffic with them for ivory, gold, and skins. Wild elephants were numerous and were killed with darts. In 1330 a description of the same districts was given by Ibn Batuta, a native of Tangier. From a little before this time there is in the Chronicle of the Rulers of Kilwa a fairly complete history of this part of the coast of Africa. In 1498 Vasco da Gama begins the European history of the district.

There is a break in the historical knowledge of the western side of Central Africa from the second to the fourteenth centuries, when Norman adventurers sailed past the Canary Archipelago and Cape Verde to the land of the blacks. The Genoese appear to have had some knowledge of the coast as far as the Bight of Biafra, if we can judge from a map dated 1351 in the Medician library at Florence and published by the Hakluyt Society. This map also gives some of the results of the exploration of the Central Soudan by the Arabs, for the upper course of the Niger is delineated and there is an outline of Lake Chad. In the fifteenth century the Portuguese pushed forward several expeditions. De Sintra reached the Liberian coast and gives a description of the natives who came off in canoes, "quite naked," carrying pointed spears, darts, javelins, bows, and here and there a shield of leather. Their ears and noses were pierced and their teeth were sharpened to a point. One of the natives was brought back to Lisbon. In 1484 Diago Cam reached the mouth of the Congo, and the next year Cape Cross.

The first recorded contact of Europeans with the short-statured tribes of South Africa was in 1486 when Bartholomew Dias having passed the Cape landed in Mossel Bay. The inhabitants, astonished at the apparition coming over the sea, fled inland and all that was learnt was that they had numerous droves of domestic cattle. In 1497 Vasco da Gama landed at St. Helena Bay and met with a party of natives, short in stature, ill favoured in countenance, and dark in colour. They used many gestures in speaking, their dress was a kaross of skin, and their food wild roots and seals and whales washed ashore by the tide. They had no domestic animal but the ox. Their weapons were shafts of wood pointed with bone or horn. This description would apply to either beachranging Hottentots or Bushmen but the weapons are those associated with the former. In the same year at Mossel Bay da Gama met a number of Hottentots riding on pack oxen and also possessing sheep. In 1510 Don Francisco d'Almeida and a party landed at Table Bay and were involved in a quarrel with the Hottentots. An expedition of 150 men was landed and attacked the kraal. The Hottentots, 170 in number, replied with stones and fire-hardened wooden assegais, using their riding cattle as shields. The Portuguese were utterly defeated, 65 being killed, including the retiring Viceroy of India. Thenceforward there is an ample written history of South Africa. It was not until some time after the Dutch occupation that it was realised that there were at least two peoples in the country who waged bitter war on one another, the Bushmen and the Hottentots.

In 1625 Purchas published the first modern account of the dwarf races of tropical Africa in "The Strange Adventures of Andrew Battell of Leigh in Essex, sent by the Portugals, prisoner to Angola, who lived there and in the adjoining regions near 18 years (1589–1607)." Battell said :—

> To the north-east of the *Mani-Kesock* are a kind of little people called Matimbas; which are no bigger than Boyes of twelve yeares old, but very thicke, and live only upon flesh, which they kill in the woods with their bows and darts. They pay tribute to Mani Kesock, and bring all their elephants' teeth and tayles to him. They will not enter into any of the Maramba's houses, nor will they suffer any to come where they dwell. And if by chance any Marambа or people of Longo pass where they dwell, they will forsake that place and go to another. The women carry Bows and Arrows as well as the men. And one of these will walk in the woods alone and kill the Pongos with their poisoned arrows.

Battell's statements have been confirmed by du Chaillu and others and there is now abundant evidence of the existence of short tribes in the Ogowe and Camma districts.

The verification of the statements of early authors as to pygmy tribes in Central Africa was made by Schweinfurth in the Niam Niam country, subsequently by Emin Pasha, Stanley, Junker, and a host of others. Further south Wolf and Wissman proved their existence in the forests of the Kassai. Two distinct groups of the shorter peoples are now recognised, the Bushmen Hottentots of the Cape and the Negrillos of the Central African forests. These must be considered separately.

The Cape Bushmen are usually described as of a yellowish brown colour, short statured, with slightly broad heads, short black hair tightly twisted into small rolls or peppercorns. They possess little *or no beard*, *nose broad* and without prominence of the bridge, cheek bones projecting. Their jaws are usually said to be very protuberant, but this is relative and not actual, the appearance resulting from the flatness of the nose. The forehead is often bulging and the face straight. The coronoid process of the lower jaw is short and the sigmoid process is shallow. The stomach is pro*tuberant and the* back is exceedingly hollow. In spite of this great lordosis the lumbar vertebræ mounted alone without intervertebral discs actually curve forwards in a C curve, the posterior height of the centre of the lumbar vertebræ exceeding the anterior height. *They must, therefore,* be placed in the koilorachic division of Turner with the other pygmy peoples, the negroes and Australian aborigines. They are said to have greater powers than the average of twisting their bolas and to practise sitting down and shooting poisoned arrows at one another. *The Bushmen, who have now* disappeared from the Cape, were all nomadic hunters, whose weapons were the bow and poisoned arrow. Their habitations were caverns, *rock-shelters*, or merely mats spread over branches. *In conditions of extreme poverty they often used* only a screen of branches. They slept coiled up. Their only domestic animal was the dog. They wore little clothing and adorned themselves with necklets of beads made from the shells of ostrich eggs. They used rough stone implements and a characteristic rounded and perforated spherical stone into which was inserted a pointed stick used for digging purposes. They are described as having a very slight social organisation, but it must be remembered that they had been hunted outlaws for years before any investigations into their customs were seriously undertaken. Being only hunters they suffered very severely when their hunting grounds were occupied from the east by the Hottentots, from the west by the Bantu, and from the south by the Europeans. As the game was gradually driven away they were forced to make raids on the herds which took their place, and from the reprisals thus provoked were driven from being a quiet friendly folk to become marauders whose hand was against every man. No serious attempt was ever made by the successive governing bodies at the Cape to settle this people and those who had been gradually accustomed to a pastoral life by missionary efforts were constantly displaced as the farmers spread up country and forced to resume their old habits. The Bushmen developed singularly artistic taste and produced rock sculptures and paintings of a higher type than the taller tribes which recall the works of the early Stone Age in the Dordogne.

It seems probable that there were *two classes* of Bushmen, those of the plains and those of the mountains. The former were known as the Kraal Bushmen and so called because they built a sort of low round cairn in which they slept on the plain, never going into the fastnesses of the mountain, and Peringuey of the Cape Town Museum points out that it is this type of Bushman that still survives in the Kalahari. He shows that it is *probable that* the term Bushman comprises many unknown quantities and that it is certain that the Bush people of the central part of the colony did not understand the language of those to the North-east. *This might, however, be explained* by the conditions of life favouring the production of linguistic diversity.

Andersen[1] distinguishes four types of *Bushmen in the* Kalahari—the Cape Bushmen, some who are not racially Bushmen at all but Bantu people forced to adopt the Bushman mode of life, others are probably half-castes, and in addition he describes a lower *type* than has been met elsewhere. He says :—

> At *Narukus*, on the Nossop river, I came upon a family of Bushmen, ten in number, *of a* different *type* to those I had in my service and evidently of a lower class. They have no forehead; the wool on their heads comes close down to their eyes; projecting mouth; small *nose*; a sort of hair or wool all over the chest, arms, and legs; their eyes are small and restless. The tallest man did not exceed 4 feet 4 inches. Their skin was *of a* reddish-brown. A few old skins, broken ostrich eggs, and bows and arrows seemed all they possessed of worldly goods. *All were destitute of clothing.*

His Bushmen attendants repudiated the *idea that they* were of the same race as these newcomers, who, they said, were

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[1] Twenty-five Years in a Waggon.

WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M.: Lecture:—Dr. C. O. Hawthorne: The Clinical Anatomy and Physiology of the Nervous System.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. G. Barling (Birmingham): The Diagnosis and Treatment of Renal Mobility.

FRIDAY.—4 P.M., Mr. W. Dodd: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, road, W.

MONDAY.—12 noon, Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Ll. Williams: When to Extract—(1) Caries, Septic Condition; (2) Overcrowding, Malocclusion; (3) Instruments and Methods.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Lecture: Dr. A. E. Giles: Pelvic Displacements.

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Throat Operations (Mr. H. W. Carson).

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie); Demonstration of Cases of the Infectious Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.): Dr. F. Thomson.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Dr. Hewlett: Infections of the Digestive Tract and their Significance.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle street, Piccadilly, W.

FRIDAY.—9 P.M., The Right Hon. Lord Montagu of Beaulieu: The Modern Motor Car.

INCORPORATED INSTITUTE OF HYGIENE (MIDLAND COUNTIES BRANCH), Medical Theatre, Birmingham University.

MONDAY.—8 P.M., Dr. J. C. Thresh: The Milk Problem.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

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METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, March 26th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain-fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 20	29·85	N.E.	...	72	42	31	31	32	Fine
" 21	29·95	S.W.	...	91	49	32	37	39	Overcast
" 22	29·63	S.W.	...	67	47	33	44	46	Cloudy
" 23	29·79	W.	0·11	85	54	41	44	45	Cloudy
" 24	30·09	S.W.	...	95	58	41	42	44	Hazy
" 25	29·97	E.	0·03	54	48	44	45	45	Raining
" 26	30·02	N.	0·69	45	43	42	42	42	Raining

characters resemble those of the negroes; their hair is frizzly, not in peppercorns; their complexion is, as a rule, lighter than the negro, but much darker than the Bushmen. Sir H. H. Johnston in the Semliki district distinguished two types, a light and a dark, and regards the lighter type as the purer. The M'Boulous of the Ogowé are described as of an earthy brown colour, the Obongo as dirty yellow coloured with hair tightly coiled in tufts. Watwas, on the bend of the Congo, were called by Stanley chocolate brown; Wolf described the Batwa as much lighter than the negro. The pygmies from the Ituri were very dark. Schweinfurth described his Akka as of the colour of slightly roasted coffee. The statures of the Negrillos show, as may be seen from the following table, a considerable range of variation, no doubt dependent on racial intermixture.

TABLE II.—*Giving the Statures of Negrillos.*

Race.	Male.				Female.			
	mm.		ft.	ins.	mm.		ft.	ins.
Akka	1360	=	4	5½	1260	=	4	1¾
Batwa	1300	=	4	3	—			
Vatua	1390	=	4	6½	—			
Ituri Pygmies	1375	=	4	6¼	1300	=	4	3
Bamlute	1450	=	4	9	1360	=	4	6½
Obongo	1370	=	4	6	1400	=	4	7
Akoa	1510	=	4	11½	1420	=	4	8

Individuals are sometimes found much *shorter*—e.g., in Emin Pashá's *entourage* was an Akka woman only 1165 millimetres in height (3 feet 10 inches.) The *hair is* generally described as frizzly or tufted. They are markedly prognathous and present extremely broad nasal orifices and everted lips. The head form varies but is usually sub-brachycephalic, differing therein from the negro peoples. The highest index, and therefore the broadest head, recorded is 87 in an Akoa. I have collected the measurements of 27 pygmies from the Congo Nile watershed and find the average index in 21 males to be 78·9 with a standard deviation of 2·7240, and in six females 80·5 with a standard deviation of 2·3052. These figures may be contrasted with those of the Strandloopers who presented an average index for the male skull of 77·1; as this would correspond to 78–79 in the living it would thus appear that there is no appreciable difference. The general proportions of the body are, as pointed out by Flower, those of the taller peoples, so that they in no wise resemble the dwarfs of other races. The chief characteristics are the shortness of the trunk and the length of the upper limbs. The prognathism, absence of flattening of the face, and greater prominence of the brow ridges seem to distinguish them from the Bushmen, from whom they also differ in the absence of the tablier and of steatopygia, though it is extremely doubtful whether these latter features can be looked on as racial, in view of their far from universal occurrence among the race so characterised.

When models of examples of the two races are looked at side by side differences are very apparent; when average measurements and deviation are studied, resemblances become evident save as regards prognathism. It is interesting that the skull form of the older Bushmen should more closely resemble that of the Negrillos and that the purer type of the latter should be lighter in colour, while the general canon of proportions is very similar in the two cases. The Negrillos appear to show a greater variation in all characters and are probably a far more mixed people and the differences they show from the dwarf races of the south are those which might have been derived from negro intermixture. Yet tempting and even probable as is the hypothesis that they represent separate remains of the primitive peoples of South Equatorial Africa before the invasion of the negro and the subsequent contact metamorphism, it must for the present be regarded as at the best unproven. Further material for the investigation of either or both of these groups is urgently needed and would help to solve one of the most interesting problems of the world's history.

AT a meeting of the Incorporated Society of Medical Officers of Health to be held on April 10th Dr. Francis E. Fremantle, medical officer of health of the county of Hertford, will read a paper upon the Garden City, Rural Housing, and the Government.

The Lettsomian Lectures

ON

TUBERCULOSIS OF THE KIDNEY,

AND

MALIGNANT DISEASE OF THE CÆCUM.

Delivered before the Medical Society of London on Feb. 3rd and 17th, and March 2nd, 1903.

BY CHARTERS J. SYMONDS, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO, AND JOINT LECTURER ON SURGERY AT, GUY'S HOSPITAL.

LECTURE III.[1]

Delivered on March 2nd.

MALIGNANT DISEASE OF THE CÆCUM.

MR. PRESIDENT AND GENTLEMEN,—*Looking upon operative removal as the only remedy for malignant disease early* recognition becomes of the first importance. Everyone *recognises that it is sometimes difficult, and often impossible,* to estimate accurately the nature of abdominal swellings without opening the cavity. There is a tendency on this account to two evils—first, to postpone operation till the appearance of certain well-known signs of disease, and so lose the most valuable moment for extirpation of malignant growths; and secondly, to lose confidence in the value of *those signs* which point to inoperable disease and to explore every case. To wait for signs of obstruction in intestinal cancer, or again for signs of cachexia, is to ignore the value of the early characters of malignant disease. Unfortunately, cancer is a painless malady for many months and in the *intestine it is* not until some degree of obstruction occurs, or a tumour makes its appearance, that it attracts attention. It is therefore important to remember that when these signs arise the disease has been in existence a long time and immediate operation is advisable—if advisable at all. In this regard the rectum may be used for illustration, where *we so frequently find disease, already inoperable, with a history* that must represent but a fraction of the duration of the disease. *As regards cancer of the large intestine, excluding the* rectum, with which this lecture specially deals to-night, the operative success is most satisfactory, even extensive removal being well borne. Again, *lymphatic infection is* slow to occur while extension to the peritoneum and other organs is long delayed, except in a few special instances. *The immunity conferred is also satisfactory and will improve* as the cases come earlier for operation.

No one must speak lightly of resection of the intestine, especially when, as in most of the suitable cases, the health is good and the vigour and working power are undiminished, A disaster will cut short a life with a year or more of satisfactory existence and useful performance. Resection, however, when the contents are not septic, requires but the requisite knowledge and dexterity to attain success—knowledge when to proceed with, when to abandon, an operation; what limits to set to the undertaking; a patience that will not fail when further but removeable infiltration is found after all had apparently been removed, and that will examine and see that no weak point in the defence has been left unprotected. The necessary dexterity in preparing and suturing the bowel is easily acquired, and then, if so conducted as to be made almost an extraperitoneal operation and all tugging on the mesentery and nerve plexuses avoided, the danger, when the disease is a limited one, is reduced to a minimum. Very different is it when more extensive operations are carried out, especially when having embarked on an apparently straightforward piece of work, unexpected difficulties are encountered that must be surmounted just because the operation has gone too far to be abandoned. Increased experience enables us to avoid attempting extirpation when such difficulties are likely to arise, and yet if we take too limited a view and shrink from accepting a considerable risk relievable conditions will be left.

The first part of the large intestine is particularly suitable for resection on account of the length of the mesentery, the ease with which it can be handled, and the satisfactory condition in which the parts can be left, for by joining the ileum

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[1] Lectures I. and II. were published in THE LANCET of March 21st (p. 833), and 28th, 1903 (p. 916).

The Hunterian Lectures

ON

THE PYGMY AND NEGRO RACES OF AFRICA.

Delivered before the Royal College of Surgeons of England on March 2nd, 4th, and 6th, 1908,

BY F. C. SHRUBSALL, M.A., M.D. CANTAB., M.R.C.P. LOND., M.R.C.S. ENG.,

RESIDENT OFFICER OF THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, LONDON, S.W.

LECTURE I.

Delivered on March 2nd.

MR. PRESIDENT AND GENTLEMEN,—The continent of Africa may be divided from the ethnic standpoint into two distinct sections—a northern, inhabited by white races; and a southern, inhabited by negroes and pygmies. The line of separation lies nearly along the tenth parallel of north latitude save for an extension northward of the negro zone in the Nile valley and southwards of races with a large white element to the equator along the borders of the Red Sea and the Indian Ocean. While there are abundant materials for the reconstruction of the early history of the northern section and especially of the Nile valley, little or nothing is known of the southern area until the date of the first European explorations.

From the paintings and sculptures in the various tombs and temples in the Nile valley it is clear that the Egyptians were well acquainted with the negro tribes of the Soudan. The Egyptians had a definite and constant communication both by sea and overland with the "Land of Punt," which probably embraced the modern Abyssinia and Somaliland, and had some idea of the geographical features of these districts.

Since the sculpture on the tombs of Ti and Ptahhotep, referred to the fifth dynasty and an estimated date of 3300 B.C., represent pygmy forms undoubtedly in some measure resembling the races now found in equatorial Africa, they must have been acquainted with their existence on the upper waters of the White Nile. Inscriptions of this period state that beyond Puanit (? Punt) the land was occupied by the Dangas, a tribe of half savage dwarfs. The word Danga still occurs in modern maps denoting a point on the borders of Darfur and Niam Niam. From somewhere in this region a pygmy was sent to King Assi (3300 B.C.) by one of his officers. Keane, quoting Schiparelli, shows that some 70 years later Pepi II. of the sixth dynasty sent an officer "to bring back a pygmy alive and in good health" from the land of great trees away to the south.

Karl Peters has suggested that the Egyptians may have penetrated as far as South Africa, on the basis of a statuette bearing the cartouche of Thotmes III. (1450 B.C.) found in Southern Rhodesia. It is, however, more likely that the statuette was dropped there by chance in recent years and it is by no means certain that it is of genuine ancient Egyptian origin. About 600 B.C. Neku, the son of Psametik I. of the twenty-sixth dynasty, sent an expedition of Phœnicians to sail down the Red Sea and along the coast to the land of Punt. According to tradition recorded by Herodotus, this expedition circumnavigated Africa, reaching the Mediterranean by the Straits of Gibraltar. That author records that the expedition was actually ordered to leave the Red Sea and to return by the Pillars of Hercules. He also states that the expedition took three years during which from time to time they landed, sowed corn, and having reaped the crop resumed their journey. While sailing round Libya they had the sun on their right hand, which is the strongest confirmatory evidence of the truth of the narrative. About this period the Phœnicians from Carthage had founded settlements along the Western Mediterranean and the Atlantic coast of North Africa. About 520 B C occurred the celebrated expedition of Hanno who, having revictualled the Carthaginian colonies on the western coast of Morocco, founded a fresh settlement on Kerne Island in the Rio del Oro inlet and then proceeded south past the Senegal and Cape Verde. Sir H. H. Johnston concludes that this expedition reached Sherbro Island at the western border of Liberia; others conclude that its termination was the mouth of the Ogowé river. On the island at the end of their journey the travellers captured wild hairy men. The name given to these in the Greek translation from the Punic was "gorilla."

In the fourth book of Herodotus there is an account of an expedition made somewhat later by Sataspes who was ordered to circumnavigate Africa. He passed Cape Soloecis and journeyed south for many months until he said his ship refused to travel farther. At the farthest point he reached the coastlands are described as occupied by a dwarfish race who wore a dress made from the palm-tree. These people, whenever the expedition landed, abandoned their homes and fled away inland, although the men did them no harm and only entered their cities and took some of their cattle. As confirmatory evidence it may be noted that after passing the equator the winds and currents would have been against this expedition while favouring the passage from south to north. The mention of a dress made of vegetable fabric agrees with the modern description of the peoples on the west coast north of the Ogowé river.

Herodotus himself visited Egypt (*circa* 457 B.C.) and journeyed up the Nile as far as the first cataract. He learnt that there was a great city of the Ethiopians in the bend of the Nile at Meroe, but beyond that nothing certain was known. In Book III. he, however, records that Clearchus, king of the Ammonians, gave information imparted to himself by certain Nasomonians, a Libyan race who occupy the Syrtis. Certain of their young men crossed the Libyan desert from east to west. After journeying many days over a wide extent of sand they came at last to a plain where they observed trees growing. While engaged in gathering fruit there came upon them dwarfish men under the middle height who seized them and carried them off. They were led across extensive marshes and finally came to a town where all the men were of the height of their conductors and black complexioned. A great river flowed by the town running from west to east and containing crocodiles. This river is usually identified as the Niger, but Professor Elliott Smith in his notes on African pygmies suggests the Sobat, in which case the town must have been in a bend of the river as its main course is east to west. The important feature is that the pygmies are once more brought to notice in Central Africa and at a point far to the north of their present geographical distribution. The Greek geographer Eratosthenes sketched the course of the Nile and its Abyssinian affluents and hints at the source of the river from great lakes. Roman expeditions explored the Nile as far as the marshes above Fashoda, coming in contact with the negroes of this district and also reached the country around Lake Chad, which they found to abound with rhinoceroses.

The first clear map of the district is given by Claudius Ptolemaeus (so-called Ptolemy) 150 A.D. He quotes in full an account given by Marinus of Tyre of the journey of a Greek merchant Diogenes. This man is said to have landed at Rhaptum on the East African coast, to have travelled inland for 25 days' journey, and to have arrived in the vicinity of the two great lakes and the snowy range of mountains whence the Nile draws its twin sources. It is probable that he got his information from Arabs. He says that the mountains were named from their brilliance the "Mountains of the Moon." He was told that the Nile united its twin head streams at a point to the north of these two great lakes and then flowed through marshes until it joined the river of Abyssinia. Ptolemy's map places the mountains actually in Unyamwezi, which is erroneous. As Unyamwezi means "land of the moon" it is possible that this name was transferred to the mountains seen after passing through that country. From this time on knowledge of Central Africa gradually dwindles, though after the Arab invasions some rumours of the existence of the lake country reached mediæval Europe. The former accounts were disputed and disbelieved for over 1700 years until confirmed by the discoveries of Sir Henry Stanley.

The exploration of the Eastern coasts of Africa was carried on by the Arabs and Persians who established settlements there during the tenth century of our era. In the great work of the Arabian traveller El-Macoudi, completed A.D. 943, a description of the coast and natives is given. El-Macoudi refers to the negroes or Zendj as inhabiting the land as far south as the country of Sofala where they bordered on the Wak Wak or Bushmen. The Zendj were under a paramount ruler with the title of Waklimi. Among them were some with sharpened teeth who were cannibals. They used the ox simple; and secondly, because he could not decide what it was. The disadvantage of not combining personally in such a consultation is seen in the sequel. Expectant treatment was followed; the lump increased; and at the end of six months I was called to see the lady who was in great distress from abdominal pain. There was now a large apparently inoperable mass, with dilatation and hypertrophy of the small intestine. The day before there had been an attack suggesting perforation and I learnt that for some time all the symptoms had grown worse, especially those of chronic intestinal obstruction. Short-circuiting seemed now the only relief to be afforded, and with this object the abdomen was opened in the linea semilunaris. The end of the ileum was difficult to discover on account of adhesion to the large mass of growth. In the search the whole mass was raised up and though at first sight inoperable extirpation now seemed possible. There were several mesenteric glands, some close to the spine, but there were no secondary deposits in the liver or parietal peritoneum. Looking to the inevitable and early termination of such a condition I decided to extirpate the disease. It was an extensive operation as a good deal of the mesentery had to be removed, but was completed without the patient exhibiting any particular distress during the performance. The shock following was quite moderate and the outlook at the time appeared to justify the decision to proceed. The colon was closed and the end of the ileum united to its side by a Murphy's button. She recovered from the shock which was necessarily severe, but in a few hours uncontrollable vomiting set in. The material vomited contained blood from the first and this black character persisted till her death on the third day. No doubt the interference with the sympathetic nerves involved in so extensive a removal of the mesentery proved too much for the patient and determined the hæmatemesis and reflex vomiting. At the same time she was young and had, notwithstanding the duration and extent of the disease, preserved much energy and cheerfulness. There was besides no cachexia and the wasting might well be explained by the diminished ability to take food on account of the colic.

It is difficult to define the limit to which one may go in dealing with extensive cases, as there are so many on the borderland. This one was, no doubt, as it proved, in the inoperable area. Still, each must find out for himself when to stop an operation and not be influenced by the question of percentage of success. That must never enter into one's calculations; the welfare of the patient must be, and must be alone, the first and last consideration. In this case there was but one inevitable termination and that a speedy one. The conversion of what was intended to be an anastomosis of the ileum with the colon into an extensive resection was made when it was found that the mass could be raised from the iliac fossa. If operated upon as advised when seen in June what might not have been the result?

Where the posterior wall is the seat of disease, or where the growth is of a diffused type, the tumour will not be so defined, and here the symptoms of obstruction will come on later. Some of these diffused cases give rise to much difficulty in diagnosis, especially when the cæcum is abnormally moveable. A good example is that of Case 3.

CASE 3. *Diffused cancer of the cæcum; resection; recovery.*—A vigorous, active, spare man, aged 75 years, was seen in consultation with Mr. Donald W. Smallpiece for abdominal pain, wasting, and indigestion, and a doubtful swelling in the right ilio-lumbar region. For some time the symptoms had existed and the colic had been felt all over the abdomen. Dr. J. F. Goodhart, who had seen this patient, has been good enough to give me a summary of the notes he made when he saw the patient a few months before the visit to me. From the pain and wasting malignant disease was suspected and this was strengthened by a resistance felt below the ribs on the right side. Three weeks later at a second visit this resistance was more marked and Dr. Goodhart thought it must be a gall-bladder containing a stone. He suggested that a surgical opinion should be taken but added, "I hesitate to advise operation at 74." Other opinions threw no further light upon the case. When I saw the patient some weeks had elapsed since the above note was made and we could then distinctly feel a well-defined mass in the ilio-lumbar region. On deep inspiration it came forward and could be pushed over to the umbilicus. When pressed from the front it slipped back with a rush into the loin. Irregular, flattened, only slightly nodular, moveable to an extreme degree, and painless, it felt more like a diffused thickening of the cæcum and colon than a localised new growth. The low position and these characters excluded a gall-bladder, but it might have been a loose and altered kidney. Now it transpired that some years before the patient had passed a renal calculus and it was quite possible that a sacculated relic of the kidney remained possessing unusual mobility. Covered by a colon and freely moveable, such a swelling as occurred in this case might be thus explained. I have seen such a kidney in the pelvis. The most likely diagnosis, looking to the situation, to the mobility, to the indigestion, and to the colic, was that of a growth of the cæcum interfering with the ileo-cæcal valve. The effect of past ulceration could not be excluded, especially as the patient had spent some time in tropical countries. Tuberculosis was considered, but the age of the patient, together with the mobility and his good health, were opposed to this view. Exploration of the abdomen was advised, for though he was 75 years old yet as regards powers of resistance he was more than ten years younger. He was himself almost insistent for an operation for, as he said, beyond the colicky pain, he was quite well. Feeling myself that if we are to obtain these cases early enough to be of service we must not wait till all the clinical signs are present I myself urged operation. The wasting might well be attributed to the necessity for careful dieting and this was confirmed by the preservation of all his energy and cheerfulness, by the absence of pallor, and the presence of a strong pulse with good tone. He possessed a good appetite and enjoyed his food when there was no pain. We were fortunate, after he had entered the home, to observe on two occasions an attack of the colic. While taking a meal he had sudden pain, followed by vomiting without nausea. After rejecting a part of the meal already taken he returned and finished the food of which he felt in need. The peculiarity of the attacks confirmed the opinion I had formed myself that there was obstruction at or near the ileo-cæcal orifice.

We decided to perform the operation and after ascertaining the conditions to proceed to excision of the cæcum and as much of the ascending colon as might be necessary. If the glandular involvement proved too extensive for removal, or if he were not standing the operation well, to be content with short-circuiting. Through the right rectus the abdomen was opened, when the moveable swelling was found to be the cæcum. The peritoneum was white and thickened to an unusual degree and the appendix was long and enlarged. The parts looked as if there had been old and frequent peritonitis, without fixation, and that the appendix was the cause of this condition. Further examination revealed a nodular thickening of the cæcum and neighbouring part of the colon. There was no outstanding hard growth, but rather a diffused condition, ending abruptly some one and a half inches above the ileo-cæcal valve. In the mesentery were several enlarged glands. The extreme mobility made the case a suitable one for excision, and as the patient was behaving extremely well under the operation so far we decided to proceed. An examination showed that the liver and parietal peritoneum were free from infection. After ligaturing off the mesentery close to the spine the ascending colon was first divided and the end was closed by two purse-string sutures. Then the ileum was divided and the proximal end was fixed into the side of the ascending colon by a Murphy's button, $\frac{11}{16}$ths of an inch in diameter. The junction was supported by Lembert's sutures, and over and secured to it was laid the end of the great omentum. Though the operation lasted over two hours it was well borne and the patient recovered without any symptoms causing anxiety. The button was removed from the rectum on the fifteenth day and at the end of the third week he was up. The illustration (Fig. 2) shows the form of growth in this case. I have turned the specimen inside out the better to display the distribution of the disease. The growth is extensive, but nowhere deep, is composed of small rounded masses, and involves the ileo-cæcal valve.

This patient soon resumed his active habits, including cycling, notwithstanding a stitch sinus, which caused, however, very slight inconvenience till the end of a year when a piece of silk came away. At the present time (March, 1908) he remains well and shows no signs of recurrence, still cycles, and leads an active life.

The obvious comment upon such a case is the justification of operating at 75 years of age. Everything depends upon the individual. Not only was this man active and vigorous but he had a most cheerful disposition and did not fret under regulations. It is an old truism that the resisting power must not be gauged by age alone. This man had led an monkeys and not men. They added that these were few in number, rarely seen and ate carrion.

Somewhat varying accounts have been given of the stature of the Bushmen, as is shown in the following table:—

TABLE I.—*The Statures of Bushmen as given by Various Authorities.*

Observer.	Male.	Female.
	Mm. ft. ins.	Mm. ft. ins.
Barrow (Cape)	1370 = 4 6	1220 = 4 0
Fritsch (Cape)	1445 = 4 9	—
Topinard (Cape)	1405 = 4 7½	—
Werner (Kalahari)	1550 = 5 1	1500 = 4 11
Schinz	1570 = 5 1¾	—
Haddon	1529 = 5 0¼	—
Pearson (from skeletons)—		
Series 1	1444 = 4 9	1404 = 4 7¼
Series 2	1460 = 4 9½	1420 = 4 8

The skeleton in the Museum of the Royal College of Surgeons of England measures 1332 millimetres (4 feet 4½ inches). Barrow describes one Bushwoman as only measuring 1140 millimetres, and Wisbach a man of only 1000 millimetres; possibly he was not fully grown. The average stature of a series of skeletons obtained from caves on the sea coast which will be subsequently referred to was 1430 millimetres (4 feet 8¼ inches) for males and 1410 millimetres (4 feet 7½ inches) for females.

Before proceeding to a description of the osteological features of the Bushmen it would be well to review briefly the Hottentots with whom they are often confused, although the latter were an invading race at the time of the European occupation of the Cape.

The Hottentots are yellow to olive in colour with tufted hair resembling the former group. They are taller (1600 millimetres, or 5 feet 3 inches), with small but long heads, flat noses, hollow backs, and small hands and feet. They are particularly liable to accumulate fat in the region of the buttocks, a condition known as steatopygia. It is possible they shared this feature with the Bushmen. They were a pastoral people, possessing as domestic animals the ox, sheep, and dog. Their weapons were the assegai, often made only of pointed and hardened wood, knobkerries, bows and arrows, and they used shields of hide. They were grouped in clans with hereditary chieftains of limited authority. They are still to be found in comparatively small numbers in Namaqualand; those still in the Cape under the designations of Karanna and Griqua are half castes. They were not artistic. The distinguishing features from the Bushmen were their stature and their customs. Owing to the confusion which existed in earlier colonial times as to the designation of these peoples descriptions have been very mixed, and investigation into their physical character has been rendered difficult owing to the uncertainty as to whether many specimens sent to English museums really belonged to the race to which they were referred. When the skulls in the collection of this College and in the museum of the Royal Army Medical Corps under the respective headings of Bushmen and Hottentots were contrasted, due allowance being made for the standard deviation of each group, no significant differences could be established. The Hottentot skulls are in most dimensions somewhat larger than those of Bushmen and both absolutely and relatively approach those of the Southern negroes. No materials exist in this country for a detailed comparison of the osteological features other than of the skulls of those two peoples.

Recently attention has been drawn to the remains in the caves, shelters, and kitchen middens along the coast of South Africa from the mouth of the Orange to that of the Kei. These skeletons were found associated with stone implements and sometimes fragments of pottery and are undoubtedly those of the beach-ranging Bushmen, or Strandloopers. These are the section of the race driven as far as possible to the south. They appear to have lived on such food as was driven ashore by the tide and to some extent by hunting. An examination of their skulls and such parts of the skeleton as are available show that they present the characteristics of the Bushmen in an exaggerated degree. A study of the average dimensions of their skulls and their standard deviations shows that while closely resembling and not being clearly distinguished from the up-country Bushmen skulls they could be definitely distinguished from the Hottentots. Their dimensions generally are smaller but the breadth of the head is actually greater than that of the Hottentots, the most striking features being that the Strandloopers are more brachycephalic, orthognathous, and microseme. It seems natural to conclude that these people represent the earlier inhabitants of the Cape and would present the purest racial characters. This view is confirmed by the fact that the coefficient of variation, $\frac{\text{standard deviation} \times 100}{\text{average}}$, is smaller for the group of Strandloopers' skulls than for that of the up-country Bushmen. It may be noted that the small range of variation in the dimensions of the Hottentot skulls shows that these were fairly homogeneous and would not agree with the hypothesis that the latter were a recent racial admixture recruited irregularly from both Bushmen and Bantu.

At the present time the Bushmen have been practically exterminated from Cape Colony, but remain in the Kalahari, possibly extending even a little to the north of the Cunene River. In the past they spread over all South Africa and their weapons have been found as far north as Nyasaland. An occasional individual of the Andorobo tribe has features recalling the Bushman, while the Doko of Larkipia and the Wa-sandawi have been said to be allied to that race, but as yet this is unconfirmed on either physical or linguistic grounds.

A problem of especial interest is that of determining the racial affinities of the Hottentots. As has been already shown, they closely resemble the Bushmen and undoubtedly are allied to that race. Their language, however, presents affinities to those of the Hamitic family which has led to the suggestion that they should be regarded as a cross between some Hamitic invaders of South Equatorial Africa and their Bushman forerunners. Stow and McCall Theal in their histories of the native races of South Africa are emphatically of the opinion that whatever the race mixture which produced the Hottentots was, the Bantu at least were not concerned. Craniological considerations do not, to my mind, confirm this. Unfortunately no good collection of the other bones of this race exist. The appearance of the Hottentot skulls in no way suggests any marked intermediate characters between those of Bushmen and of any more Hamitic race, while in the features in which they differ from the Bush crania they certainly resemble negroes. Prognathism is a marked feature which illustrates this. When the distribution of the various cranial and facial indices is compared it may be seen that the Hottentot in almost every case is intermediate between the Bushmen and the Bantu negroes. A study of the actual dimensions shows a certain similarity between the skulls of this race and those of the Djagga of Kilimanjaro. These differences may be investigated by noting the probability whether or not they could be simply explained by random selection, which can be ascertained from the standard deviations of the two groups. A table has been prepared in which are shown the numbers derived from such a comparison of various groups of skulls. In this table a number above 2 indicates considerable odds against the difference between the respective averages being due to random sampling, while a figure above 3 indicates the practical exclusion of such an explanation. By other methods which will be indicated in the study of the relationships of the negro peoples it can be shown that while the Hottentot measurements are in some respects intermediate between those of Bushmen and of Hamites they are more nearly intermediate between the Bushmen and the Bantu, and where they show this least they resemble the Soudanese negro more than the Hamite. As there is a strong probability that there is a strain of Hamitic blood in the Bantu it seems reasonable that the Hottentots may represent an earlier mixture of that former race with both negro and Bushman, but that they are a true Hamitic-Bush cross without a negro element seems opposed by all the existing anthropometrical evidence. The Hottentots seem never to have been a numerous people and are said to have largely recruited their female element from the Bushmen tribes which they displaced so that the type underwent a progressive change. Against this having occurred to a large extent may be urged the small percentage variability of their skulls and the absence of evidence of such intermixture on a large scale in historic times.

The second group of shorter peoples of Africa are the Negrillos of the central forest zone. In many respects their aged 52 years, was sent to me on Nov. 12th, 1904, by Mr. G. N. P. Carrell of Ilford who had discovered a mass in the patient's right iliac fossa. In August, 1904, he had fleeting abdominal pain, felt as a gripe of short duration, sometimes low down, at others near the umbilicus, though it seemed to start in the right side. There were with these attacks some nausea and loss of appetite. These spasmodic pains lasted four or five days and there was no recurrence till six weeks ago, though some uneasiness remained in the right side. As he put it, "I knew I had a right side." Six weeks previously, on Oct. 1st, these griping pains returned, being again central or right-sided. The spasm lasted about a minute and he now observed some local tenderness. With this recurrence there were no loss of appetite and no nausea. He now for the first time sought medical advice and under Mr. Carrell's treatment the attacks subsided and the sense of "having a right side" disappeared. The swelling about to be described was discovered by Mr. Carrell on making a routine examination.

The patient was a spare, nervous man of the hard-working type and made light of his symptoms. In the right iliac region was a hard, irregular tumour, moving on respiration. The centre of the mass when at rest lay under the rectus. It could be pressed upwards for a short distance and further inwards under the rectus. The outer edge could be slipped away under the fingers. Above the mass there was gurgling on handling, but no peristaltic action could be elicited. The position, the range of movement, the gurgling above, and the size of the mass pointed to a new growth in the cæcum. The range of movement was less free than in a simple and uncomplicated case and suggested infiltration of neighbouring structures, especially of the glands in the ileo-colic angle, and possibly of the omentum. The possibility of the whole mass being due to caseous glands was also in question. Looking, however, to the evidence of the gurgling just above as indicative of the continuity of the ileo-cæcum with the mass, a new growth, involving the ileo-colic junction, seemed the most reasonable conclusion. There could be no doubt that the disease was extensive and that the extension under the rectus indicated considerable glandular enlargement or infiltration of the omentum. The mobility, however, pointed to the possibility of excision and the general condition was fair, though the nervous energy was a little abnormal and deceptive. The patient's condition being, therefore, in a general sense suitable an operation was advised with a view to resection of the cæcum if possible, or if this appeared from the conditions found unwise to attach the ileum to the ascending colon.

On Dec. 3rd, 1904, the abdomen was opened through the sheath of the right rectus, the nerves being easily preserved. The growth in the cæcum was at once obvious, and adherent to the anterior and outer surface below the ileo-colic junction, with its wall infiltrated by growth, was a coil of small intestine. The glands were some of them large but were still encapsuled and had not caused the swelling noticed beneath the rectus. This was due to the adherent small intestine and its mesentery. There were no infiltration of the iliac fossa and no secondary deposit in the liver or peritoneum. Though a double resection was required there appeared no reason, so far as the man's strength was concerned, why it should not be accomplished. The small intestine was clamped with Doyen's broad ligament forceps and three inches were removed. The ends were united by two continuous sutures of silk without the use of any temporary support. The cæcum was isolated by ligaturing the mesentery as near the spine as possible. Glands were found close to the spinal column and there can be little doubt that some were left. The ileum was clamped and divided, then the ascending colon was divided two inches above the growth, and the whole was removed. The ascending colon was closed by a continuous suture through all the coats, drawn tightly, and by another continuous Lembert's suture, thus making a blind end. The end of the ileum was then attached to the lateral aspect of the colon about one and a half inches above the termination by means of a Murphy's button. The junction was further secured by interrupted silk sutures and by folding round the site the end of the great omentum. The abdomen was closed by catgut in this case, one row in the peritoneum and posterior rectus sheath, the other in the anterior sheath. The skin was united by salmon gut. The specimen showed the disease to have commenced in the lower part of the cæcum. To the anterior wall the small intestine was adherent. The ileo-cæcal orifice was obstructed by folding and pressure, not by direct infiltration.

The operation was well borne and by the aid of subcutaneous infusions the patient recovered satisfactorily. The early vomiting was succeeded by the most violent and persistent hiccough I have ever seen. It went on for four days and was not relieved by any of the means employed, even induced vomiting being tried. It was so violent that it shook the man and his bed and was practically incessant. Happily the pulse kept good and counted usually 96, 100, or 110. The temperature never rose above normal. When the hiccoughing ceased we observed some bulging of the wound and later a serous exudation. It was obvious that the abdominal wall had given way and the intestine had escaped. Without anæsthesia the wound was opened up and a large coil of small intestine was found covered by lymph but not strangulated. It was cleaned lightly with saline solution and returned. Then the abdominal wall was closed by two deep rows of silk and a final skin suture. The man, being very sensible and possessed of great fortitude and endurance, bore the operation well, fully recognising the importance of avoiding any recurrence of hiccough which anæsthesia might induce.

The patient recovered without giving us any anxiety and was soon taking his food well. The abdominal wound was, however, never comfortable, and, as might well be expected in such circumstances, the silk sutures began to give rise to trouble, and for this one was prepared. However, the appearance of the skin, though united throughout, was unusual. It was raised in dark bluish-red elevations and the swelling did not subside with the escape of pus, as is usual with suture suppuration, and one feared that the abdominal wall had become infected with growth. Six weeks from the first operation he went home with the wound still swollen. Some weeks later the sinuses were curetted and it became clear that a soft growth infiltrated the abdominal wall. Gradually this spread up and down the rectus, forming bluish-red elevations and preventing his holding himself erect. Later a fæcal fistula formed and he died from exhaustion.

The infection of the abdominal wall in this way I have not seen before or since. It is common to open the peritoneum and give exit to serum in malignant cases, and even to divide peritoneal nodules, without infection of the wound taking place, so that infection by cancer cells during the operation is unlikely, because it ought to have occurred in other and similar cases. That all the growth was removed there is, I think, no doubt, for everywhere it was free and unbroken. It is possible, however, that in dealing with the glands close to the spinal column cancer cells may have been liberated and one may even have cut across a gland and so infected the peritoneum. But, again, this has been done before without such a result as happened in this case. Whatever view we take—i.e., whether the peritoneum was infected before or during operation—the fact determining the wound infection was the protrusion of the bowel and its presence there probably for two or three days. We had no necropsy, but it is not difficult to imagine that the colon became adherent to the abdominal wall and perforated.

Was it wise, in the presence of adhesion and infiltration of a coil of small intestine, to proceed to extirpation? Does such an infiltration indicate peritoneal infection? The answer to these questions surely is, that we had to deal here, so far as we could judge, with a local adhesion and infiltration, and that in the ascertained absence of nodules in the parietal and visceral peritoneum and in the liver the proceeding as carried out was justifiable. Had the hiccough not determined yielding of the catgut and protrusion of the intestine, there can be little doubt that primary union would have occurred and a considerable interval of good health would have been enjoyed. That recurrence would ultimately have ensued there can be no doubt. The imperfect removal of glands seemed at the time the only unsatisfactory part of this operation, yet in other instances where apparently removal was imperfect immunity has been maintained for some years as in Case 3.

Diagnosis.

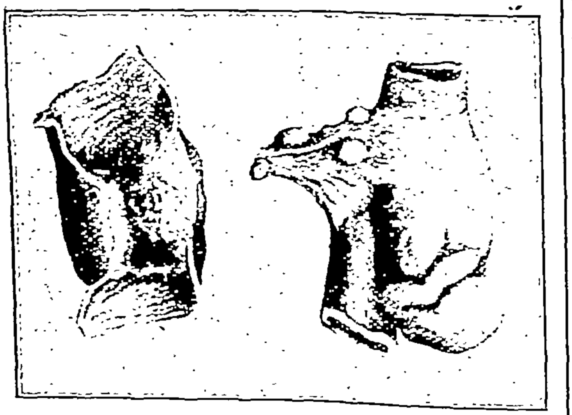
As I have said earlier in this lecture I doubt if any other condition gives exactly the form of tumour described as typical of malignant disease. The swellings in the region of the cæcum, raising the question of diagnosis, may be classified thus:—

First, because most common, come the conditions resulting from appendicitis. The induration disappears in this condition, except when the concretion escapes and lies in a cavity outside the appendix. It is then that lime salts to the transverse colon the functions are practically undisturbed.

The purpose of this lecture will be to point out the characters of early cancer of the cæcum, and if time permit of the ascending colon, to show the comparative safety of operation in suitable cases, and the degree of immunity from recurrence that may be secured. The two main signs of malignant disease of the cæcum are the presence of a tumour and the occurrence of early intestinal colic due to obstruction of the ileo-cæcal orifice. The tumour in its most typical form is in my experience unlike any other morbid condition about the cæcum. It presents as a moveable, hard, well-defined tumour, so close to the abdominal wall that it may be grasped by the hand and even lifted from the posterior wall. From a position of rest the mass can be moved downwards for some distance, swinging as it descends towards the median line and the margin of the rectus; upwards it may be moved as far as the ribs, or half the distance, making a vertical course and not passing into the loin. During this movement a gurgle is often felt from air passing through the stricture. The range of movement will vary with the mobility of the cæcum in each individual. This part of the bowel may, for instance, be more or less tethered by a past appendicitis, and in women is more moveable than in men. The discovery of a tumour by the patient may be the first evidence of disease, as in Case 3. Intestinal colic, at first occasional and brief, may exist for some time before the patient comes for advice, and even then it is often treated without the possibility of a growth being kept in mind. In its more developed stages this colic is sharp, short, attended with gurgling and pain in the right iliac region. If the patient be taking food at the time of the colic part of the food may be rejected without nausea and he may return to his meal. This feature will be seen in one instance to have been of great assistance in forming the diagnosis. Colic will be an early symptom if the growth begins in the lips of the ileo-cæcal orifice. On the other hand, it may be absent in disease beginning in the posterior wall or just above the orifice. All these points are well illustrated by the following case:—

CASE 1. *Cancer of the ileo-cæcal valve; resection; well ten years later.*—The patient, a married woman, aged 48 years, was sent to me on Dec. 13th, 1897, by the late Mr. G. H. De'Ath of Buckingham. In July, 1897, she had great pain in the "centre of the stomach" and round the body with sickness. There were three such attacks in 14 days. In August there was a return of sharp spasmodic pains all over the abdomen. In September Mr. De'Ath examined the abdomen without finding any "internal enlargement." At this time, owing to her husband's illness, the patient was unable to attend to her own ailments, though the pains continued. From Nov. 5th to Dec. 5th the pain was worse and became right-sided, and at times she could not stand. For the last year she had not been well and had lost flesh. When seen by me on Dec. 13th the patient showed no evidence of a general illness. The pain was of a definite colicky type, was felt all over the abdomen, but most severely in the right iliac fossa. There was also gurgling with the pain. At the height of the spasm of pain she was frequently sick. In the right iliac fossa a hard irregular lump could be felt. It was moveable upwards and to a less extent downwards, swinging in its descent towards the median line. It could also be moved towards the umbilicus. It was easily handled and could almost be grasped. When the intestine had been irritated by friction, coils were visible and gurgling could be heard. The diagnosis gave in this case no great difficulty, for in addition to a mass possessing the characters of a new growth of the cæcum there were also visible coiling, gurgling, and the colicky pains characteristic of obstruction. The early onset of pain and the evidence of obstruction indicated that the ileo-cæcal valve had been primarily involved. The cæcum was removed in December, 1897, together with a large piece of mesentery containing enlarged glands. The end of the colon was closed and the ileum, considerably thickened, was united to the lateral aspect by a Murphy's button. The patient recovered rapidly from the operation and was alive and well in 1908—more than ten years after the operation.

FIG. 1.



Cancer of ileo-cæcal valve. The right-hand figure shows the growth involving the cæcum and appendix and the lymphatic glands. The hypertrophied ileum is seen in the lower half of the figure. The left-hand figure shows the growth in section.

The illustration (Fig. 1) shows the lips of the valve to be primarily involved, while the wall of the bowel is also infiltrated through to the peritoneum. Several enlarged glands are also visible. The hypertrophy of the ileum will be noticed. It was fortunate for this patient that the disease involved and obstructed the ileo-cæcal orifice, as the pain demanded relief.

The disastrous result of delay is shown by the following case seen in consultation with Mr. R. R. W. Oram of Wandsworth.

CASE 2. *Cancer of cæcum; extensive operation; death from hæmatemesis.*—The patient, a married woman, aged 34 years, was seen on June 8th, 1900, at the request of Mr. Oram. She gave a history of an attack of abdominal pain 14 days before. The whole "stomach" was sore and she had to remove her corsets. The pain soon ceased and she had a good night. On the next morning she had a temperature of 100° F., and a lump was found in the right iliac fossa. As this did not disappear with aperients, and was recognised as differing from the usual appendicular swelling, I was asked to see her on the above date. In the right iliac fossa, just above the line from the anterior spine to the umbilicus, was a hard, abruptly defined, freely moveable mass. Upwards it could be moved nearly to the ribs, downwards and inwards to the rectus margin, and also directly inwards. Examination gave no pain in the mass itself nor was there any dragging sensation felt in the pelvis. The mass could, like some of the others referred to, be grasped by the hand and raised from the iliac fossa. The situation, the special range of mobility, the history of pain of a colicky character, all indicated the presence of a growth in the cæcum. This opinion was given and the wisdom of immediate operation was pointed out. The age might seem to be a point against the diagnosis, but here previous experience showed that malignant growth at the age of 34 years is not uncommon in the large and even in the small bowel. I may mention a man with cancer of the cæcum at 34 years of age, and I have operated for malignant stricture of the hepatic flexure at 28, of the sigmoid at 19, and I have seen typical colloid cancer of the rectum at 16. That the lump in this case might be inflammatory and due to appendicitis was suggested by the sudden attack of pain 14 days before, by the rise in temperature, and by the finding of a lump on the next day by Mr. Oram. I would venture to lay down the fact that such mobility as was observed here never occurs with inflammatory swellings due to appendicitis. I have seen a swelling due to a large crystalline formation round a pin remain for three months unaltered, but it was an immoveable swelling. A fæcal accumulation again does not, so far as I have seen, present so hard and limited a tumour, nor is it so moveable. It might have been a moveable kidney containing a stone, but against such a view was its rarity and the crucial fact that when pressed up the tumour dragged from below, evidently from an attachment in the iliac fossa, and again did not disappear into the loin. The shape and size excluded an ovarian with a long pedicle.

Before deciding upon operation the opinion of a physician was sought in July and he, to my regret, counselled against operation, so far as I could gather for two reasons: first, because the lump was moveable and looked therefore so growth, and yet, though just upon four years have elapsed, he is well and in full work—a better result up to now than I had anticipated. That many of these glands are free from cancer is no new observation. The subsidence of submaxillary glands, secondary to a foul malignant ulcer of the tongue or pharynx, when the primary disease has been removed or rendered aseptic by the x rays or by vaccine, is well known. Therefore it must be a very extensive infection that should set a limit to excision, and by this time probably there will be stronger local reasons for abandoning the operation. More important is the character of the glands. Those met with have been all smooth and succulent; it is the hard nodular enlargement that shows definite infection. Even, however, when glands must be left removal of the primary disease should not be abandoned when other conditions are favourable, as a considerable measure of relief will follow.

Involvement of a neighbouring coil of intestine is not, as a rule, a bar to excision, for there need be no general peritoneal infection. In the case recorded here (Case 4) there can be little doubt, as the sequel proved, that general infection existed. We have no means of ascertaining such a degree of infection, for there was no serum and therefore, other things being favourable, I see no reason against a double resection.

Should pallor or anæmia deter us from operation? I suppose one may recognise three forms of pallor in malignant disease: that which is due to dissemination of growth, that which is due to small and unnoticed losses of blood, as in gastric carcinoma, and that caused by septic absorption from necrotic changes in the growth. This last form comes early in malignant disease of the bowel, as it does in cancer of the mouth, pharynx, and œsophagus. It is the form relieved by injections and the x rays. Certainly pallor in patients over 60 years of age, and in younger people whose visceral conditions are not sound, sets a limit to extensive operation. Occasionally, however, when the patient is young and robust it may be safe to operate in the presence of this condition. The following is a case in point. In a man aged about 40 years, of a particularly robust constitution, with a large malignant growth of the hepatic flexure, and, except for his pallor, in good general condition, I resected the cæcum and colon to the middle of the transverse portion successfully. The removal of the mesentery involved opening the lesser sac and a dissection over the duodenum to the pancreas, and yet he is at the present time, just four years from the operation, in full work. The limits as to age I have already referred to and as to cardiac conditions of a nervous kind.

The established rule to postpone resection followed by anastomosis and to be content with anastomosis only when the contents of the bowel are septic is applicable here as elsewhere. When this exists the ileum should be united with the colon by direct suture and ten days later the resection carried out. It is better to make the first operation through the median line, leaving the rectus sheath for the resection. The presence of visible peristalsis is not in itself a bar to immediate resection, for the small intestine may be capable of emptying itself and the contents may not be septic. But when, with peristalsis, the small intestine continues to be dilated then, resection carries special dangers and should be delayed till the bowel is healthy. Some years ago, before one was perfectly clear on this point, I lost two patients from attempting the full operation in the presence of obstruction.

Palliative Treatment.

Short-circuiting will relieve where the disease is too extensive for removal. The question arises here whether lateral anastomosis of the ileum to the transverse colon is sufficient without division or some other method of occlusion of the ileum beyond the junction. No doubt it is more perfect to prevent the contents of the small intestine passing over the growth, but I doubt if it does any great harm in an inoperable case. I have carried out anastomosis by direct suture of the ileum and transverse colon on several occasions without being able to detect any special disadvantage. On the other hand, there is a tendency for the fæcal material to accumulate between the junction and the obstruction if the ileum be divided or otherwise closed, giving rise to much inconvenience. The passage of even a small amount of the bowel contents through the stricture appears to be sufficient to prevent this accumulation.

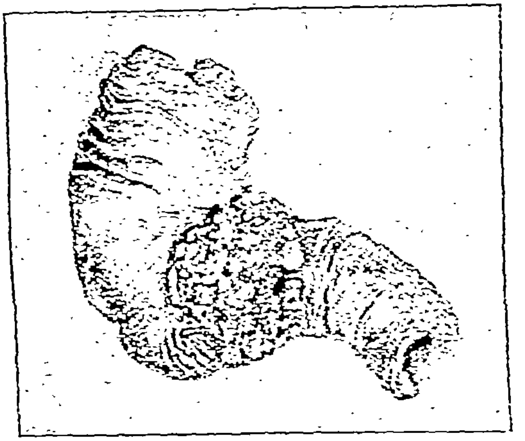
The Value of the Murphy Button.

It will be noticed that the junction of the ileum to the colon was effected in the cases here reported by the excellent mechanical device introduced by Mr. Murphy. For making a junction between the end of the small intestine and the side of the large in the absence of septic contents I find this method more convenient than direct suture. Here I must, however, insist that I never use the button without supplementing it by a row of Lembert's sutures all round, and where possible enfolding the junction by the great omentum. The size of the button must be under an inch—the $\frac{11}{16}$ths I find a convenient size—or even a smaller one makes a sufficiently large opening. It is also of importance to see that the spring is strong enough, for buttons are sold imperfect in this respect. Again, in joining the end of one piece to the side of the other it is most important to be sure of the vascularity of the ileum. The first section may appear flabby owing to the ligature of the mesenteric vessels: if so, a further piece must be removed. The cut surface, in fact, should bleed freely. I am inclined to think that some of the failures reported with Murphy's button have been due to neglect of these points. The line of division of the bowel has not been made to secure vascularity of the part opposite the mesentery, or the button has been too large, or again pieces of septic mucous membrane have been left protruding, or there has been too much strain on the junction, and lastly, the protecting Lembert's sutures have not been inserted. It will also be observed that end-to-end junction of the small to the large intestine was not employed, but instead anastomosis of the end of the ileum into the side of the colon, the lumen of the latter having been previously closed by two continuous sutures. It is difficult to suture the ends of the small and large intestine and it is unnecessary and, moreover, it takes much longer. The third plan is to close the ends of both and make a lateral anastomosis. It is the best if direct suture be employed, for it is easier, safer, and quicker—even including the time necessary for closing the ileum—than joining the end of the ileum to the side of the colon. The button I find then of great service whenever the bowel is healthy and the contents are free from the septic changes of obstruction. For end-to-side anastomosis it is admirable, especially when the upper and lower pieces of the bowel differ in size; for example, in chronic obstruction of the ileum from tuberculous or malignant stricture the lower end is thus inserted into the side of the upper, a thin and normal piece into a greatly dilated and thickened piece.

I must not conclude these lectures without some reference, however brief, to the physician in whose memory they have been founded. A perusal of Mr. Pettigrew's "Memoirs" and some of the many letters he has collected leaves the impression that Dr. Lettsom was a man of remarkable character. To yield up your only source of income at 23 in order to free your slaves requires some courage. With the money saved out of his first six months' practice he returned to England and completed his education, both here and on the continent, and at 26 began practice in London, as it is quaintly put, "under the protection of Dr. Fothergill," which means, I suppose, that he joined him in partnership. He was only 29 when he was chiefly instrumental in founding the Medical Society. Whatever movement was on foot for the promotion of scientific investigation or for the benefit of the poor Dr. Lettsom took an active part. He founded the Royal Humane Society and the Sea Bathing Infirmary at Margate and was president of the Philosophical Society at the time of his death. Writing when 46 to a friend older than himself he says, "I grow old rapidly. The sempster time has lately worked up my thread very fast and I want a pause between the two worlds." His activity, however, did not diminish and when Jenner published his discovery in 1797 Lettsom, then 53, actively took up the new treatment, and so valuable was the paper he wrote in its support that it was republished at Jenner's request. It was to his friend, Dr. Waterhouse of Cambridge, Massachusetts, that the first consignment of lymph was sent to America. His end was typical of his active life. He had made a necropsy and probably was infected. Rigors soon followed but he insisted on going about, resisting the advice of his friend Pettigrew that he should see Dr. Babbington. He, however, was obliged to submit and a week after the onset of the illness he died at the age of 71, in the year of Waterloo. The many letters received showed in what esteem he was held alike by his own profession, by scientific men generally, and by peers, eminent lawyers, and others.

Many valuable lectures have been given under this memorial to Dr. Lettsom. I cannot but [illegible] that abstemious, healthy, outdoor life and his mental powers were in keeping with his bodily activity. He was, moreover, of a cheerful disposition, and himself long accustomed to high naval command, took everything as a matter of course. In estimating resisting power in malignant disease nothing, I take it, is more important than to distinguish between the wasting due to cachexia and that due, on the one hand, to interference with digestion only, or on the other, to pain or other symptoms that may induce loss of sleep. The patient who preserves his energy and vigour, his mental alertness, and has a pulse of good tone may be estimated as possessing good resisting power. One must not be deceived by the man who exhibits a fictitious activity, beneath which one can recognise artificial stimulation and the signs of arterial and visceral degeneration. This and Case 1 indicate what might have been done in Case 2 if operated upon when advised. Age, then, is in itself no deterring condition, nor are certain conditions of the heart and general health, as shown by the next case.

FIG. 2.

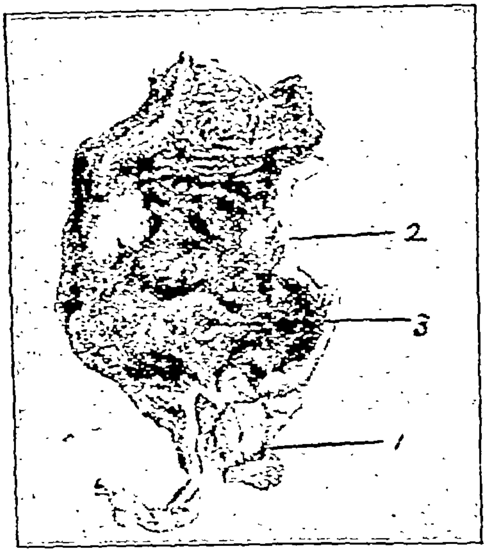


The cæcum and ileum have been turned inside out to show the flat nodular ulcerating growth. The patient was 75 years of age.

CASE 4. *Cancer without obstruction of the valve; resection; recovery.*—The patient, a married woman, aged 59 years, was brought to see me by Dr. G. C. Steele-Perkins on Feb. 29th, 1904, with the following history. Five weeks before, while rubbing the abdomen, she had noticed a lump in the right side, and for this consulted Dr. Steele-Perkins. On Feb. 10th he found a hard moveable swelling in the situation of the head of the cæcum. There were no tenderness on handling and practically no associated symptoms. Looking upon the swelling as in all probability partly fæcal, aperients were administered and some reduction in size was effected, but as the main tumour still remained I was asked to see the case in consultation. The mass lay in the right iliac fossa, was hard, somewhat nodular, and freely moveable. Its position of rest was in a line drawn from the iliac spine to the umbilicus; it could be moved upwards nearly to the ribs and downwards to the outer border of the rectus. It could be almost surrounded by the hand and grasped. It resembled in some respects a moveable kidney and could indeed hardly be confused with anything else. The position of rest was, however, quite against this view, for, so far as I have seen, neither a loose kidney, a moveable right hepatic lobe, nor a gall-bladder ever occupies so low a position. Again, none of these structures give the nodular outline found in this mass. There was no gurgle in the lower part of the ileum nor had there been any colicky pains. The valve was, therefore, at present free. The mass was higher than the usual situation of the ileo-colic valve and we considered the infiltration as beginning in the posterior wall above this orifice. This situation would explain the absence of obstruction. The patient herself was a highly nervous woman and suffered from "heart disease." We ascertained that she had consulted Mr. F. G. Larkin of Grove Park for the cardiac condition. On communicating with him we found that a marked irregularity with attacks of dyspnœa from time to time were the chief signs of the cardiac ailment. Mr. Larkin had considered the condition mainly a nervous one and had never found evidence of organic disease. Still, the fact remained that the woman was by no means a favourable subject for operation. The growth, however, was, so far as we could ascertain, still limited to the cæcum. As to the duration it appeared that six months before a small nodule had been observed in the situation of the present mass by Mr. Larkin, of which, however, no further notice was taken. On March 14th the patient was moved into a nursing home, but this brought on so severe a nervous attack that she had to return to her own home next day. In a few days, however, she was able to face the operation which was performed and in the able hands of Dr. J. F. W. Silk the patient took the A.C.E. mixture without causing the slightest anxiety.

The growth, as shown in Fig. 3, involved the colon just above the valve and though the orifice was displaced it was not obstructed. The glands in the mesentery were numerous, though for the most part accessible. The cæcum and nearly the whole length of the ascending colon were removed, together with the mesentery and glands up to the spinal column. The distal end of the colon was closed and the end of the ileum united by means of a Murphy's button to the inner aspect, two inches beyond the closed extremity. Once the operation was over the patient's nervous symptoms settled down and an excellent recovery followed. The glandular enlargement was in this instance beyond complete removal. The furthest gland removed was of fair size and there can be no doubt that smaller and more distant ones existed. It was the interference with vessels in removing the glands that necessitated so extensive a sacrifice of intestine. The case demonstrates the comparatively small risk of such an operation, even in unfavourable subjects. Obtained early the prospects of complete immunity are most encouraging. This patient died rather more than three years after the operation from some cardio-pulmonary condition that was not attributed to recurrent disease.

FIG. 3.



The ileum is seen below (1). The growth (2) is seen just above the ileo-cæcal valve (3).

A tumour that may appear before the abdomen is opened a possible case for excision may prove inoperable or nearly so when brought into view. Dismissing the questions of secondary infection of the peritoneum and of the liver as obvious contra-indications, does infiltration of a coil of adherent intestine negative resection? The following case shows that this can be successfully carried out, but also indicates that there was peritoneal infection, though not yet advanced to the stage of deposit. As the case illustrates several important features of disease of the cæcum and some of the troubles following upon these extensive operations it is worth recording in detail.

CASE 5. *Cancer of cæcum and of an adherent coil of ileum; double resection; hiccough: protrusion of bowel; malignant infection of the abdominal wall.*—The patient, a man, applied extensively in therapeutics. The change is a gradual one and occurs in most cases only if carbohydrates greatly exceed the needs of the tissues. There is no conclusive evidence that in health this change occurs if carbohydrates are not in excess. In disease, however—e.g., diabetes—it is possible that sugar may be burnt off by becoming first converted into fat[3] by a conjoint process of reduction and synthesis akin to that which occurs in butyric acid fermentation. The site of this change is most probably the liver, since similar processes have been proved to occur in the liver after death.

Disturbances of glycogenesis, whether arising from defective storage or increased glycolytic changes, are therefore always attended by disturbances in fat metabolism, in the first instance by diminished formation of fat and later by increased call upon the fat already present in the body to take the place—for purposes of combustion and nutrition—of the carbohydrate material lost to the body. More or less wasting is thus a characteristic effect of all disturbances of glycogenesis. In the case of fats, the deficiency or loss of carbohydrates leads to the removal of fat from its deposits in the tissues back into the blood to all the organs requiring it but especially into the liver. The liver becomes loaded with enormous quantities of fat to the extent, it may be, of 70 per cent. of its bulk. This transference of fat involves therefore a condition of lipæmia met with in cases of diabetes which may in itself be sometimes a cause of disturbance in producing fat-embolism. It involves, however, what is more important—viz., an excessive metabolism of fats for purposes of combustion, and with this a corresponding excess of products of fat metabolism. Among such products are various acids, diacetic acid, acetone, β-oxybutyric acid—the so-called acetone bodies. The greater part of these bodies have fatty acids as their immediate precursors, and the liver is the site of their formation from fat (and from proteid derivatives). The essential factor in causing acetonuria is the absence of proper carbohydrate metabolism. The effects on liver function of the "acidosis" thus produced are various. Some of them have already been seen in connexion with its metabolism of urea and ammonia. The most dangerous result is that shown in diabetic coma, the grave toxic symptoms of which are associated with the presence of these bodies. The body is able to protect itself up to a certain point against this increased production of acids—viz., by neutralising them with ammonia. This combines with the acids and is excreted in the urine to the amount even of from 10 to 12 grammes daily, instead of the average 0·5 gramme. Notwithstanding the protective power of the ammonia the alkalinity of the blood may become absolutely diminished, and then there follow the phenomena of acid-intoxication presented in cases of diabetic coma. Short of these extreme effects, the diminished alkalinity of the blood caused by increased formation of acids may in certain cases, as will presently be seen, involve grave disturbance of the proteolytic functions of the liver, to the extent even of becoming the main factor in determining the occurrence of the gravest of all liver disturbances—viz., the auto-digestion (autolysis) characteristic of acute yellow atrophy and of some cases of chloroform poisoning.

Both directly and indirectly defective glycogenesis may thus be responsible for some of the gravest disturbances, both functional and structural, to which the liver is subject.

1. Absence or deficiency of carbohydrate material (glycogen) in the liver cell involves on the one hand an increased destruction of protein material with consequent wasting of the body.

2. This increased proteolysis involves an increased formation of toxic products in increased quantity, with consequent increased liability to toxic effects producible by such products.

3. The absence of glycogen from the liver cell by diminishing the combustion processes interferes with the destruction of toxic products, and this involves a diminution in the antitoxic powers of the liver cell. The starving animal is more easily affected by poisons than the well-fed (glycogen rich) animal.

4. The loss of carbohydrate material caused by impaired glycogenesis (and the glycosuria of disease) involves extensive changes in fat metabolism—the withdrawal of fat from its peripheral depôts to the more centrally situated liver, where it is more immediately available for purposes of combustion and energy production. The increased metabolism of fats thereby necessitated involves an increased formation of acids and if long continued the "acidosis" thus occasioned may produce symptoms of acid intoxication of milder or severer degree (e.g., acetonuria and diabetic coma). It may even in favourable circumstances be the chief factor determining the onset of the severe structural autolytic changes characterising acute yellow atrophy, chloroform poisoning, and other severe liver conditions.

DISTURBANCES CONNECTED WITH THE METABOLISM OF FATS.

Disturbances in fat metabolism play a far more important part in grave functional disorders of the liver than was formerly supposed.

A. *The physiology of fat metabolism.*—The neutral fats absorbed with the chyle remain in the blood for a brief period till they are selected for combustion or storage in the subcutaneous tissues, para-peritoneal spaces, and the liver. During fasting the fat streams from the depôts back into the blood to all the organs requiring it. A condition of "lipæmia" of the blood is therefore a constant condition and this becomes very manifest in phosphorus and phloridzin poisoning, in alcoholic intoxication, and in diabetic coma—conditions in which there is more or less widespread inanition, especially with deficiency of carbohydrates. Certain ferments have been found in the blood capable of splitting the fat and rendering it soluble. And ferments of this nature have been found in the liver. In these conditions, as has been shown by Rosenfeld (1895-97), an enormous passage of fat takes place from the fat deposits of skin and abdomen into the liver, and the latter becomes loaded with enormous quantities of fat (to the extent of 70 per cent. of its bulk). The distinctions formerly made between "fatty infiltration" and "fatty degeneration" no longer hold good. In both cases alike the fat is deposited in the cells; the form it takes—whether in fine granules or larger globules—is determined by the functional activity of the cell at the time the fat is taken up. This excessive storage of fat in the liver only occurs if the glycogen has disappeared from the liver, and it can be prevented if the animal be fed with substances, such as sugar, from which glycogen can be readily formed. This storage of glycogen and fat would thus appear to stand in a certain antithesis. Although in certain cases large quantities of fat may often be found along with extensive storage of glycogen—e.g., in the livers of Strassburg geese (Magnus Levy)—yet in general excess of fat in the liver denotes deficient glycogenesis. The storage of fat in the liver may be explained in two ways. The first is that the liver must first transform the fat molecule in some way before it can be consumed by the cells (Nasse)—for example, possibly into carbohydrates. The second is that the storage of fat in the liver is a reserve readily available to meet any sudden call upon the metabolism, as, for example, in violent movements. The suggestion is that the fat can much more quickly and easily pass from the centrally situated internal and vascular liver than from the cells of ordinary adipose tissue. According to this explanation, the liver must have the task of placing at the disposal of the body the material necessary for combustion, both from its glycogen and its fat deposits, on any sudden increase of the demand for energy. (Von Noorden.)

B. *The pathology of fat metabolism.*—The disturbances that arise in connexion with fat metabolism in the liver are evidenced chiefly by the excretion of acetone bodies—viz., acetone, aceto-acetic acid, and β-oxybutyric acid, and by the condition of acidosis to which their formation in excess gives rise. Of these bodies only acetone can be found in the urine in health (about one to three centigrammes daily). The conditions under which these bodies are increased are essentially those in which the oxidising powers of the body are reduced by some notable deficiency or absence of carbohydrates from the food. Deprivation of food or the exclusion of carbohydrates from the food causes acetonuria without exception in the case of man, also in children, also during pregnancy and labour, also after injury of the central nervous system, also after the administration of narcotics. In all these cases the administration of carbohydrates, starch and especially sugar, removes within a few days this form of acetonuria. If it be allowed to continue there also occurs an excretion of aceto-acetic acid and oxybutyric acid. The source of these become deposited over a fæcal concretion or over a foreign body. I have a specimen where a pin has been covered by a large crystalline mass. The man was 30 years old and the lump existed for over three months, and may have been there before. Altogether I have had seven such cases. In all these the patients had had acute attacks, the mass was hard and fixed, did not increase in size, and did not give rise to colic. In a man over 60 years of age there was a hard irregular lump fixed to the abdominal wall. It could be outlined quite easily, but it was too small for an adherent growth and did not reach deep enough into the iliac fossa. It proved to be the appendix in the very unusual position of being adherent to the abdominal wall and surrounded by the effects of a recent acute attack. Fixation and a small mass were the two great points in diagnosis. The resemblance was exemplified in Case 2 where after an attack of pain in the night a lump was found and the temperature was raised. The persistence and mobility of this mass led, however, to further advice being taken. The danger of a brief and single examination was well seen in the case of a man of 42 years brought to me in November, 1899, for removal of the appendix. A history of several attacks of pain was given; he had been seen in February by an eminent authority in one of these attacks, with slight elevation of temperature, when operation was advised. In May there was another attack of pain which laid him up for a week, and all the year there was indigestion. The night before I saw the patient he had been in a good deal of distress. All arrangements had been made for operation, the day settled, and the forthcoming marriage was to follow. Wishing to see the patient before deciding upon the operation he walked in apparently with ease and alacrity, rather thin and pale, but considering himself well except for this pain. He had been shooting and otherwise going about as usual. The presence of extensive growth was only too obvious, not only in the cæcum and iliac fossa but in the pelvis and in the omentum. The surprise at such a diagnosis was naturally great and exploratory operation was insisted upon. This took but a few minutes, the parts needing little disturbance to confirm the widespread character of the cancer. The end was tragic, though merciful. Propped up in bed smoking a cigarette on the fourth or fifth day he fell back in a moment dead from cardiac embolism.

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[3] Von Noorden, 1901; Naunyn, 1899.

Secondly, when cancer attacks the posterior wall early perforation may take place with fixation and suppuration. Here the resemblance to subacute cases of appendicitis—cases commencing even about 60—is very close. I was called some years ago to relieve a patient with flexion of the hip after suppuration in the iliac fossa. The abscess had closed and the case was looked upon as one of appendicitis. I found the iliac fossa occupied by a hard growth, a mass in the cæcum, and typical peristalsis of the ileum. The cæcum, which I obtained later, showed an epitheliomatous ulcer on the posterior wall less than an inch in diameter. The iliacus muscle was infiltrated with cylindrical epithelioma. I refer to this type of case because, though representing a later stage of disease, we may be called upon to give an opinion when fixation has occurred and even suppuration. I have notes of another case where the patient came with a sinus over the iliac crest exactly resembling that occurring after suppurating appendicitis. The close resemblance must some time find the surgeon operating upon what looks like a non-malignant condition.

The next mass found in this region is caused by glands in the angle between the ileum and cæcum. In four cases these formed definite tumours. In a girl of 20 years it was very hard and irregular and though lying further inward than usual it was, I thought, due to an escaped concretion round which lime salts had been deposited. A mass of calcareous gland was found in the ileo-colic angle and removed. The appendix was free and was also removed though it showed no tuberculous deposit nor was any observed in the cæcum. This patient later had signs of general tubercle. Another case occurred in a young man of 19 years. Here the glands were succulent and infiltrated the walls of both portions of intestine; they were not removed for resection of the cæcum would have been required. The patient has completely recovered. Glands in this situation occur mostly in young people when the diagnosis of malignant disease may be put aside. But occasionally an old centre may recrudesce and give rise to much difficulty. In a man over 40 years seen in consultation, where the question of malignancy was raised, such a condition had probably existed in earlier life. The thickening was irregular, without the characteristic movement, and not so abrupt and defined as has been described. Subsequent progress justified the withholding of an exploration in this case.

A gland situated on the inner aspect of the ascending colon, one and a half inches above the junction of the ileum and already suppurating, gave rise to some difficulty in diagnosis, especially as the lump moved with the cæcum. The patient having a good deal of pain and being about 30 years old, operation was considered wise. The abscess, a small one, lying under the peritoneum covering the colon at the mesenteric margin, was dissected out and a good recovery followed.

A fourth condition is tuberculosis of the cæcum. The resemblance between these two conditions was fully illustrated in the paper read by Professor Hartmann before this society on Ileo-cæcal Tuberculosis. It may be said that tuberculosis occurs in earlier life and that fixation arises sooner than in cancer. The resemblance is seen in the situation and form of the tumour, the colic, and the obstruction at the ileo-cæcal valve. Again in both suppuration may occur and a fæcal fistula ensue. In a woman, aged 24 years, under my care in Guy's Hospital in 1895 with a fæcal fistula and a hard irregular mass in the cæcum there was a history of obstruction and pain. In two stages the cæcum was excised and the ileum joined up with the colon. The disease was tuberculous and this view was further supported by her admission last year with spinal disease and old phthisis. Professor Hartmann's paper showed that even when exposed such a mass may be difficult to distinguish from cancer. Both require removal so that error is of less moment except so far as regards the extirpation of lymphatic infection.

Actinomycosis in its early stages resembles more closely that form of appendicular swelling due to a calcareous-covered concretion in that both tumours are fixed and do not disappear. In the later stages, when infiltration and suppuration occur, there is a resemblance to that form of malignant disease beginning in the posterior wall and attended by suppuration. Both conditions are at this period, however, inoperable. A typical case will be found recorded in the Transactions of the Royal Medical and Chirurgical Society, vol. lxxv., p. 63, by the late Dr. Ransome, with whom I saw the patient on several occasions. This patient in 1886 had some uneasiness in the right iliac region and thought he had a hernia. On Oct. 12th, 1888, he had indefinite and occasional pains, pain at sometimes severe and at irregular intervals and increased by movement of the right leg. On the 21st he was seized with great pain in the right iliac fossa. Then was there found a distinct, firm, rather uneven, solid mass, very tender to pressure and in the position of the cæcum. From this time there was rapid extension to the iliac fossa and abdominal wall and he died with secondary deposits in the liver and brain.

Limits of Operation.

So mobile is the growth, even in some advanced cases, that until the abdomen is opened one cannot be certain whether extirpation is possible or not. Even then it is sometimes difficult to decide and one is tempted to go forward when the glandular infection cannot be fully limited. The presence of ascites and of secondary deposits in the peritoneum or liver puts excision out of the question. Adhesion to the posterior wall with infiltration of the muscle or with a sinus also makes removal impossible. Infiltration of the anterior abdominal wall, unless very limited, must also render complete eradication impossible. In one instance I undertook the removal of recurrent growth where the scar in the abdominal wall was involved. Some time before another surgeon had opened the cæcum and removed a polypus attached to the posterior wall. Though I made a wide removal of the intestine and abdominal wall recurrence took place rather quickly.

How far should enlarged glands set a limit to the question of resection? Theoretically a gland as large as a bean, close to the spine, infers lymphatic infection beyond and points to the impossibility of eradicating the disease. On such a view resection ought to be abandoned. Experience, however, renders a different answer, for in the patient, aged 75 years, a gland was inclosed in a ligature, and part had to be left, for already the dissection had reached the aorta, yet he shows no signs of recurrence after four years. In a case not recorded in this lecture, where the whole of the ascending colon together with the hepatic flexure and the cæcum were removed, it was quite impossible to get beyond all obvious gland enlargement, though at the attempt the duodenum was uncovered and the lesser sac of the peritoneum opened up. This man showed also the pallor caused by necrotic

Table showing Cultural Reactions of Streptococci from Various Sources, as described in the Text.

No.	Andrewes's and Horder's classification.	Reaction to Gordon's tests.											Growth on gelatin.	Morphology.	Scarlet fever.		Healthy.		Other diseases.	
		Litmus milk.		Neutral red.	Saccharose.	Lactose.	Raffinose.	Inulin.	Salicin.	Coniferin.	Mannite.	Nitrate.			No. of specimens.	No. of cases.	No. of specimens.	No. of cases.	No. of specimens.	No. of cases.
		Acid.	Clot.																	
1	I., 1a	−	−	−	+	+	−	−	+	(−)	−	−	±	M. to L.	1	1	1	1	2	2
2	1c	+	−	−	+	+	−	−	−	(−)	−	−	±	C. & M. to L.	5	4	3	3	2	2
3	1f	−	−	−	−	+	−	−	−	(−)	−	−	+	M.	—	—	1	1	—	—
4		−	−	−	−	−	−	−	−		−	−	+	M. to L.; C.	—	—	1	1	2	1
5		−	−	−	+	−	+	−	−		−	−	±	M. to L.	1	1	2	2	—	—
6		+	−	−	+	−	+	−	−		−	−	−	L.	1	1	1	1	—	—
7	1h	−	−	−	+	−	−	−	−	(−)	−	−	+	M. and Liss.	1	1	1	1	—	—
8	1i	+	−	−	+	+	−	−	+	(+)	−	−	−	M. to L.	1	1	—	—	1	1
9	II., 2d	+	+	−	+	+	−	−	+	(±)	−	−	−	B. to M.	1	1	1	1	—	—
10	2f	+	+	−	+	+	+	−	+	(+)	−	−	+	B.	—	—	1	1	—	—
11	2l	+	+	+	+	+	+	−	+	(+)	−	−	+ Liq.	B.	—	—	1	1	—	—
12	2l	+	−	+	+	+	+	−	+	(−)	−	−	+	M. to L.	—	—	1	1	—	—
13		+	−	+	+	+	+	+	−		−	−	−	M. to L.	—	—	—	—	1	1
14	III., 3a	+	+	+	+	+	+	−	−	(−)	−	−	±	L. to Liss; C.	4	3	1	1	1	1
15		+	+	+	+	−	+	−	−		−	−	+	C	1	1	—	—	—	—
16	3b	+	+	+	+	+	−	−	−	(−)	−	−	±	M. to Liss; C.	7	4	1	1	7	3
17		+	+	+	−	+	−	−	−		−	−	−	Liss.	—	—	—	—	1	1
18	3c	+	+	+	+	−	−	−	−	(−)	−	−	±	M. to Liss; C.	8	6	—	—	6	3
19		+	+	−	+	−	−	−	−		−	−	±	L. to Liss; C.	4	4	2	2	1	1
20		+	+	+	−	−	−	−	−		−	−	+ Liq.	L.	—	—	1	1	1	1
21		+	+	−	−	−	−	−	−		−	−	±	M. to L.; C.	1	1	2	2	—	—
22		−	+	−	+	−	−	−	−		−	−	±	L. to Liss.	3	2	—	—	—	—
23		−	+	−	−	−	−	−	−		−	−	±	L. to Liss.	2	2	—	—	—	—
24	3d	+	+	−	+	+	−	−	−	(−)	−	−	+	M. to Liss; C.	6	4	5	4	6	4
25	3e	+	+	−	+	+	+	−	−	(−)	−	−	±	M. to Liss; C.	6	6	4	4	1	1
26	3f	+	+	−	+	+	−	−	+	(±)	−	−	±	M. to L.; C.	7	7	1	1	4	1
27		+	+	−	+	+	−	−	+		−	−	+ Liq.	L.	—	—	—	—	1	
28		+	+	−	+	+	−	+	−		−	−	+	L.	1	1	—	—	—	—
29		+	+	−	−	+	−	−	−		−	−	+	M. to L.	2	1	—	—	—	—
30		+	+	−	−	+	+	−	−		−	−	−	L.	—	—	—	—	1	1
31	3i	+	+	−	+	+	+	−	+	(+)	−	−	±	M. to Liss; C.	5	4	5	4	—	—
32	3j	+	+	+	+	+	−	−	+	(−)	−	−	±	M. to Liss; C.	5	4	—	—	2	2
33		+	+	+	+	−	−	+	−		−	−	+	Liss.	1	1	—	—	—	—
34		+	+	+	+	−	−	−	+		−	−	−	L.; C.	1	1	—	—	1	1
35	3k	+	+	+	+	+	+	−	+	(±)	−	−	±	M. to L.	6	4	2	2	3	2
36		+	+	+	+	+	+	+	+		−	−	−	M. to Liss.	2	2	—	—	1	1
37		+	+	+	+	+	+	+	−		−	−	−	M. to L.	1	1	—	—	2	1
38		+	+	+	+	+	−	+	+		−	−	+	L.	1	1	—	—	—	—
39		+	+	+	+	+	−	+	−		−	−	+	L.	1	1	—	—	—	—
40		+	+	+	+	−	+	−	+		−	−	−	Liss.	1	1	—	—	—	—
41		+	+	+	−	−	+	+	−		−	−	−	L.	1	1	—	—	—	—
42		+	+	+	−	−	+	−	−		−	−	+	M.	—	—	1	1	—	—
43	3m	+	+	−	+	+	−	+	−	(−)	−	−	−	B. to M.	—	—	1	1	—	—
44		+	+	−	+	+	−	+	+		−	−	+ Liq.	C.	—	—	1	1	—	—
45	3n	+	+	−	+	−	−	+	−	(−)	−	−	±	Liss.	1	1	—	—	1	1
46		+	+	−	+	−	+	−	−		−	−	−	L.	1	1	—	—	—	—
47		−	+	−	+	−	+	+	−		−	−	+	L.	1	1	—	—	—	—
48		−	+	−	−	−	−	+	−		−	−	+	L.	1	1	—	—	—	—
49	3o	−	−	+	+	−	+	−	−	(−)	−	−	−	M.	1	1	—	—	—	—
50		−	−	+	−	+	−	−	−		−	−	+	Liss.	1	1	—	—	—	—
51	3s	−	−	+	+	+	−	−	−	(−)	−	−	+	M.	—	—	1	1	—	—
52		+	−	+	+	+	−	−	−		−	−	−	L.	1	1	—	—	—	—
53		+	−	+	+	+	+	−	−		−	−	−	C.	1	1	—	—	—	—
54	3t	+	−	+	+	+	−	−	+	(±)	−	−	−	M. to L.	2	2	1	1	—	—
55	IV.	+	+	+	+	−	−	+	+		+	−	−	Liss.	—	—	—	—	1	1
56		+	+	+	+	−	−	−	−		+	−	+	Liss.	1	1	—	—	—	—
57		−	+	+	+	−	−	−	−		+	+	+	L.	—	—	1	1	—	—
58	4b	+	+	−	+	+	+	+	+	(−)	+	−	+	M.	—	—	1	1	—	—
59	4c	+	+	−	+	+	+	−	−	(−)	+	−	−	M. to L.	—	—	1	1	—	—
60		+	+	−	+	+	+	−	+		+	−	+	C.	—	—	1	1	—	—
61		+	+	+	+	+	+	+	−		+	−	−	L.	1	1	—	—	—	—
62		+	+	−	+	−	−	−	−		+	−	∓	L.	—	—	—	—	1	1
63		−	−	−	+	−	+	−	−		+	−	−	L.; C.	—	—	2	2	—	—
64		−	−	−	−	+	+	−	−		+	−	+	L.	—	—	1	1	—	—
															100	27	50	20	50	12

those you have been good enough to listen to have fallen short of any great attainment. Still, perhaps the cases recorded may prove of some value to future workers and enable them to generalise to better purpose.

DELAYED CHLOROFORM POISONING: ITS NATURE AND PREVENTION.

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IN view of the importance of the condition itself and of the additional interest given to it by recent communications in THE LANCET, the conclusions come to by the present writer in dealing with the subject in the forthcoming edition of Allbutt's and Rolleston's "System of Medicine" may fittingly be drawn attention to at this time.

The credit of being the first to draw attention to cases of "delayed chloroform poisoning" belongs to Dr. Leonard G. Guthrie. In 1894 he reported nine cases in which death occurred within from ten hours to six days of operation performed under chloroform. The exact numbers of hours which elapsed between the operations and the deaths of the patients were 10, 12, 13, 16, 24, 27, 30, 53, and 150 respectively. In Case 10 recovery took place after symptoms of great gravity had lasted for nearly three days. The symptoms and clinical course noted in such cases were—after a period of 12 hours or so—profuse and repeated vomiting; the vomit eventually blood-stained and resembling the dregs of beef-tea, restlessness, excitement, delirium alternating with periods of apathy, jaundice occasionally, and unconsciousness deepening to coma. With the exception of the liver, the organs showed no particular change accountable for these symptoms. The liver in five out of the eight cases was markedly fatty—of a uniform pale fawn or buff colour, studded on section with pale purple spots around the intralobular veins. Microscopically, the liver cells were filled with fat, most abundant in the periphery of the lobule—the condition seeming to be one of extreme fatty infiltration rather than of fatty degeneration. Neither macroscopically nor microscopically did the appearances resemble those of acute yellow atrophy. The conclusions which he drew as to the cause of death were: (1) that the death was due to auto-intoxication; (2) that a fatty condition of the liver with functional disturbance existed before the operation; and (3) that chloroform and shock combined aggravated this fatty condition and thus loaded the system with alkaloids.

Dr. Guthrie's conclusions and views, as he states, did not meet with acceptance—the fatalities were held to be due to carbolic acid poisoning or to pulmonary embolism. In 1903 he published a second series of four fatal cases, three of them in children in which he was able to exclude carbolic acid and fatty embolism as the cause of death which he attributed to the action of chloroform on a morbidly fatty liver.

PATHOGENESIS.

The above pathological changes correspond with those that can be produced experimentally by chloroform and ether.[1] On comparing sections of the liver removed before and after chloroform anæsthesia, Stiles and McDonald found that while the former showed little or no fatty change, in the latter such changes were extreme. After administration of ether these changes were slight in comparison. Both in man and in animals individual idiosyncrasy must be held to play an important part to account for the fatalities in individual cases. According to Guthrie the unknown cause of this idiosyncrasy is a pre-existent and morbidly fatty condition of the liver which reduces the liver to the verge of inadequacy prior to the administration of the anæsthetic. Such a condition, it is pointed out, is common in rickety and poorly nourished children among whom this class of poisoning has been most frequently observed, and is doubtless aggravated by the cyclical vomiting accompanied by acetonuria so often met with in children to which Guthrie draws attention, and the symptoms of which, as shown by Brackett, Stone, and Low, are practically the same as those of a minor degree of post-anæsthetic poisoning. In the few cases of fatal cyclical vomiting in which a necropsy has been obtained the liver, kidneys, and other organs have shown fatty and degenerative changes precisely similar to those met with in cases of delayed anæsthetic poisoning. (Griffith, 1900; Langmead, 1905.) On the strength of these similarities Guthrie emphasises this fatty change in the liver and the acid intoxication which accompanies it as the determining factors responsible for the symptom-complex of this condition. The conditions in which it is likely to be met with are such as are known to be associated with fatty liver—e.g., sepsis, acute and chronic, rickets, and infantile paralysis which have been treated by over-fattening and under-exercise; probably also conditions such as alcoholism and certainly starvation and cyclical vomiting with acetonuria. In favour of the view that disturbance in fat metabolism plays some part in the pathogeny of this condition is the fact that acetonuria is a common sequel after anæsthesia. (Becker, 1905; Abram Hill, 1896.) Abram Hill found it in 64 per cent. of cases, while Becker found that it was regularly produced in healthy subjects, especially in children.

To connect the symptom-complex of post-anæsthetic poisoning exclusively with disturbances in fat metabolism is, in my opinion, to exaggerate the importance of this change, and to under-estimate the importance of the other functional liver disturbances with which disturbance in fat metabolism is associated. As I have shown,[2] the acidosis accompanying increased fat metabolism becomes of grave pathogenetic significance when combined with diminished proteolytic activity, owing to inanition, deprivation of food, or recurrent vomiting. As the result of the diminished absorption of ammonia in the portal blood caused by such conditions the intracellular alkalinity of the liver cell is already at a low level. There then results first of all a serious interference with the proteolytic, antitoxic, and glycogenic functions of the liver (of which the post-anæsthetic sickness is a symptom) and the transference of fat to the liver in increased quantity from its depôts is a result. The acidosis which accompanies this increased fat metabolism depresses still further the intracellular alkalinity and proteolytic and antitoxic powers to the point when they are almost in abeyance. There then ensue the characteristic severe toxic cerebral symptoms of the condition which rapidly prove fatal.

On this view it will be seen that the disturbances in fat metabolism, evidenced by the fat changes after death and the acetonuria and acidosis during life, are thus, I consider, largely the results—not necessarily the causes—of the preceding disturbances in the other functions (proteolytic, antitoxic, and glycogenic) of the liver. To connect the striking and overwhelming symptoms of post-anæsthetic poisoning with fat metabolic disturbances alone is to overlook their most striking feature—viz., their toxic cerebral features. As I shall now show, the acidosis of fat metabolism becomes really important when it is combined with disturbance in proteolytic activity and glycogenic activity of the liver cell. This is the condition presented in the final stages of severe liver disease such as cirrhosis, in acute yellow atrophy, phosphorus poisoning, and chloroform poisoning.

DISTURBANCES CONNECTED WITH GLYCOGENESIS.

The functions of the liver in relation to the storage and distribution of the carbohydrates of the food are only second in importance to those discharged by it in relation to protein metabolism. The functional disturbances connected with glycogenesis manifest themselves: (1) *directly* by disorders—e.g., glycosuria and diabetes—connected with carbohydrate metabolism, absolute or relative efficiency of the liver in dealing with the carbohydrate material supplied to it in the food, or conveyed to it in the tissues; and (2) *indirectly* by effects which such disturbances have on the metabolism of fats and of proteins. The most obvious effect of the first class of disturbance is glycosuria. The effects of the latter show themselves by disturbances of fat metabolism or by disturbances of proteolytic and antitoxic functions.

Indirect effects of disturbance of glycogenesis on fat metabolism and proteolysis.—When carbohydrate metabolism is out of order the synthesis of fat is also disordered. For it is an important rôle of the body to synthesise fat from the carbohydrate which is not at once used up or converted into glycogen. Hence, next to fat carbohydrate is the most powerful fat-producer—a fact now definitely ascertained and

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[1] Thiem and Fischer, 1889; Ostertag, 1889; Stiles and McDonald, 1904.

[2] See Allbutt's System, second edition, vol. iv.

NOTE UPON THE TUBERCULO-OPSONIC INDEX OF THE URINE AND SWEAT IN HEALTH AND IN TUBERCULOUS DISEASE.

BY JAMES MILLER, M.D. EDIN.

ANYONE engaged in opsonic work cannot fail to have been struck by the marked variations in the opsonic index from day to day in the case of tuberculous patients in particular. Reference to Chart 1, which is a portion of a record extending over a period of several months, conveys at a glance the marked variations in the tuberculo-opsonic index which occur even in a moderately early case of pulmonary tuberculosis—a case looked upon as curable. Again, to take a surgical case—one with considerable abscess formation. The day preceding the date of operation the tuberculo-opsonic index was found to be 0·8; the day after operation the index was 2·8; two days later it was found to have fallen to 1·0; and on the fourth day after operation it stood at 1·1. In thinking over this matter the question spontaneously arose in my mind, How is this difference to be accounted for? What has become of the quantity of anti-bacterial substance in the blood which is represented by the difference between the indices of 2·8 and 1·0? It was with the object of endeavouring to acquire some light upon this point that I proceeded to make the following observations upon the opsonic index of the urine and blood serum of a healthy person and of one who was suffering from chronic pulmonary tuberculosis, and supplemented them by making a few observations on the opsonic index of the sweat in other acute cases of the same disease. At the outset I encountered the difficulty in obtaining estimates of the opsonic content of urine of high specific gravity which Wright had previously noted in working with salt solutions of high concentration—viz., the elimination of phagocytosis either to a large extent or completely. Therefore, when the specific gravity of the urine was higher than 1008 it was found *necessary to reduce it to that figure before* the opsonic content could be accurately measured. The figure, 1008, was taken as being approximately the specific gravity of normal saline solution. This reduction of the specific gravity can be done in either of two ways. In the first place one may add a sufficient quantity of distilled water to reduce it to the required level (1008), a method of reduction which is open to the disadvantage that it also reduces the opsonic value of the fluid. In the second place, the specific gravity may be reduced by dialysis, by which means practically the whole of the salts and urea may be removed (by this method the amount of urea present was reduced to 0·1 per cent. to 0·05 per cent.). Both methods were employed and as the results which they yielded differed materially it has been thought desirable to record both.

My first observations were made upon the urine and blood serum of a healthy person, the urine being prepared by dilution, and in a smaller number of instances by dialysis. In Chart 2 is shown a record of the observations made. It shows (1) the specific gravity of the urine each day before reduction; (2) the opsonic content of the reduced urine, indicated by the interrupted line; and (3) the opsonic content of the blood serum indicated by the straight line at 1. The points which arrest attention are firstly the considerable quantity of tuberculo-opsonic substances in the urine, indeed (if we take into account the fact that the sample of urine had been diluted in many instances by more than twice its bulk) the opsonic content of the urine frequently greatly exceeds the proportion contained in the blood serum; and secondly, that the *amount of opsonin* in the urine was subject to considerable fluctuations. The next step was to note the opsonic index of samples of the same urine which had been dialysed. The results of such examinations also appear on Chart 2 marked by an encircled dot. We are in this way in a position to compare the opsonic indices of the blood serum, of the diluted urine, and of the dialysed urine of the same day in a series of occasions. On one occasion—day 43—the difference is very marked, the diluted urine giving an index of 1·2 while the dialysed urine gave an index of 3·66.

Pursuing the same line of investigation I next employed the urine and blood serum obtained from a person suffering from pulmonary tuberculosis (chronic fibroid form), the comparison being made with the same healthy standard as was employed in the first case represented by line 1. And for the benefit of those who may note that the opsonic curve of the blood serum is not by any means typical of a case of chronic tuberculosis it may be stated that the index in this case had previously been raised by a series of inoculations of tuberculin guided by systematic observations of the opsonic index of the blood. Taking our facts in the same order we note in Chart 3 the evidence obtained from diluted urine: firstly, that the opsonic index of this urine, unlike

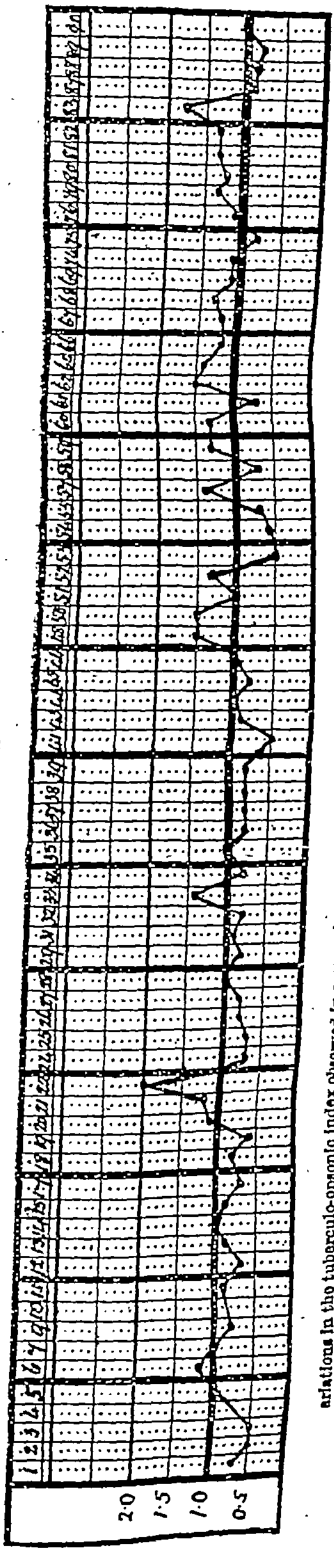

CHART 1.

ariations in the tuberculo-opsonic index observed in a case of pulmonary tuberculosis undergoing sanatorium treatment without the employment of vaccine.

acids is the fat of the body. In general it must be emphasised that an increase of the fat in food has no material influence on the formation and elimination of the acetone bodies. This depends in the first place upon the internal condition of the cell, and this condition is affected by a deficiency of carbohydrates (and therefore in the liver by deficiency of glycogen). The extent to which the metabolism of fats is affected in diabetes and diabetic coma may be judged from the fact that no less than 342 grammes have been found in the urine in the course of three days (Magnus Levy). The fats therefore yield the chief material necessary for the formation of acetone bodies and their formation in any notable quantity is in the first place caused by lack of carbohydrates. They are not formed in the intestine. They may possibly be formed in all organs but the chief seat of the formation is the liver and muscles.

Disturbances in hepatic fat metabolism are thus largely connected with deficiency of glycogen whether arising from want of carbohydrates (as in starvation) or from excessive loss of sugar (as in diabetes). The conditions in which increased acidosis arises are those especially affecting glycogenesis, such as poisoning with carbonic oxide, extirpation of the pancreas, poisoning with phloridzin, chloroform, exclusive feeding on animal fats, and lastly severe cases of diabetes.

Disturbances of Proteolytic and Antitoxic Functions.

The symptoms vary according to the degree with which the proteolytic functions are affected simultaneously.

1. If these latter are fully maintained the symptoms produced in severest cases are those of diabetic coma. In these conditions, owing to the absolute deficiency of carbohydrate and the excessive movement of fat from the tissues to the liver the acidosis is absolutely excessive. The proteolytic functions of the liver are, however, fully maintained.

2. The chief effect of such disturbances of fat metabolism arises when an acidosis of lesser degree is combined with disturbance of proteolytic activity of the liver cell. This is the condition presented in the final stages of severe liver disease such as cirrhosis, acute yellow atrophy, phosphorus poisoning, or chloroform poisoning. A disturbance in fat metabolism (with increased acidosis) which would not affect a fairly healthy liver cell becomes then much more important. At a time when the intracellular alkalinity of the liver cell is already at a low level (owing to inanition, deprivation of food, and diminished absorption of ammonia in the portal blood consequent thereon) the additional acidosis arising from excessive fat metabolism may, as already described, suffice to lower the alkalinity below the point necessary to keep its own digestive proteolytic ferments in check. There then results auto-digestion or autolysis of the liver cell by its own ferments, with complete arrest of all its functions. The clinical picture then presented in slighter or severe degree is not that of acidosis, as in diabetic coma, but that of acute yellow atrophy and chloroform poisoning—viz., essentially one due to the abolition of all the antitoxic functions of the liver. The symptoms largely resemble those produced when the portal blood is conveyed directly into the general circulation by means of an Eck's fistula.

Conclusion.

This conclusion which one thus reaches as to the relation of disturbances in fat metabolism to the severest forms of liver disturbance represented by acute yellow atrophy and chloroform poisoning is, in my judgment, of great practical importance. The vomiting which occurs after administration of anæsthetics is not of nervous origin; but it is, I consider, essentially toxæmic, due to the profound depression of liver function with consequent diminution in its antitoxic function during the period of the administration. This depression will be the greater if a liver already weakened by disease or by poor nutrition be further unduly weakened by food having been withheld for many hours before the administration. This enforced abstention from food before administration of an anæsthetic may thus in individual cases be carried too far, and it is, in my opinion, largely responsible for the fatal effects of delayed chloroform poisoning in exceptional cases. Such effects could in all probability be completely prevented if, instead of withholding food, particular care was taken that the patient had always a very nutritious and easily digestible meal, well-sweetened, two or three hours before the operation.

Harley-street, W.

OBSERVATIONS ON THE BACTERIOLOGY OF SCARLET FEVER.

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THE following are the results of an investigation of the organisms present in the throats, noses, &c., of a series of 160 cases of scarlet fever admitted to the wards of the Bury and District Joint Hospital during the years 1906–07, together with an examination of the throats of 40 healthy individuals.

Throat.—The first step was the general classification of organisms found in cultures on blood serum from swabs taken from the pharynx and fauces; in the case of the hospital patients these were made immediately on admission. The colonies which appeared included streptococci, diplococci, staphylococci, bacilli, and yeasts in various combinations, and their frequency was as follows:—

Organism.	Scarlet fever.	Healthy.
Streptococci	134, or 84 per cent.	33, or 83 per cent.
Diplococci	125, or 78 ,, ...	35, or 88 ,,
Staphylococci	93, or 61 ,, ...	19, or 48 ,,
Yeasts	16, or 10 ,, ...	3, or 8 ,,
Bacilli	77, or 48 ,, ...	20, or 50 ,,
Bacillus of Klebs-Löffler	14, or 9 ,, ...	—

Among the "bacilli" are included all forms of "diphtheroid," only the true diphtheria bacillus being separately classified.

In this list the close correspondence between the two columns is very striking, the only point of marked difference being the more frequent occurrence of staphylococci and diphtheria bacilli in scarlet fever. In none of these patients was there any clinical sign or symptom of diphtheria.

Nasal discharge.—During the same period the purulent nasal discharge was examined in 67 cases of scarlet fever and there were found:—

Streptococci	in 28,	or	42%
Diplococci	,, 34,	or	51%
Staphylococci	,, 50,	or	75%
Yeasts	,, 1,	or	2%

Bacilli	in 41,	or	61%
Bacillus of Klebs-Löffler	in 25,	or	37%

Here the diphtheria bacillus occurred more frequently than in the throat, while streptococci were less frequent and staphylococci more frequent.

Ear discharge.—The ear discharge was examined in 17 cases of scarlet fever, with the following result:—

Streptococci	appeared in	7, or 41%
Diplococci	,,	,, 10, or 59%
Staphylococci	,,	,, 11, or 65%
Yeasts	,,	,, none.

Bacilli	appeared in	8, or 47%
Bacillus of Klebs-Löffler	appeared in	5, or 29%

Thus streptococci and diplococci occurred in much the same proportion of cases in the ear as in the nose, and in considerably less than in the throat, while staphylococci were more frequent than in the throat and less frequent than in the nose. The diphtheria bacillus was relatively much more common than in the throat, though not quite so common as in the nasal discharge.

Pus.—On opening a cervical gland abscess in six cases the pus gave a pure culture of streptococci in each, as also in two cases in which the pus was obtained from the mastoid antrum.

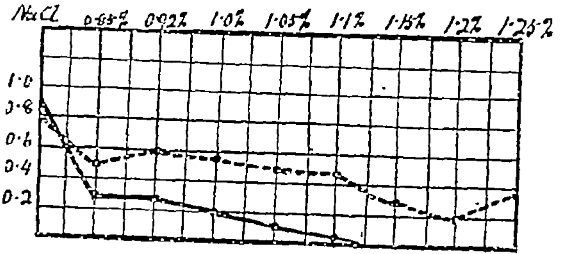
Blood.—Cultures (both solid and liquid) were made from the blood of six cases on the second day of the disease and a streptococcus with chains of from six to ten individuals was obtained from one, a diplococcus without chain formation from another, while the remaining four gave no growth.

The occurrence of streptococci in pure culture in so true secondary conditions as the adenitis and mastoid infections, taken together with the frequency of their occurrence in the throat, is strong evidence that they play an important etiological part in at least the secondary symptoms of scarlet fever.

Examination of streptococci by Gordon's tests.—The next step undertaken was a full and detailed examination of the streptococci obtained from scarlet fever cases (chiefly from the throat, but also from the nose, ear, and mastoid) and from the throats of healthy individuals and others suffering

In attempting to draw conclusions from the foregoing observations it might reasonably be objected that these excretions which were examined did not contain opsonic substances but that the results obtained were due entirely to spontaneous phagocytosis. With the object of ascertaining to what extent this objection was founded the following further experiments were undertaken. In a paper read before the Royal Society Wright indicated a method by which spontaneous phagocytosis may be eliminated—viz., by the use of salt solutions of high concentration. That method has been adopted to meet the objection which might be raised in the present instance. The experiments were conducted as follow.

CHART 5.



Dialysed heated urine. Dotted line, tuberculous urine; continuous line, healthy urine.

Influence of the salt content (of the fluid environment of the leucocyte) upon the tuberculo-opsonic index of heated urine.—The urine was first heated at 60° C. for ten minutes, cooled, and then diluted to a specific gravity of 1008. Phagocytic counts were obtained from films prepared from phagocytic mixtures containing a double volume of diluted (or dialysed) heated urine, a double volume of washed corpuscles, a single volume of tubercle bacilli suspension (in 0·85 per cent. NaCl solution), and in each case a single volume of a solution of sodium chloride of progressively increasing strength. Charts 4 and 5 and Tables I. and II. show the results obtained (*a*) with diluted heated urine and (*b*) with dialysed heated urine. In each instance normal healthy urine and urine from tuberculous subjects are compared.

TABLE I.—*Tuberculo-opsonic Indices. Results obtained with Diluted Heated Urine.*

Salt (NaCl) content of the phagocytic mixtures.	Normal urine of specific gravity 1025, heated for ten minutes at 60° C., then cooled, and *diluted* to specific gravity 1008.	Pooled urine (of nine tuberculous patients) of specific gravity 1020, heated for ten minutes at 60° C., cooled, and *diluted* to specific gravity 1008.
0·85 per cent.	0·8	0·83
1·0 "	0·35	0·5
1·1 "	0·1	0·6
1·2 "	0·0	0·3
1·3 "	—	0·2

TABLE II.—*Tuberculo-opsonic Indices. Results obtained with Dialysed Heated Urine.*

Salt (NaCl) content of the phagocytic mixtures.	Normal urine of specific gravity 1025, heated for 10 minutes at 60° C., then cooled, and *dialysed* of nearly all its salts and urea.	Pooled urine (of nine tuberculous patients undergoing tuberculin treatment) of specific gravity 1020, heated for ten minutes at 60° C., cooled, and *dialysed* of nearly all its salts and urea.
0·56 per cent.	0·9	0·8
0·85 "	0·3	0·5
0·925 "	0·3	0·6
1·0 "	0·2	0·56
1·05 "	0·1	0·5
1·1 "	0·06	0·5
1·15 "	—	0·3
1·2 "	—	0·2
1·25 "	—	0·35

It seems to be abundantly evident from the foregoing observations and experiments that the excretions—urine and sweat—contain anti-bacterial or bacteriotropic substances. Why such important substances should be thrown out in the excretions is a difficult problem, unless it be that being specific and not required in the ordinary functions of the cells of the body, they are therefore eliminated as foreign substances.

For the supply of clinical material required for the work of this paper my thanks are chiefly due to Dr. David Lawson, of Nordrach-on-Dee.

Glasgow.

OBSERVATIONS ON THE OPSONINS, WITH SPECIAL REGARD TO LUPUS VULGARIS.

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AND
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(*Concluded from page 928.*)

PART II.

IN the first part of this paper the general principles of opsonic determination were considered. We shall now proceed to describe a series of cases of lupus in the treatment of which tuberculin vaccinations were employed regularly.

I.—*Cases of Long Standing.*

CASE 1.—L. W. (Curve 11). The patient was an unmarried man, 20 years of age, whose brother also suffered from lupus vulgaris and was cured by the Finsen treatment. The patient had suffered from lupus for six years, and had been treated with ointments and freezing with chloride of ethyl until five years ago when he was admitted into the Finsen Light Institute, and from 1902 to 1906 was there treated with a total of 860 sittings. The mucous membranes were treated with the galvano-cautery. In spite of these energetic measures the disease relapsed constantly, became more extended, and assumed a malignant type; we therefore at the close of 1906 stopped the light treatment. On Feb. 9th, 1907 his condition was as follows The whole nose, with the exception of the root, was much swollen, and presented fungous nodules, several of which were ulcerated. There was only a small defect. The affection extended two centimetres on both cheeks. On the left cheek near the corner of the mouth there was a large ulcer measuring 3 by 1½ centimetres; there was also a smaller ulcer near the right corner. The upper lip was scar-like. The prolabium was partly destroyed by an ulceration which extended on the mucous membrane. There were extensive ulcerations in the vestibulum on both sides and on the mucous membrane in the nasal cavity On the soft palate there was a small granulation. The mucous membrane of the pharynx was swollen but not distinctly ulcerated. The epiglottis was scar-like but the edge was swollen and ulcerated. There was swelling of the plicæ aryepiglotticæ, and there were small ulcerations on the plicæ ventriculares. The lungs were normal. T.R. treatment was commenced. The dates of the injections of T.R. and the doses were as follows (the fractions represent parts of a milligramme): Feb. 9th, 1/4000; March 3rd, 1/4000; March 15th, 1/2000; March 26th, 1/2000; April 9th, 1/500; April 22nd, 1/250; May 13th, 1/250; June 4th, 1/250; July 13th, 1/250; August 7th, 1/250; and August 23rd, 1/250; making a total of 11 injections. Sept. 9th: The disease had since the beginning of the treatment become distinctly worse, and was now worse than ever. The nose was affected *in toto* with confluent ulcers on both alæ and on the tip. The affection had extended into the left corner of the eye and on the left upper eyelid. On the cheeks it had spread two centimetres further sideways. At both corners of the mouth and on the upper lip there was a widespread ulceration. The ulcers in the cavity of the nose had also extended further. On the soft palate there were small ulcers which were spreading on the arches of the palate and on the wall of the pharynx. The state of the throat remained as it was on Feb. 9th. The lungs were normal. The urine was normal.

CASE 2.—H. J. (Curve 3). The patient was an unmarried man, 24 years old, who had been suffering from lupus vulgaris for eight years. He was admitted into the Finsen Light Institute seven years ago and was treated from 1900 to 1906 with 1126 sittings. The mucous membranes were treated with the galvano-cautery. The affection several times got better, but relapses occurred constantly and a fistula was established from the left vestibulum through the tip of the nose; this fistula did not heal up in spite of energetic treatment, and nodules constantly made their appearance in the circumference and on the cheeks. On March 3rd, 1907, there was on the nose only a little infiltration, but there were scars and considerable defect of the apex and the right ala nasi. On the tip of the nose there was a perforation into the nasal cavity, and in the circumference of this perforation there were some partly ulcerated small nodules. On the right cheek there was one nodule and on the left cheek there were four nodules. Behind the corner of the mouth there was a patch measuring 2 by 1 centimetres, with nodules. Behind the mandible on the left side there were two scrofulous ulcers. In the nasal cavity there were extensive ulcers. The lungs were normal. The urine was normal. Light treatment was given up. On March 3rd T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; March 15th, 1/2000; April 8th, 1/1000; May 13th, 1/500 from catarrhal and diphtheritic affections. In all 200 specimens were taken from the following sources for comparison. I. 100 separate specimens from 27 scarlatinal patients, viz.:—80 specimens from 26 different throats, 6 from 2 different noses, 8 from 2 discharging ears (different patients), and 6 from 2 different cases of mastoid infection. II. 50 specimens from 20 different healthy throats. III. 50 specimens from 12 cases of other diseases, not scarlet fever—viz: 30 specimens from 6 different diphtheria throats, 13 from 5 different catarrhal throats, and 7 from 1 case of follicular tonsillitis with abscess formation. Swabs were taken from each case and nasgar plates inoculated from them and incubated at 37° C. for 24 hours.

The resultant colonies were then examined macroscopically and under the low power; subcultures of different colonies were made in lemco bouillon at 37° C. for 48 hours, and the growth examined macroscopically and microscopically. On finding streptococci in the bouillon, these were re-subcultured after Mervyn H. Gordon's method[1] in the following media: (1) Litmus milk; lemco-litmus broth containing (2) saccharose, (3) lactose, (4) raffinose, (5) inulin, (6) salicin, (7) mannite, and (8) potassium nitrate, all in 1 per cent. solution, and (9) neutral red broth, the last anaerobically in Buchner's tubes, all at 37° C.; and (10) on gelatin at 20° C. Coniferin was unfortunately unobtainable either in the home or foreign market. Incubation of the subcultures was maintained for seven days and record then made of the decomposition of the various sugars from the colour of the media, &c. As far as possible the investigation was made to correspond, for the sake of commparison, with that of Dr. F. W. Andrewes and Dr. T. J. Horder, described in THE LANCET of Sept. 15th, 22nd, and 29th, 1906.

Taking into account only the morphological differences between individual specimens as seen in the growth in bouillon, the following classification may be made according to the length of the chains, percentages alone being stated:—

Chains.	Healthy.	Scarlet fever.	Other conditions.
Longissimus (Liss)	8	20	18
Longus (L.)	34	48	38
Medius to Longus (M. to L.)	14	14	10
Medius (M.)	22	8	8
Brevis to Medius (B. to M.)	2	—	—
Brevis (B.)	4	1	—
Conglomeratus (C.)	16	9	26

The longer forms of streptococci then appear to be relatively more numerous in the diseased than in the healthy conditions, the short forms appearing relatively more numerous in the healthy throats. The results pointed to what Andrewes and Horder[2] referred to as a replacement of the common short forms by long varieties quite early in the disease. It will be noticed that the conglomerate forms, described by Gordon as being peculiar to scarlet fever, were found much less frequently in scarlet fever than in health, and very much less frequently than in other catarrhal conditions of the throat.

In classifying the specimens the method adopted by Andrewes and Horder was as closely adhered to as possible. Macroscopically the appearances were generally similar to those noted by the same observers. The accompanying large table summarises the results obtained from the subcultures, arranged on the system suggested by Andrewes and Horder. Where one of the present series corresponds with one of theirs, their classification (Group and Variant) numbers are indicated in italics, and also their result with the coniferin broth medium in brackets. Decomposition of the media is indicated in the table by a positive (+) sign and no visible reaction by a negative (—). Two points of importance which do not appear in the table are: (1) that two or more specimens from a single case often differ from one another in only a single reaction; and (2) that no coincidence was found in any scarlet fever case between organisms obtained from the ear when discharging or from the mastoid antrum and any that were obtained from the throat. In one case an organism was obtained from the nasal discharge which gave the same reactions as one of those found in the throat. It will be seen that out of 200 specimens 64 variants were obtained.

The following table shows the different distribution of the variants (percentages only) in the groups suggested by Andrewes and Horder:—

Group.	Healthy.	Scarlet fever.	Other diseases.
I.	20	10	14
II.	8	1	2
III.	58	87	80
IV.	14	2	4

It is obvious that very little can be learnt for purposes of diagnosis from these results, taking the reactions in their series. Subjoined is a table of percentages comparing the reactions of organisms from the different sources to the individual tests, and it is also obvious that they are equally valueless for the purpose. Mannite alone is more readily decomposed by organisms from healthy throats than from diseased, but there is no test among them by which scarlet fever can be distinguished from the other diseases.

Test.	Healthy.	Scarlet fever.	Other diseases.
Milk pink	78 per cent.	88 per cent.	92 per cent.
Milk clot	68 "	83 "	84 "
Neutral red	22 "	48 "	54 "
Saccharose	86 "	92 "	90 "
Lactose	72 "	68 "	72 "
Raffinose	50 "	34 "	20 "
Inulin	6 "	12 "	12 "
Salicin	34 "	33 "	32 "
Mannite	14 "	2 "	4 "

With a much smaller number of specimens of streptococci (33) from scarlet fever cases, Andrewes and Horder obtained results with which the above correspond most strikingly. As a means therefore of diagnosis in scarlet fever, Gordon's tests must be regarded as of little value in the present state of our knowledge of the etiology of the disease. If the tests are of real differential worth for the various strains of streptococci—and the remarkable constancy shown by different generations of individuals to them, in my own experience, indicates that they are—we find ourselves faced by the fact that they fail absolutely to point to any particular strain as being even more frequently present in scarlet fever than in other catarrhal and inflammatory conditions of the throat. That the infecting agent is present in the pharyngeal and faucial mucus is absolutely all that has been established for certain regarding the causation and source of the disease. If none of the streptococci in the throat are causative of the primary condition some other agent must have made it possible for them to obtain entrance to the tissues in order to produce the secondary complications. It was shown above that the staphylococci are relatively increased in scarlet fever. Possibly a careful examination of these, on similar lines to that described for the streptococci, might reveal something of importance.

I am indebted to Dr. A. E. Brindley, medical superintendent of the Bury and District Joint Hospital, for permission to publish the above.

Newcastle-upon-Tyne.

UNIVERSITY COLLEGE HOSPITAL.—The annual general meeting of the supporters of this hospital was held on March 26th, under the presidency of Mr. Henry Lucas, treasurer to the charity. The report on the work of the hospital during the past year stated *inter alia* that owing to lack of means the committee has been unable to open a ward containing 24 beds which should be available for the sick poor; in other words, about 350 patients annually, many requiring immediate treatment in the wards, have to be refused admission. An additional annual expenditure of about £1200 would be required to keep the ward open, and the committee has not felt justified in incurring this further liability, when in order to meet the deficiency in income it has had to trench upon its small invested funds by the realisation of £1500 Consols, and this notwithstanding that it has had to devote to purposes of current expenditure legacies which in more prosperous times could have been invested. The committee urgently appeals to the benevolent to do their utmost to relieve it from the financial anxieties and difficulties with which it is constantly faced, as it is obvious that only by strenuous efforts on the part of everyone interested in the welfare of the hospital can its efficiency be maintained.

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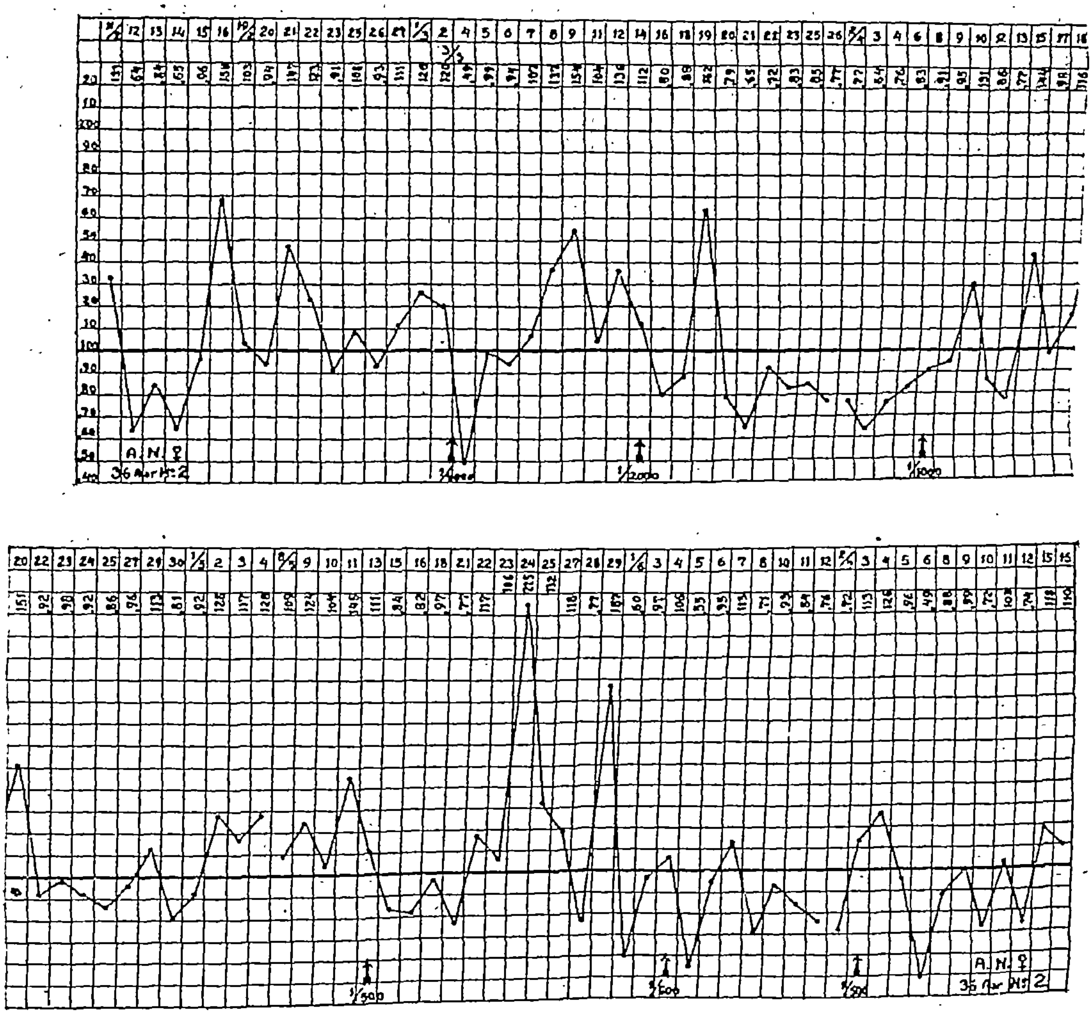
[1] Report of the Medical Officer to the Local Government Board, 1903–04.

[2] A Study of the Streptococci Pathogenic for Man, THE LANCET, 1906, vol. ii., pp. 708, 775, and 852.

CURVE RELATING TO CASE 3.



CURVE RELATING TO CASE 4.

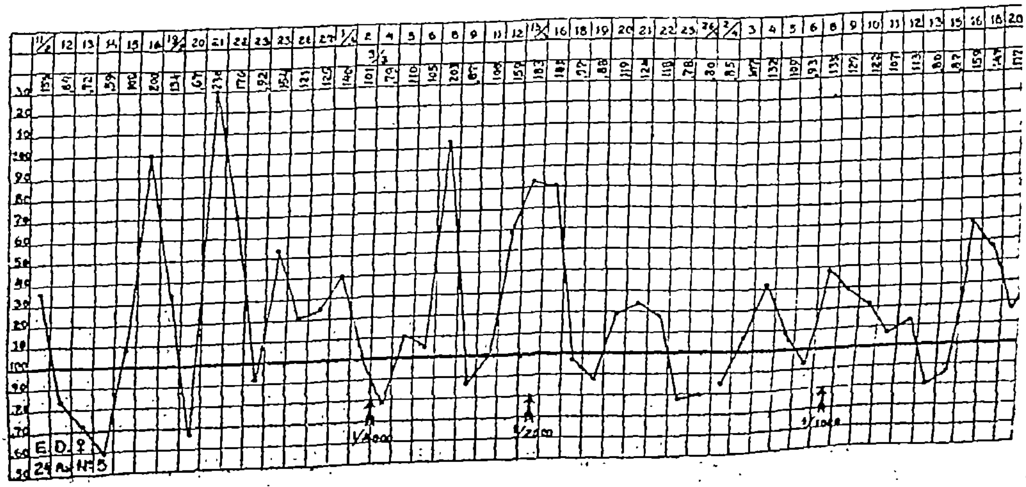
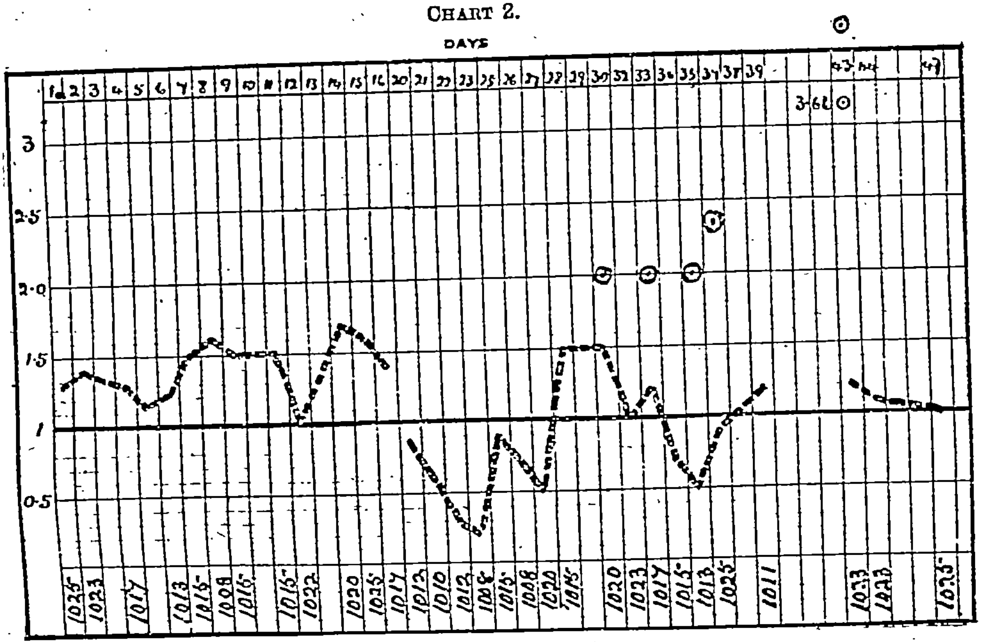


CHART 2.



Opsonic chart of urine in health.

CHART 3.

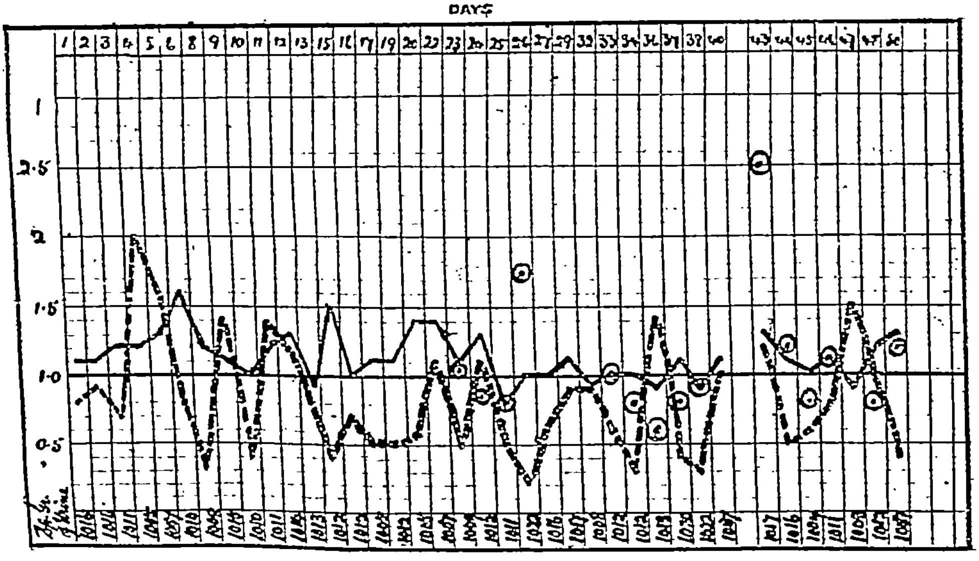
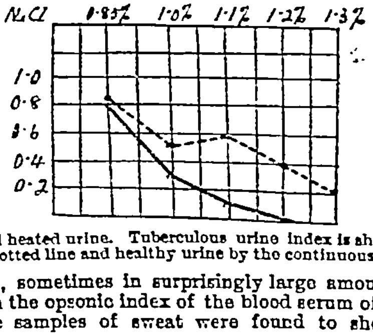


Chart comparing opsonic indices of serum (continuous line) and urine (interrupted line) in a case of chronic fibroid pulmonary tuberculosis.

that of the healthy person's urine, was usually found to be lower than that of the blood (out of 50 estimations there are only six exceptions); secondly, that it was for the most part lower than the opsonic index of a healthy person; and thirdly, that frequently a rise in the opsonic index of the patient's urine was associated with a fall in the opsonic index of the blood serum and *vice versâ*. This feature was present in 20 out of 50 consecutive observations. When the urine was dialysed and then examined the same phenomenon—viz., rise in the opsonic index—was present as had been remarked previously in the case of the healthy person, with this difference, that the rise was not nearly so marked nor so constant as in the case of the healthy individual.

Having been prevented from pursuing my inquiry in regard to sweat so far as I had intended, the data need not be set forth in detail. It may be sufficient to record that a number of observations on the sweat of persons suffering from acute pulmonary tuberculosis has been made and that the samples were in every instance found to contain tuberculo-opsonic substances, sometimes in surprisingly large amount. Compared with the opsonic index of the blood serum of a healthy person the samples of sweat were found to show indices ranging from 0·8 to 1·3.

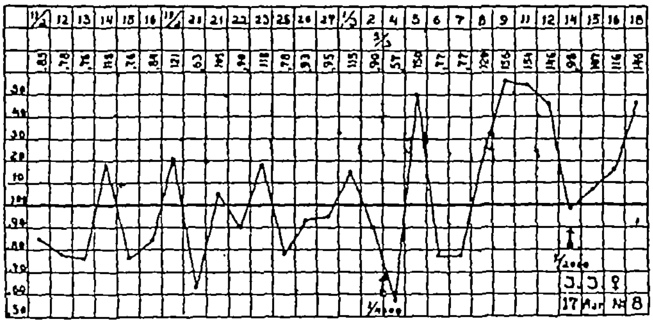
CHART 4.



Diluted heated urine. Tuberculous urine index is shown by the dotted line and healthy urine by the continuous line.

The cavity of the nose was not affected. On the hard palate there was one large and deep ulcer measuring two centimetres in length and breadth. March 3rd: The ulcer on the palate remained as before in spite of the galvano-cautery. T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; and March 14th, 1/2000; making a total of two injections. On March 14th the patient left the institute for economical reasons. On June 7th on the soft part of the nose there were a few nodules and in the cavity of the nose there were widespread ulcers. The ulcer in the palate was larger; it now occupied the whole hard and soft palate extending on the uvula and the arch of the palate. There were widespread ulcers on the gum of the upper jaw.

CURVE RELATING TO CASE 8.



II.—*Fresh and Mild Cases.*

CASE 9.—E. L. (no Curve). The patient was a boy, seven years old, who had been suffering from lupus vulgaris for six months. He had not been treated before. Admitted to Finsen Medical Light Institute on May 31st, 1907. On the right cheek there was in the middle a round, pale-red patch (two centimetres in diameter), slightly prominent, with an uneven surface, and fine desquamation. There were no distinct nodules. On the right eyebrow there was a patch, three centimetres long and three-quarters of a centimetre broad, of the same type as that on the cheek. Excised portions of tissue showed under the microscope typical indications of lupus. There were no other tuberculous affections. The lungs were normal; the urine was normal. On June 11th T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: June 11th, 1/2000; July 1st. 1/2000; July 24th, 1/2000; and August 19th, 1/2000; making a total of four injections. Sept. 3rd: On the right cheek there was a patch measuring two centimetres in diameter with numerous typical nodules. The patch on the right eyebrow remained as on May 31st. The lungs were normal; the urine was normal.

CASE 10.—A. J. (no Curve). The patient was an unmarried woman, 20 years of age, who had been suffering from lupus vulgaris for one month. She had not been treated before. Admitted to Finsen Medical Light Institute on June 22nd, 1907. The soft tissues of the nose were red and swollen with two distinct nodules. There were widespread ulcers in the cavity of the nose. The lungs were normal. The urine was normal. On July 26th T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: June 26th, 1/800; July 17th, 1/500; August 7th, 1/500; and August 23rd, 1/500; making a total of four injections. The cavity of the nose was at the same time treated with the galvano-cautery. By July 29th the nodules had grown bigger, and by Sept. 2nd the affection was much greater. The soft tissues of the nose were a good deal swollen, with two ulcers of the size of a pea and numerous nodules. In the cavity of the nose the ulcers were much smaller. The lungs were normal. The urine was normal.

CASE 11.—A. F. (no Curve). The patient was a married woman, 29 years old, who had been suffering from lupus vulgaris for one year. She had been treated with ointments without effect. Admitted to Finsen Medical Light Institute on July 6th, 1907. On the right side of the tip of the nose there was an ulcer of the size of a hempseed in the circumference of which there were infiltration and solitary typical nodules. In the cavity of the nose there were widespread ulcers. There were no other tuberculous affections. The lungs were normal. The urine was normal. On July 6th T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: July 6th, 1/1000; July 29th, 1/1000; and August 23rd, 1/500: making a total of three injections. The cavity of the nose was treated with the galvano-cautery. By July 29th the affection had grown bigger and there were several prominent nodules. On Sept. 2nd on the right side of the tip of the nose there were confluent nodules (a patch measuring 2 by 1¼ centimetres) with rather pronounced infiltration. The cavity of the nose had healed up. The lungs were normal. The urine was normal.

The results of the sole treatment with T.R. has, as it appears from the above histories, been very bad. When we are going to consider at first the eight patients who were treated before with Finsen light we must exclude Case 7, for this patient died before any effect of the T.R. could be expected. Case 8 received only two injections and then went home. On her return three months afterwards her condition was much worse. Concerning the other six patients, the very widespread affection in Case 4 remained stationary, while the disease of the five other patients spread during the T.R. treatment. The three fresh cases did not give better results. One of them (Case 9) remained stationary while the other two became very much worse. We could not in any of the cases see any improvement at all following treatment according to Wright's method. In the most fortunate cases the affection remained stationary; in most of the cases it became worse. We wish especially to call attention to the fact that in two out of the three fresh cases the disease spread remarkably quickly during the T.R. treatment. We therefore feel bound to dissuade practitioners from employing this method as a *sole treatment* for lupus vulgaris both in old cases and in fresh and apparently benignant cases.

Besides the observations just mentioned (with T.R. as sole treatment) we have in the case of some patients used light treatment and T.R. together to get an idea of the value of a combination of these two treatments. In this way we have treated altogether four patients whose histories follow here.

CASE 12.—A. M. (Curve 4). The patient was a girl, 14 years old, who had been suffering from lupus vulgaris for eight years. She had been treated with ointments. Admitted to Finsen Medical Light Institute on Oct. 15th, 1906. On the nose and on the foremost part of both cheeks there were numerous nodules and rather deep infiltration. The affection extended from the angles of the mandible down into the submental region where there were numerous nodules. On the lips and chin there were many nodules. On the right upper eyelid there were a few nodules. There was no other tuberculous affection. The lungs were normal. The urine was normal. Light treatment. From Oct. 5th, 1906, to Sept. 21st, 1907, the patient had 185 sittings. Feb. 1st, 1907: There had been steady improvement. The nodules were fewer and smaller. Light treatment was continued. T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/8000; March 14th, 1/4000; April 8th, 1/2000; June 4th, 1/1000; June 25th, 1/1000; July 13th, 1/1000; August 2nd, 1/1000; and August 23rd, 1/1000; making a total of eight injections. March 18th: The infiltration was now not so great as before and the nodules were fewer. Sept. 21st: The affection was now very much better; the infiltration was less pronounced, and there were only a few nodules.

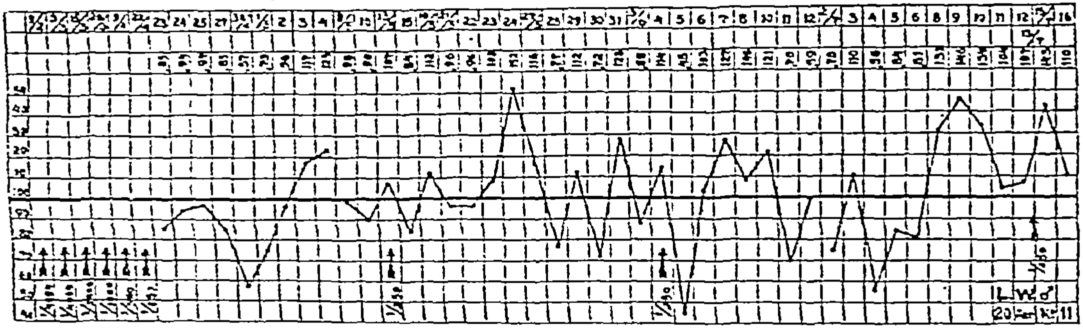
CASE 13.—A. G. (Curve 6). The patient was an unmarried woman, 23 years old, who had been suffering from lupus vulgaris for six months; she had never been treated before. Admitted to Finsen Medical Light Institute on Jan. 21st, 1907. The soft tissues of the nose were red and swollen. On the right side there was an ulcer 2 centimetres in diameter; on the left side there was a series of small ulcers extending down on the septum and the upper lip, where there was an ulcer of the size of a pea. In the cavity of the nose there were extensive ulcers. Light treatment: From Jan. 21st to July 2nd she had 104 sittings; and from August 28th to Sept. 20th she had 24 sittings. The cavity of the nose was treated with the galvano-cautery. On March 3rd the infiltration was very much diminished and the ulcers were healed. In the cavity of the nose there were extensive ulcers. Light treatment was continued. T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; March 14th, 1/2000; April 8th, 1/1000; May 13th, 1/500; June 4th, 1/500; and June 25th, 1/500; making a total of six injections. May 14th: There were now only a few typical nodules. In the left side of the cavity of the nose ulcers still existed. On June 25th there were a few cicatrices but no typical nodules. On August 28th there was some slight desquamation, but there were no typical nodules. In the left side of the cavity of the nose there was an insignificant ulcer.

CASE 14.—K. J. (Curve 9). The patient was a girl, 17 years old, who had been suffering from lupus vulgaris for five years. Admitted into the Finsen Medical Light Institute on Feb. 20th, 1907. There was nothing abnormal on the skin. In the cavity of the nose there were ulcers on the vestibulum and on the mucous membrane. On the prolabium of the upper lip there was a large ulcer which extended into the gum and into the anterior part of the hard palate. On the soft palate there was a small ulcer. On the posterior wall of the pharynx there was a small ulcer. In the larynx there was a defect of the border of the epiglottis with a few small nodules. There were redness and swelling of the introitus laryngis and there was a prominent granuloma in the inter-arytenoid region. The left vocal cord was ulcerated throughout nearly its whole length. There were no other tuberculous affections and in particular the lungs were normal; the urine was normal. Light treatment of the vestibulum nasi, the lip, and the palate. From March 13th to July 20th the patient had 113 sittings. The larynx was treated with lactic acid. The other mucous membranes were treated with the galvano-cautery. At the same time T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; March 14th, 1/2000; April 8th, 1/1000; May 13th, 1/500; June 4th, 1/500; June 25th, 1/500; and July 13th, 1/500, making a total of seven injections. July 20th: The cavity of the nose was now healed. On the upper lip there was an ulcer extending into the gum. The palate was nearly healed. In the larynx the ulcers were healed. The patient went away for a month. On Sept. 4th in the cavity of the nose there was an insignificant ulcer on the septum. On the upper lip there was a rather big ulcer in the middle which extended into the gum and a little down on the hard palate. In the larynx there was some swelling of the mucous membrane. There were no ulcers. The lungs were normal. The urine was normal.

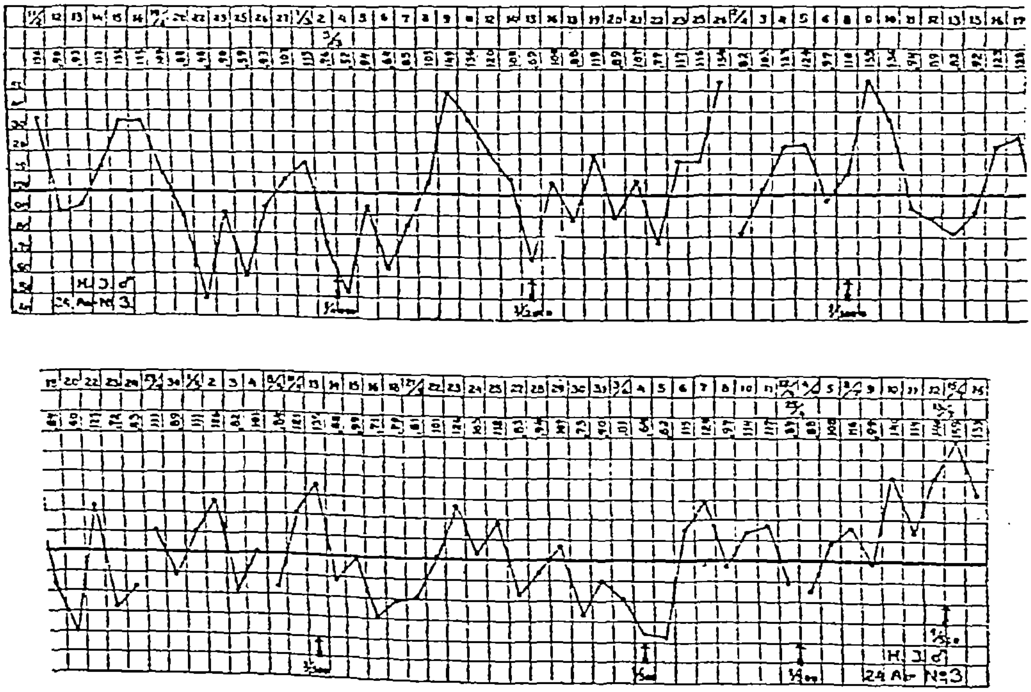
CASE 15.—S. S. (Curve 7). The patient was a married man, 49 years old, who had been suffering from lupus vulgaris for five years. He had been treated with ointments and the galvano-cautery. Admitted into the Finsen Medical Light Institute on Jan. 21st, 1907. On the left ear, the left cheek, the left side of the scalp, and the left side of the neck there was over an area measuring 18 by 9 centimetres a confluent patch of nodules with rather great infiltration. There were no other tuberculous affections, and in particular the lungs were normal. The urine was normal. Treatment with Roentgen rays. On Feb. 18th the affection was much smoother. Light treatment: From Feb. 15th to June 18th, 1907, the patient had 81 sittings. On March 3rd

June 4th, 1/500; June 25th, 1/500; July 13th, 1/500; August 7th, 1/500; and August 23rd, 1/500; making a total of nine injections. By Sept. 12th the affection had grown much. The nose was red and swollen with many partly ulcerated nodules. Around the fistula there was an ulceration. The left cheek was the seat of confluent nodules in a patch of one centimetre in diameter; at the left corner of the mouth there were about ten nodules. On the neck there was a patch measuring 2 by 3 centimetres with nodules. The nasal cavity remained as on March 3rd.

CURVE RELATING TO CASE 1.



CURVE RELATING TO CASE 2.



CASE 3.—A. N. (Curve 2). The patient was an unmarried woman, 36 years old, who had been suffering from lupus vulgaris for 21 years. She had been treated with excochleation and excision several times, until eight years ago she was admitted to the Finsen Light Institute, where from 1899 to 1906 she was treated with 2494 sittings. The mucous membrane was treated with the galvano-cautery. The disease became much better during the treatment, but many deep nodules remained on both cheeks. On March 3rd, 1907, there was some infiltration of the nose, both the cheeks, and the chin. There were scars with many deep typical nodules. In the cavity of the nose there were extensive ulcers. On the prolabium of the upper lip, on the inside of the lips, and on the palate there were small ulcers. Light treatment was given up. On March 3rd T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; March 14th, 1/2000; April 8th, 1/1000; May 13th, 1/500; June 4th, 1/500; July 3rd, 1/500; July 24th, 1/500; August 8th, 1/500; and August 25th, 1/500; making a total of nine injections. By Sept. 6th the nodules had increased very much in size and numbe[illegible] membrane remained as on March 3rd.

CASE 4.—B. D. (Curve 5). The patient was an unmarried woman, 24 years old, who had been suffering from lupus vulgaris for 11 years. She had been treated with ointments until nine years ago she was admitted into the Finsen Light Institute, where she was treated from 1898 to 1906 with 2384 sittings. The patient was treated especially on the face and on the upper limbs, where the affection became a good deal better, but new eruptions constantly made their appearance. On March 3rd, 1907, there were a great deal of infiltration and many widespread nodules in the face. On the neck, on the limbs, and on the trunk there were many in part very large spots with confluent nodules. There was no pulmonary tuberculosis. The urine was normal. Light treatment was given up. On March 3rd T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows:—March 3rd, 1/4000; March 15th, 1/2000; April 8th, 1/1000; May 13th, 1/500; June 4th, 1/500; June 25th, 1/500; July 13th, 1/500; August 2nd, 1/500; and August 23rd, 1/500; making a total of nine injections. On Sept. 6th there was no change. The lungs were normal, as also was the urine.

CASE 5.—T. P. (Curve 10). The patient was an unmarried woman, 39 years old, who had been suffering from lupus for 27 years. She had been treated in many different ways until nine years ago she was admitted into the Finsen Light Institute, where she was treated from 1893 to 1906 with 793 sittings. During the first years the affection grew better, but for economical reasons the patient did not attend to the treatment as she ought to have done and the affection again grew worse. On Feb. 20th, 1907, there was a deep infiltration of the right ear and surrounding parts, measuring 13 by 11 centimetres, with numerous partly confluent nodules; between these some scars were seen. Both [illegible]ous keratitis. The lungs were normal; the

Dr. Robert [illegible] Library
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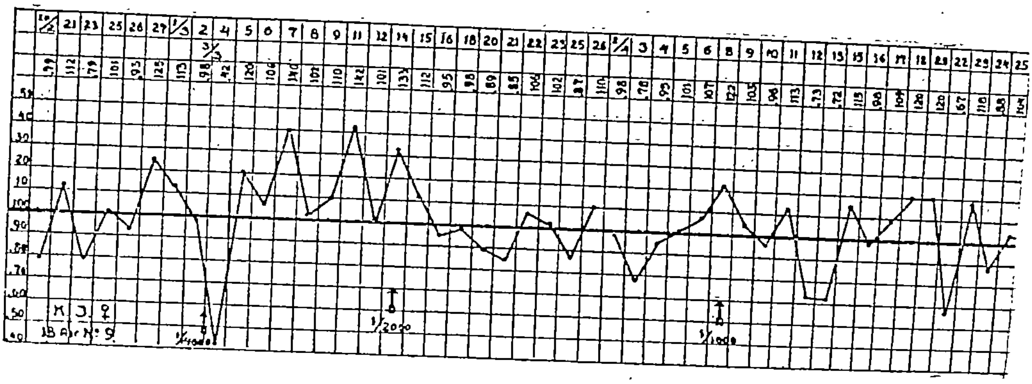
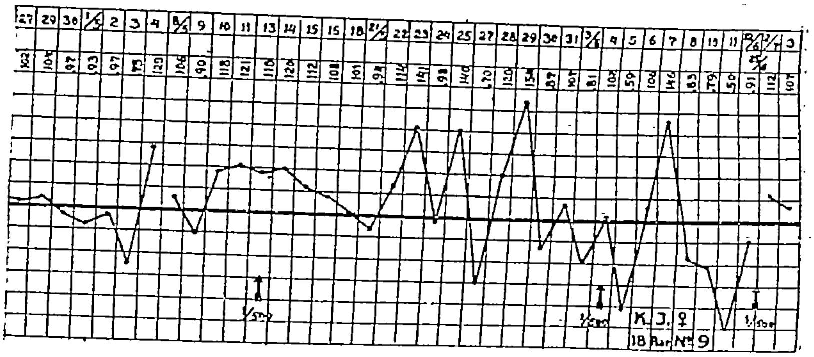
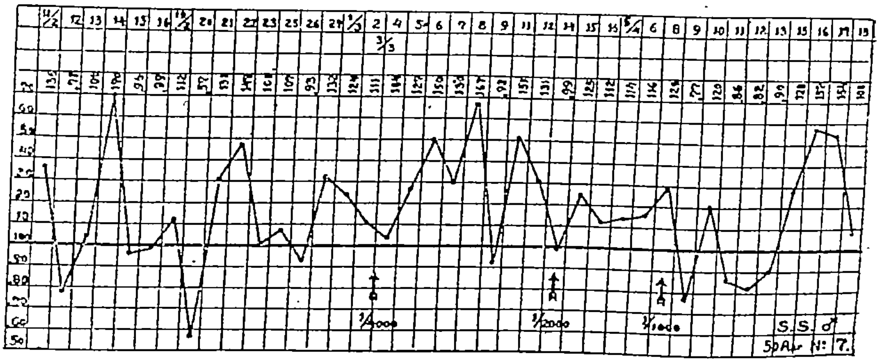
CURVE RELATING TO CASE 14.





CURVE RELATING TO CASE 15.



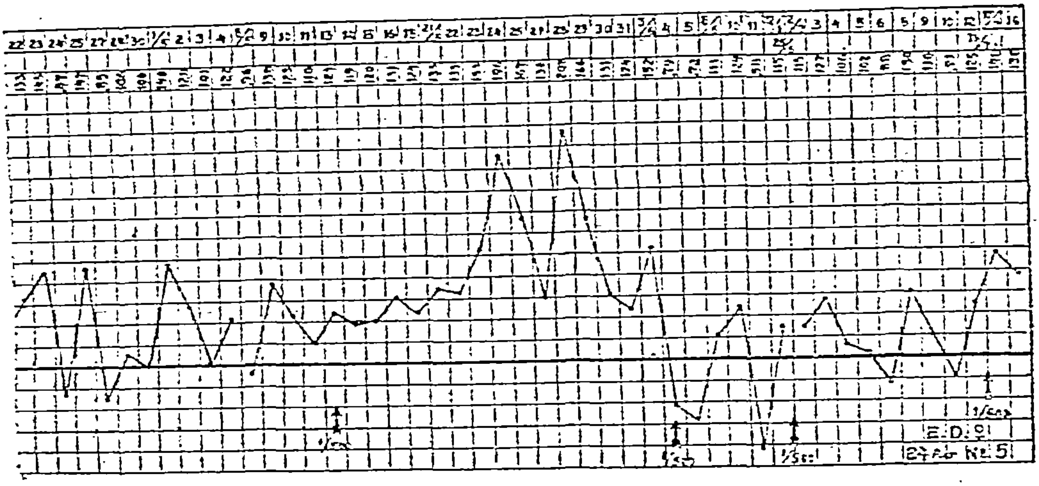
.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 3rd, 1/4000; March 14th, 1/2000; and April 8th, 1/1000; making a total of three injections. On May 27th there was still a rather great infiltration with nodules.

Whether the T.R. has had a good effect on these patients or not we cannot decide because our material is too small. We have not got the impression that their affections have improved more quickly during the combined treatment than would have been the case with light only. Still we wish to go on with these examinations, hoping that a longer series of cases may give a decisive answer on the question. We may safely continue the T.R. injections combined with light treatment because we have never seen any harmful effect on our patients from these low doses of T.R. The temperature which we in the beginning measured very often never showed the slightest rise. The patient's general state of health was never influenced, and we never saw any morbid symptoms referable to the lungs, the intestine, or the kidneys.

THE CUMBERLAND INFIRMARY.—The committee of management of the Cumberland Infirmary has presented to the subscribers its sixty-seventh annual report, being that for the year 1907. The in-patients numbered 1135, 166 over the average of the previous ten years. The out-patients numbered 3214 and the average daily attendance in this department has increased from 48 to 57 persons. The average daily occupation of beds was 93·2 and the average stay of in-patients 30 days. It frequently happened that the wards were overcrowded. During the year 80 patients have received the benefits of the Convalescent Institution at Silloth, assisted by the Agnes Moore fund. The ordinary income for the year amounted to £5149 and the expenditure to £5282. The cost per occupied bed for the year was £52 6*s.* 11½*d.*, which was a reduction of very nearly £3 on the previous year.

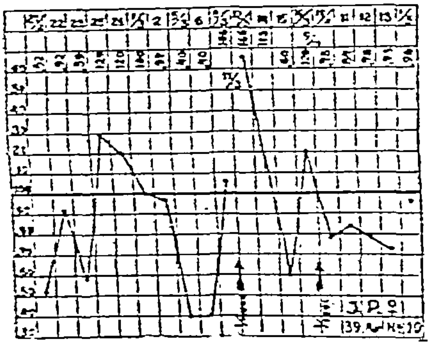
SANATORIUM BUNGALOW BURNT.—Dr. A. H. Wylie, the medical superintendent of the Devon and Cornwall Sanatorium for Consumptives, Didworthy, South Brent, South Devon, has suffered a considerable loss by the rapid burning of his bungalow near the sanatorium which occurred on March 15th, at about 9.30 P.M. Dr. and Mrs. Wylie had retired to rest just previously and the fire was discovered by Miss Wylie and her brother who warned their father and mother in time for them to make their hurried escape. The nearest fire brigade is stationed at South Brent, some distance away, and was not summoned as it was thought it would serve no good purpose. The patients in the sanatorium were unaware of the fire until the following morning. A resolution of sympathy with Dr. Wylie has been passed by the committee of the sanatorium.

CURVE RELATING TO CASE 4—*continued.*



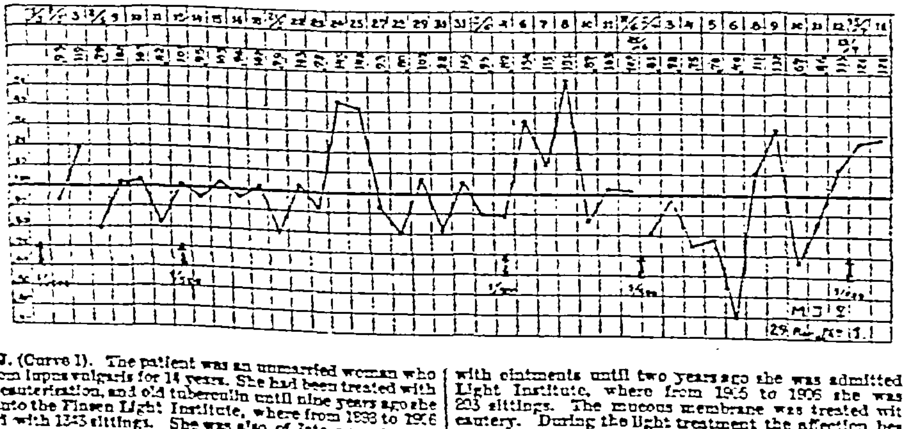
urine was normal. Light treatment was given up. On March 11th T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: March 11th, 1/2000; April 9th, 1/1000; June 4th, 1/500; June 25th, 1/500; July 12th, 1/500; August 2nd, 1/500; and August 23rd, 1/500;

CURVE RELATING TO CASE 5.



making a total of seven injections. On Sept. 14th the affected area was much more infiltrated, with many confluent nodules, some of which were ulcerated. The affection had now spread in the direction of the eye and on the neck. For the rest the extent of the affection remained as on Feb. 20th. The conditions of the eyes had changed at times; at present a serious keratitis again existed. The lungs were normal; the urine was normal.

CURVE RELATING TO CASE 6.



CASE 6.—M. J. (Curve 1). The patient was an unmarried woman who had suffered from lupus vulgaris for 14 years. She had been treated with excochleation, cauterisation, and old tuberculin until nine years ago she was admitted into the Finsen Light Institute, where from 1898 to 1906 she was treated with 1323 sittings. She was also of late years treated with Roentgen rays. The affection got very much better and great parts were healed. On March 15th, 1907, the cheeks were cicatrised without nodules. On the right ala nasi and in the inner corner of the right eye there were small ulcers. There were also nodules on the left upper eyelid, an ulcer on the upper lip near the left angle of the mouth; and widespread nodules and ulcers on the prolabium; on the under lip near the prolabium there were a great many nodules. The chin was without any affection. In the neck there was only a single ulcer one centimetre long. The lungs were normal; the urine was normal. T.R. treatment was commenced. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows:—March 15th, 1/2000; May 13th, 1/500; June 4th, 1/500; June 25th, 1/500; July 13th, 1/500; August 2nd, 1/500; and August 23rd, 1/500; making a total of seven injections. An area of the affection was at the same time treated with Roentgen rays. On Sept. 13th the nodules and ulcers remained on the left upper eyelid, in the inner corner of the right eye, and on the neck, whereas the nose, the upper lip, and the under lip, which had been treated with Roentgen rays, were partly healed up.

CASE 7.—M. H. (no Curve). The patient was a married man, 40 years old, who had been suffering from lupus vulgaris for three years. He had been treated with ointments until he, one and a half years ago, was admitted into the Finsen Light Institute, where he was treated during the years 1905 and 1906 with 239 sittings. The affection grew worse, with a character of pronounced malignity. We therefore at the close of 1906 stopped the light treatment. On Feb. 9th, 1907, there were widespread patches on the left cheek, the neck, the forehead, the left ear, the scalp, the chest, the back, and the right elbow. Most of the glands on the neck were swollen. The lungs seemed normal; the urine was normal. T.R. treatment was begun. The dates of the injections of T.R. and the doses in fractions of a milligramme were as follows: Feb. 9th, 1/4000; and March 3rd, 1/4000; making a total of two injections. April 9th: A couple of days after the last injection the patient was attacked successively with erysipelas, pleurisy, and pneumonia, from which he died. The necropsy showed a widespread tuberculous affection of the glands in the hilus of the lungs. In the lungs there were both old and new tuberculous foci morbus cordis mitralis et tricuspidalis and adherent pericardium were also present. The indices of the patient were not determined.

CASE 8.—J. J. (Curve 8). The patient was a girl, 15 years old, who had been suffering from lupus for five years. She had been treated with ointments until two years ago she was admitted to the Finsen Light Institute, where from 1905 to 1906 she was treated with 203 sittings. The mucous membrane was treated with the galvano-cautery. During the light treatment the affection healed and it was only on the mucous membranes that a relapse occurred Feb. 7th, 1907: On this date there was on the skin nothing distinctly lupous,

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

DERMATOLOGICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on March 19th, Dr. H. RADCLIFFE CROCKER, the President, being in the chair.

Dr. H. G. ADAMSON showed: (1) a case of Urticaria Pigmentosa in a child, aged three years; and (2) a case of Ringworm (tinea circinata) in a child, the ringworm having in all probability been derived from a horse. The father of the patient was a harness repairer.

Dr. T. P. BEDDOES showed for Dr. P. S. ABRAHAM a case of Favus in a Mouse (exhibited). The mouse had been caught by a woman whose husband was attending Dr. Abraham for trichophytic sycosis in which large-spored mycelium had been demonstrated. Dr. Abraham regarded the association in this case of favus with ringworm as fortuitous.

Mr. G. W. DAWSON showed a case of "Ringed Eruption" of the Left Hand and Fingers, of the type of lichen annularis, in a man, aged 18 years, who asseverated that he had had the condition for seven years.—The PRESIDENT considered that it was probably an instance of lichen planus.—Dr. J. GALLOWAY thought that it was rather like what he had called lichen annularis.

Dr. T. COLCOTT FOX showed a case of "Bilateral Telangiectases" of the Trunk in a woman who gave a history of marked epistaxis in childhood and of recent rectal hæmorrhage. There was no family history of similar conditions, which differentiated this case from a group in which these symptoms had been associated with family inheritance. A section of one of the telangiectases showed dilatation of capillaries without other changes.

Dr. WILFRID S. FOX showed a case of Dermatitis Artefacta in a young girl, the lesions consisting of sharply demarcated rounded patches on the chest and left side. The agency of production was not demonstrated.

Dr. GALLOWAY showed a case of an Acute Scarlatiniform Eruption which had apparently resulted from the administration of quinine. The eruption had commenced to show itself within two hours of taking a dose of one grain of quinine and the temperature had risen suddenly to 102° F., with symptoms of shivering, nervous depression, and swelling of the fauces. The rash was followed by widespread superficial desquamation. Similar symptoms had been noted 12 months previously on taking a patent preparation said to contain quinine.

Dr. E. G. GRAHAM LITTLE showed a case of Granulomatous-looking Tumours and Nodules, the result of Ingestion of Bromides, in an infant who had never had that drug but whose mother (who suckled her child) had been daily taking large doses of bromide for two years.

Dr. J. H. SEQUEIRA showed: (1) a case of Lupus of the Face, with a Lymphatic Œdema of the Hands resembling the condition which had been called "Lupus Pernio"; and (2) a case of X Ray Warts which had appeared on the Hands in the course of four years' work of an operator in an x ray department. The warts had been removed from one hand by exposure to measured doses of x rays administered therapeutically.

ODONTOLOGICAL SECTION.

Exhibition of Specimens.—Treatment of Suppurative Periodontitis in Displaced Teeth.—Treatment of Children from the Dental Point of View.

A MEETING of this section was held on March 23rd, Mr. J. HOWARD MUMMERY, the President, being in the chair.

Mr. A. HOPEWELL-SMITH, through the honorary secretary, exhibited and described specimens of (1) Jaws of Hemirhamphus and (2) Developmental Defects in the Upper Jaw of a Pike (*Esox Lucius*), which he presented to the museum.

Mr. E. STURRIDGE read a casual communication on the Treatment of Suppurative Periodontitis in Displaced Teeth, which he contended could not be cured except by the replacement and retention of the teeth in their correct positions. He showed a method of retaining such teeth by means of a wire and small pins cemented to the teeth which had previously had small holes drilled in them. In the discussion which followed it was admitted that the gum did not re-unite with the tooth and that the "pockets" always remained.

Mr. W. HERN opened a discussion on Mr. J. F. Colyer's paper on the Treatment of Children from the Dental Point of View. He opposed Mr. Colyer's views and said he believed that caries occurred in inverse ratio to the amount of care exercised in cleansing the teeth with brush and silk, and that the use of the brush was more important than thorough mastication for preserving the teeth. He was always anxious not to extract the deciduous teeth.—Mr. C. ROBBINS advocated and practised the habit of rewarding his small patients with sweetmeats.—Mr. W. RUSHTON still advocated the use of a toothbrush but did not believe that caries occurred in inverse proportion to its use. He agreed with Mr. Colyer that they did not know the causes of dental caries at all thoroughly.—Dr. J. SIM WALLACE asked why, if the toothbrush was efficient, there had not in recent years been a great decrease in the amount of dental caries, and contended that it was quite possible to bring up children immune from caries who had never used a toothbrush, and instanced cases under his care. He believed that thorough mastication was most important and blamed "pap" feeding for the craving for sweets, the lack of proper mastication, and a great deal of caries. Mouth-breathing was another cause.—Mr. STANLEY P. MUMMERY thought that the interference of civilisation with the laws of survival of the fittest was a cause of the prevalence of caries.—Mr. COLYER, in reply, said he was satisfied to have proved by the discussion which he had provoked that there was a wide difference of opinion among dental surgeons as to the causes of caries. It was a fact that the chemical composition of modern food-stuffs had changed. He did not think that heredity was an etiological factor and he strongly believed that dental surgeons would be able by discovering the causes of dental caries to remove them, and that in the future a healthy and functional mouth would be far more common than at the present day.

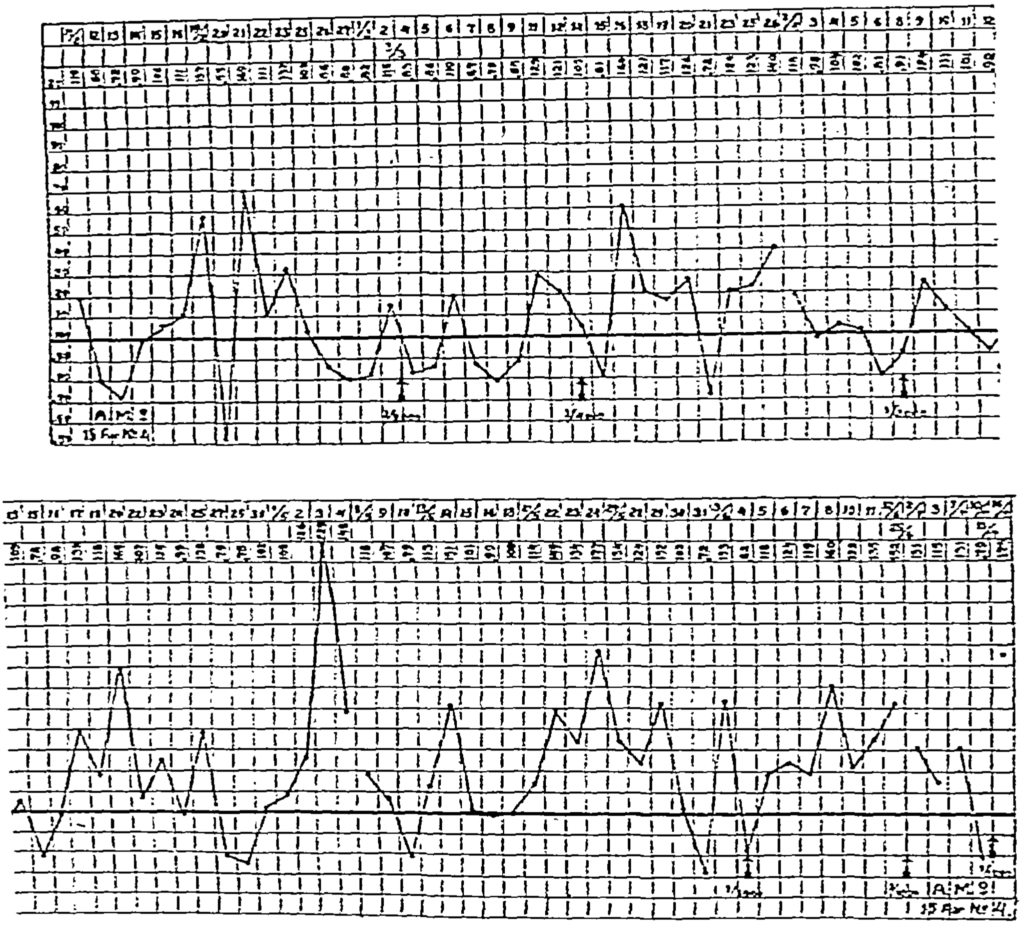
THE MEDICO-LEGAL SOCIETY OF LONDON.

Discussion on Post-mortem Examinations in Cases of Death under Anæsthetics.—The Legal Liability of the Anæsthetist.

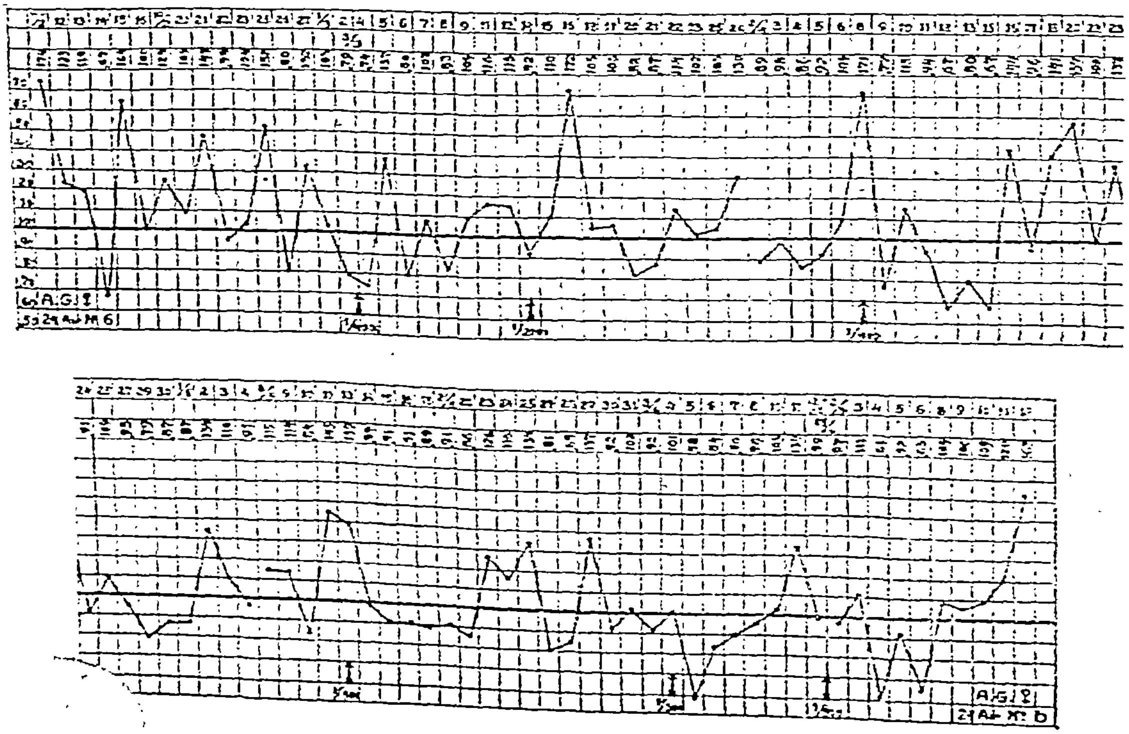
CONSIDERABLE interest was manifested in a meeting of this society held on March 24th, when Mr. Justice WALTON, the President, occupied the chair.

The discussion on Dr. L. Freyberger's paper read at the last meeting, entitled "An Analysis of 74 Cases of Sudden Death while under the Influence of Anæsthetics," had been adjourned and the proceedings were commenced by Mr. R. HENSLOWE WELLINGTON who read a short paper on the Legal Liability of the Anæsthetist, in the course of which he said: Dr. Freyberger read his paper on "Deaths under Anæsthetics" before this society on Feb. 11th, 1908. That paper was limited to a narration of 74 cases upon which he had made post-mortem examinations for the purpose of inquests in the Westminster and South-Western jurisdiction of the coroner. Out of the 74 deaths, 71 occurred at the five large hospitals and three in private practice. Though Dr. Freyberger gave an interesting narrative of these cases he drew no deductions from them. But during the short discussion which followed Dr. Frederic W. Hewitt gave us to understand that the majority of deaths from or under an anæsthetic were preventable, and that if death took place it was, as a rule, not the patient nor the operator that was at fault but the anæsthetist. I take it, then, that in his opinion the patient dies from an overdose of the anæsthetic—*i.e.*, that he or she is poisoned owing to a want of care on the part of the anæsthetist. That we all value Dr. Hewitt's opinion goes without saying, but it must first be proved that these deaths are due to the anæsthetic itself, and secondly to the want of reasonable skill, care, and attention on the part of the anæsthetist and not due to any contributory cause on the part of the patient from an idiosyncrasy, or to his pathological condition at the time of the operation, or on the part of the operating surgeon, and how can one differentiate between these, or say that there is not a combination of them as causes contributing to the death and so exonerate everyone concerned? It would be well for the Privy Council, with whom this matter rests, to make it a penal offence for an unqualified

CURVE RELATING TO CASE 12.



CURVE RELATING TO CASE 13.



required a course of instruction and four did not. In Scotland there were six examining bodies but only one required a course, and in Ireland there were five, none of which required it. That was not a satisfactory state of things and something was required to remedy it. Then what was the state of things at the hospitals? There was some improvement in this direction but at a certain number of them there might be a rather better system, both of instruction to students and of administering the department responsible for the use of anæsthetics. He thought that there ought to be some men of the highest professional and academical attainments at the head of the teaching portion of this study, and that especially there was room for resident anæsthetists at many of the large hospitals. The result of this unsatisfactory state of things was shown by the annual returns of the Registrar-General and by the weekly records of cases of death under anæsthetics. He was not contending that deaths could be avoided. He was not dealing in any way with the question of specialism; he was dealing merely with the average medical man, and he maintained that the average medical man passed from his hospital without having the proper equipment in this department of practice in the public interest. Statistics must be looked upon as absolutely valueless. Who could say what particular share the anæsthetic, the operation, or the pathological condition of the patient had in causing the death? A committee of the British Medical Association sat some years ago upon the subject and all its labours were practically thrown away. Nothing came from that most carefully conducted clinical inquiry simply because it knew in discussing any given case that there was this difficulty. The two proposals which he submitted would, he personally believed, have the effect of very materially lessening the evil with which they were confronted. The Society of Anæsthetists had, he believed, approached the General Medical Council and had been told that there was no room for another subject, but he thought that it must appeal to everyone who recognised the importance of the subject that some alteration was necessary. He congratulated the society in occupying the happy position of being of great use not only to the public but to the medical profession in general, which by reason of being split up into a great number of bodies was not able to act as could a single society of this character.

Mr. HENSLOWE WELLINGTON seconded the motions.

Sir ALFRED FRIPP said that the question was an extremely complicated one because there were many different points of view from which it might be approached. Dr. Hewitt's proposal that every student should have a course of instruction had, of course, won hearty support. The second motion should have the support of the medical profession, but if such a law was passed that none but qualified men should administer anæsthetics, it would be hitting a large number of the public who got their tooth extracted and a whiff of gas for the modest half-crown. They would be driven into the hospitals and dispensaries and the large body of the medical profession who made their money by small driblets would suffer. Speaking as coming from a hospital with a large dental department he thought that they would find themselves overburdened with work. It opened up the possibility of having to face a very large social question of whether there was not already more than enough done for that very large class that could afford something but could not afford to pay the full fee for medical or surgical attendance and who were very prone to get their services for nothing at all. As regards operations in the country very difficult circumstances were found and where it was not always possible to procure the services of a special anæsthetist. Whether this should be met by the creation, or rather the multiplication, of the special class of anæsthetists, or whether it would be better met, as Dr. Hewitt had suggested, by the leavening up of the whole profession by requiring students to take a course in anæsthetics, as was done at many hospitals, was worthy of consideration. He was surprised to find that the responsibility of the administration of anæsthetics was upon the surgeon. He had certainly thought that the surgeon who availed himself of the assistance of the skilled anæsthetist shifted the responsibility. If the surgeon dared to interfere no anæsthetist would brook that interference for a moment. In his hospital they took proper care that every student should have attended a course in the administration of anæsthetics and should have seen them administered and have taken part under the skilled anæsthetist attached to the hospital. He believed that such a course tended to the turning out of a class of men much more likely to be able to avoid those common mistakes of the past.

Dr. R. J. PROBYN-WILLIAMS regretted that the discussion was confined to the two motions, which would receive the hearty approval of anæsthetists present. He thought that Dr. Hewitt was rather extreme when he said that he wished for more teaching in anæsthetics and at the same time said that the drugs were safe. If he had been fortunate enough not to see a patient die on the operating-table it was exceptional. There were many cases at any rate in which the patient was in the absolute extremity of danger and nothing but the greatest skill had saved his life. It was a good deal owing to the efforts of the Society of Anæsthetists that at any rate the Royal College of Surgeons of England had made this important branch of practical science a part of its curriculum.

Dr. F. J. SMITH referred to Dr. Hewitt's statement (made at the February meeting of the society) that nine out of ten deaths under anæsthesia could be avoided by greater care upon the part of anæsthetist and said that it surely went beyond the limits of fair criticism of the whole body of skilled anæsthetists. He thought that motion No. 2 contained a pious opinion which he was afraid would go the way which good intentions were said to go. He could not imagine the legislature passing anything like an Act based on those lines, or interfering with quackery, of which perhaps nineteen-twentieths of the members availed themselves. There must be hundreds of operations performed by the medical man which the student had never seen performed. He contended that if a man did his level best he was not responsible for any particular catastrophe. He asked the coroners present if they honestly thought that any 12 jurymen they called together were fit judges to decide the question as to who was responsible for the death? What would be the effect of the motion upon some unfortunate practitioner who met with a catastrophe when one of the jury asked what steps he had taken to resuscitate life and who on receiving the answer which he would not understand would say that he was going to stick out for a verdict of manslaughter. He protested against coroners holding inquiries in these cases. He was heartily with Dr. Hewitt in wishing that the students should be educated, but it must be remembered that whilst in London there was nothing easier than to get a skilled anæsthetist it was very different with a man say in Wiltshire. A degree of skill would be expected from Dr. Hewitt which would not be expected from a practitioner in the country.

Professor J. GLAISTER (Glasgow) considered that the present state of the law was anomalous. It was news to him that herbalists and bone-setters gave chloroform; he never heard of it in Scotland. It had been his misfortune to have to make inquiries into deaths under anæsthetics in every hospital, small and large, in and around Glasgow and some in private cases. He was inclined to think that chloroform was one of the most uncertain drugs in its operations because the factor that was not constant was the person to whom it was being administered. Dr. Hewitt must consider the living factor a little more. Each man in the hospital schools in Glasgow received tuition in the administration of anæsthetics. Dr. Hewitt would find himself on dangerous ground in stating that nine out of ten of the cases of death could be avoided by attention on the part of anæsthetists. In hospitals men of the highest rank as anæsthetists had deaths. There was surely a share in the condition of the patient which must be considered. There were two classes of operation—the operation of necessity and the operation of expediency. Surgeons had not infrequently to operate to give a patient a chance of life when he would not be justified in withholding that chance. He did not think the profession should advertise itself as incompetent to do its work. The second motion, he agreed, was but a pious opinion; he quite supported the first but unfortunately everybody was crying for lengthening the medical curriculum and if they were medical students they would think it long enough already.

Dr. F. J. WALDO said that from an examination of the machinery whereby the facts relating to investigated deaths were recorded he was led to believe that the data were worthless as to the ratio of deaths to the administration of anæsthetics. He referred to his article on this subject that had already appeared in THE LANCET.[1]

Dr. C. TEMPLEMAN (Dundee) said that at St. Andrews University no student was allowed to graduate without

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[1] THE LANCET, March 21st, 1908, p. 851.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON A CASE OF PERFORATIVE APPENDICITIS IN A PREGNANT WOMAN, FOLLOWED BY ABSCESS OF THE THYROID GLAND AND ABORTION.

BY H. S. PENDLEBURY, M.A., M.B. CANTAB., F.R.C.S. ENG.,
SURGEON TO, AND LECTURER ON SURGERY AT, ST. GEORGE'S HOSPITAL; SURGEON TO THE ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.

THE patient, a woman, aged 27 years, who was about four months pregnant and whose thyroid gland had always been large, was admitted into St. George's Hospital on March 31st, 1907. She had been seized with acute abdominal pain on the previous day with vomiting.

On admission the patient was a thin, anxious-looking woman. Her temperature was 100° F., the pulse was 120, and the respirations were 36. There were great pain and tenderness in the right iliac fossa. The abdomen was distended but not very rigid. A vaginal examination showed fulness in the right fornix and fluctuation could be obtained bimanually. The condition was diagnosed as acute perforative appendicitis with abscess. On March 31st an operation was performed. The incision was carried through the right rectus muscle. An abscess was found in the pelvis, of which the cæcum and appendix formed the superior boundary. The appendix was removed and the abscess was drained with gauze and a tube. The pathological report was acute gangrenous, perforative appendicitis. Recovery of the abdominal condition was uneventful. The wound was healed and the patient was convalescent on April 14th.

On April 21st the patient had a rigor with a temperature of 101°. On the 25th she complained of stiffness of the neck and of her throat feeling sore. On the 27th swelling of the enlarged thyroid was noticed, with some hoarseness. On the 30th this swelling had increased very rapidly during the previous 48 hours and there were considerable tenderness and some dyspnœa. An operation was performed under chloroform and ether. An incision was made in the mid-line over the most prominent part of the swelling. About a couple of ounces of pus with pieces of gangrenous thyroid came away. The pus had the characteristic foul odour of bacillus coli communis infection. A tube was introduced. The bacteriological report was as follows: "The pus contains bacilli like the bacillus coli communis, but it is not possible to cultivate these." The abscess healed rapidly.

On May 27th the patient suddenly aborted. Very little blood was lost. Her general condition was good. On June 11th she was removed to the convalescent hospital at Wimbledon and on the 25th she was discharged recovered.

I saw the woman in February last and there was then no evidence of any myxœdematous condition, so that some of her thyroid tissue remains active.

Remarks.—Mr. James Berry[1] remarks that a thyroid gland which is already enlarged is the more likely to be the seat of an abscess. Metastatic abscesses of the thyroid gland apart from enteric fever are sufficiently rare to warrant my publishing this case, and I have been unable to find any record of an abscess in this position caused apparently by the bacillus coli.

Brook-street, W.

NOTE ON TWO CASES OF ANTHRAX UNTREATED.

BY JOHN CROPPER, M.D. CANTAB.

THE recent publication of two cases of anthrax by Dr. J. S. Clarke in THE LANCET of Feb. 29th reminds me that at Nablus, in Palestine, I had lately two cases which were so far untreated that the final result was not affected either way. One case showed very unusual symptoms. This patient, a youth, aged 19 years, whose work was not concerned with wool in any way, was attacked by malignant pustule on the right cheek. When I saw him for the first time on the twelfth day of the illness a large typical "pustule" nearly one and a half inches in diameter, with dark "eschar" surface and surrounded by much induration, was seen on the right malar eminence. For some days he had been absolutely paralysed from below the nipple line on both sides. As a last chance the pustule was freely excised under chloroform, but though cicatrisation set in no recovery from the paralysis ensued and he died about three weeks later. He had before I saw him been treated by a quack with caustics in an ineffectual manner. Only a few very doubtful bacilli could be made out from the discharge. The second patient was a woman, aged 50 years, on the back of whose neck a little above the vertebra prominens an anthrax pustule had developed, which had gone on to a "natural cure" before she came under my observation as an out-patient. By this time she had in the site indicated a deep hole, measuring one inch in diameter and also in depth; it was filled by a white and firmly adherent slough and excreted an abundant discharge, exhaling a most fœtid odour. The skin was crater-like and much undermined. The slough came away in large pieces and she made a perfectly "uneventful recovery" in the course of two or three weeks.

Though comparatively rare, anthrax is more often met with in Palestine than in England. I have seen cases of *charbon des paupières* once or twice; these, by causing sloughing of the upper eyelid, give rise to some of the very worst cases of loss of the eyelid. Shortly before leaving the East I was asked to operate on a man whose eyelid had sloughed, leaving the eyeball exposed through an opening in the same.

Chepstow, Monmouthshire.

NOTE ON A CASE OF POST-INFLUENZAL PERICARDITIS.

BY F. CARMINOW DOBLE, M.R.C.S. ENG., L.R.C.P. LOND.,
LATE HOUSE SURGEON, GREAT NORTHERN CENTRAL HOSPITAL.

A MAN, aged 21 years, was seized on March 4th with giddiness, nausea, and aching in his legs; this was followed on the next day by a very slight nocturnal cough and pain over the præcordial area, chiefly limited to the apex beat. The temperature was normal; the pulse was 85 per minute and of good volume and tension. I diagnosed influenza. Examination of the chest revealed nothing abnormal until on March 13th I again examined his chest. Inspection, palpation, and percussion yielded no evidence of disease, but on auscultation over the space between the second and third rib, close to the sternum, a double friction sound was to be heard. It was nearly synchronous with systole and diastole, the heart sounds were partly obscured, but no murmur or reduplication was present. When the patient held his breath the abnormal sounds were not altered. The area over which the friction sounds could be heard was of about the size of half-a-crown. They were very high pitched and sibilant and were greatly increased on pressure on the chest with the stethoscope. On the next day they were not so well marked and the day after that were quite gone. The patient says that he had an attack just like the present one last year and a medical man said "it was influenza affecting the heart."

It is curious that the pericardium should be affected by so mild an attack of influenza, especially with so few bronchial symptoms. It seems to prove that Pfeiffer's bacillus circulates in the blood early in the disease in even a mild form and produces a true septicæmia.

Reedham, R.S.O., Norfolk.

SALARIES OF POOR-LAW MEDICAL OFFICERS.—The Local Government Board has recently informed the Falmouth board of guardians that a payment of £20 per annum was insufficient remuneration for the medical officer of the workhouse. At a meeting of the guardians held on March 26th Mr. Preston-Thomas, the Local Government Board inspector, stated that he had been instructed to confer with the guardians on the matter. He added that the salary was about 7*s.* weekly and the medical officer had to supply medicines out of that, so that his remuneration was about the same as would be paid to a boy for scaring crows. Mr. Preston-Thomas contended that it was unreasonable to pay a medical officer such a sum for the duties which he performed. After some discussion the guardians decided to take no action on the suggestion of the Local Government Board.

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[1] Diseases of the Thyroid Gland, 1901, pp. 130 et seq.

Dr. HEWITT, replying on the second, said that the one object before them all was the safety of their patients. There should be no hair-splitting. When he said that nine cases out of ten were preventable he was speaking of the cases which had been described by Dr. Freyberger and others which clearly indicated that in a large number of cases the patients died from intercurrent asphyxial conditions which might have been avoided. Again, a gentleman who had recently died with an honourable record passed through a life of anæsthetic cases without having ever lost one—he had tens of thousands of cases. He (Dr. Hewitt) contended that the average medical man if properly trained on the principles such as a master of the art would be able to transmit to his students would be able to save life in about the proportion he had indicated. He had never intended to say that chloroform or any drugs could be regarded as safe. By careful treatment it was possible to render them comparatively safe—that was to say, if given in a haphazard way it was a dangerous drug, if given on a proper scientific principle it was not a dangerous drug. Dentists in the country administered gas because there were no properly trained men. The very large number of deaths occurred from asphyxia and unless a man had been highly trained he was not able to watch the respiration and guide it along through its various abnormal phases in such a way as thoroughly to protect the life of the patient.

Dr. FREYBERGER having briefly spoken the second proposition was put to the meeting and carried.

LIVERPOOL MEDICAL INSTITUTION.

Reminiscences of 42 Years' Professional Life in Liverpool.

A MEETING of this society was held on March 19th, Mr. T. H. BICKERTON, the President, being in the chair.

Dr. W. CARTER gave an address on Reminiscences of 42 Years' Professional Life in Liverpool. He remarked that owing to recent reviews of the advances in medicine and surgery by Dr. A. T. H. Waters and Professor W. Rushton Parker during a period almost contemporaneous with the time of his residence in Liverpool, he would confine himself to a statement of some of those public controversies and events in which he had taken part. The first, and perhaps the most trying, was the Contagious Diseases Acts. Believing that these degraded both the womanhood and the manhood of the country he was obliged to oppose them. In conjunction with the late Dr. Nevins, Dr. Ewing Whittle, and others they established a national association for their repeal in March, 1875, at a meeting at St. George's Hall, Liverpool, and decided to start a journal, the *Medical Enquirer*. He was honorary secretary to the association and sole editor of the journal, also a purely honorary position. The work lasted until the repeal of the Acts in 1886, Dr. Nevins distinguishing himself above all others by his zeal and work. The next public controversy was that concerning the position of the public abattoirs and hide market in a densely populated part of the city and very near to the Royal Infirmary. On behalf of a deputation from the Medical Institution he presented in 1884 to a meeting presided over by the then mayor statistical tables proving the greater unhealthiness of the district than of any other district generally similar anywhere in Liverpool. This was confirmed by a subsequent report made by Dr. Stopford Taylor, the then medical officer of health, and later still, in February, 1903, he was requested by the committee of the Royal Infirmary to meet the estate committee and to endeavour to dissuade it from renewing the lease of the abattoir. With the late Sir William Banks and Mr. Robert Gladstone he strongly urged this course on the authorities and trusted that this evil would ere long be removed. Dr. Carter next spoke of his prolonged efforts in the promotion of total abstinence both in Liverpool and elsewhere. Another controversy which was maintained for many years was that concerning the notification of infectious diseases without the slightest discretion being allowed in any case. He presided over a large meeting of the medical profession in that theatre in September, 1882, on the subject. After prolonged discussion and numerous meetings a compromise was agreed upon and the form now employed was sanctioned. The attempt to persuade the late Sir William Jenner to found a medical defence union, its subsequent formation, and later still the presidency by the late Mr. Lawson Tait, with Dr. Carter as a vice-president, were mentioned and everyone present was urged to join the present ably conducted union. In 1870–71 the visitation of Liverpool by a severe outbreak of small-pox was the occasion of Dr. Carter's writing a series of articles in the *Medical Times and Gazette*, after examination of all the returns supplied by the parish medical officer in charge of the public sheds. The mortality was strikingly inverse to the number and size of the cicatrices. Many years later, therefore, when the practice had arisen of some medical men making one small pin-prick and terming that efficient vaccination he felt bound to bring the matter before the Lancashire and Cheshire branch of the British Medical Association on Feb. 28th, 1889, at which a resolution adverse to this was come to at a large meeting. On March 23rd, 1904, at a large public meeting held at the Philharmonic Hall, under the presidency of Mr. Emmott, M.P., the Protestant Bishop of Liverpool proposed, and Dr. Carter seconded, motions which had the effect of starting the Congo Reform Association. As chairman of the professional subcommittee of the Tropical Diseases School since its formation, he felt much embarrassment at times owing to his having to protest against the extravagant laudation in the annual reports of the school of King Leopold of Belgium, and when invited to accompany the president of the school and some of his colleagues to Brussels to luncheon with the King last August twelve months he was obliged to refuse the invitation. When the midwives registration controversy arose he felt bound, under the conviction that many humble homes were wrecked through the spread of puerperal fever owing to uneducated and ignorant women, strongly to support the Bill for the education and registration of midwives. The matter was very hotly discussed on May 11th, 1894, at a large meeting held in that room, when his motion on the subject was lost by a large majority. He published his speech, copies of which were requested by the Royal College of Physicians of London for its library table, and finally, as everyone now knew, an Act was passed in 1902 compelling the education, certification, and supervision of all women practising as midwives. Dr. Carter lastly drew attention to the generosity and public spirit of the wealthy men of Liverpool, especially mentioning Mr. Sutton Timmis who after the death of his wife communicated to Dr. Carter through his friend Mr. Wade Deacon his desire to place £10,000 in the hands of trustees for promoting a cancer research, over the committee for carrying out which he (Dr. Carter) had presided, and still continued to preside, as chairman. He mentioned other splendid acts of generosity on the part of the same gentleman, and finally spoke of the extraordinary response to the appeal made by himself a few years ago for the family of the hero Mr. William Smyth, Liverpool contributing hundreds of pounds. Rich and poor alike gave, one poor man sending 2*d*. and another 6*d*., while a poor dressmaker begged to be allowed to make clothes for the children and was overjoyed when allowed to do so; but no class contributed so generously or so generally as the medical profession who alone could estimate the great risks and the noble way in which that heroic man, like a true soldier, had met them.

A hearty vote of thanks, proposed by Dr. W. MACFIE CAMPBELL and seconded by Professor W. RUSHTON PARKER, was accorded to Dr. Carter for his excellent address.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 17th, Mr. H. Shackleton, the President, being in the chair.—Dr. F. W. Eurich read a paper on Tuberculosis of the Lung, in which he said that recovery was often spontaneous and that to obtain a cure nature's own methods must be employed. The outcome of this was the modern sanatorium treatment. Since the treatment had been restricted to suitable *early* cases the results had considerably improved. Experience seemed to show that the cases suitable for sanatorium treatment were those (1) with simple catarrh at one apex; (2) infiltration or consolidation at one apex, with or without catarrhal symptoms; and (3) infiltration with consolidation of *one* upper lobe. The other lung should not be appreciably affected. Contra-indications seem to be: (1) cavity formation; (2) repeated severe hæmorrhages; (3) persistent elevation of temperature; (4) albuminuria or glycosuria; and (5) severe tuberculous affections of other organs. But what about the cases whose disease had died down in spite of the fact that their lives had been spent in the slums under conditions in which every law of health was violated? The only explanation was that the man to administer any anæsthetic, whether local or general. Perhaps the coroner's court is not the *fons et origo* of exact scientific knowledge upon the matter of the immediate scientific cause of death in these cases, though it must be admitted that the court certainly has a useful function to perform in the matter and should ascertain if there has been any *malpraxis*. But I am struck with the idea that a most useful office might well be created by the county councils if they would appoint some one with a medical training and a coroner's experience to act as a registrar, such as the hospitals possess, to make an abstract or digest from the depositions, taken at inquests by the coroners, upon these and all other deaths. These depositions are at present a mass of wasted material, but would be a source of much useful information if in the hands of such an officer or registrar. It has been argued by some (though n[illegible] at this society) that if the anæsthetic were not required then the anæsthetist is liable at law. Surely if an operation is necessary an anæsthetic is, humanely speaking, equally so. It is then the operating surgeon who is to be called into question if anyone for *malpraxis*, but who can controvert his opinion as to whether the operation was necessary or not? If the anæsthetist is an unqualified practitioner and is engaged by the qualified operator, or if an unqualified operator engages a qualified anæsthetist, then the qualified and registered man, surgeon, or dentist is guilty of "covering," under the regulations of the General Medical Council, whether the patient lives through or dies under the anæsthetic. And here I will say *en passant* that it is very doubtful as to whether the dentist who has the L.D.S., without the full qualification of the physician or surgeon, is qualified to give any anæsthetic at all, or whether he is not limited to the administration of nitrous oxide gas and must call in a qualified practitioner to give the other anæsthetics; he is then in the same position as the unqualified man. If the anæsthetist is engaged by a *surgeon to* adminster the anæsthetic, the surgeon is the servant of the patient and agent to find a capable anæsthetist, and if both show reasonable care, skill, and attention neither of them is liable for *malpraxis* whether the patient lives or dies. Again, if the operating surgeon engages an anæsthetist who gives an anæsthetic for an illegal operation, the anæsthetist if ignorant of the illegality of the operation cannot be held liable whether the patient survives or dies, but if the anæsthetist knows the nature of the operation to be *illegal* he is equally liable to answer with the surgeon for felony if she survives and for murder if she dies. If the *causâ causans* of the death is due to a pathological condition of the patient, unknown until the patient is upon the operating-table, the death must of necessity be one of misadventure, or if due to a recognised pathological condition and the patient or his representative had been warned *of* any risk and accepted that risk the patient then accepted full responsibility and exonerated both the surgeon and the anæsthetist. Supposing that the anæsthetist sees danger from the anæsthetic after he has commenced its administration and withholds his hand, at the same *time warning* the operating surgeon that to proceed is dangerous, the *onus probandi* is perhaps thrown upon the surgeon if he proceeds with the operation, though it may be well-nigh impossible to finish it forthwith. But naturally the two must work together and do their best for the life that is in their hands and then no one can reasonably find fault or sustain any action at law for *malpraxis*. When a patient enters any hospital and an operation under an anæsthetic is required the patient expects, and the law implies, that a competent anæsthetist will give the necessary anæsthetic, and if a qualified practitioner administers it and uses reasonable care and skill he cannot be held liable for *malpraxis* if unforeseen death supervenes. Further, if an unqualified man, as pupil, is manipulating the anæsthetic apparatus under the supervision of a qualified anæsthetist the former is not acting illegally, nor is the latter liable for "covering," as this is permissible under the regulations of the General Medical Council. But there is often the risk that the young anæsthetist is hurried in his work by the busy hospital surgeon who is anxious to hurry on the operation and get away to his private practice, consequently the anæsthetist runs the risk of administering a poisonous dose of the anæsthetic. This is an argument in favour of special resident anæsthetists at all our large hospitals. In conclusion, the immediate cause of death attributable to the anæsthetic, *per se*, as a poison, must first be proved beyond any reasonable doubt; and then a further proof that the administrator of that anæsthetic or poison—and it matters not whether he be a qualified or an unqualified practitioner—did not use reasonable care, skill, and attention must be shown before he can be made answerable to the law for damages or punishment. But the administration of any anæsthetic, whether for a local or a general anæsthesia, by unqualified practitioners—which is carried on to a very large extent throughout the kingdom—is a grave public danger and should, perhaps, be made a penal offence by statute.

The PRESIDENT then suggested that Dr. F. W. Hewitt should propose the motions standing in his name. The question before the meeting was not primarily the medical or the scientific side of the matter but rather the question of public policy. Of course, it would be important to have the opinion of gentlemen who spoke not only with great scientific knowledge but with practical experience.

Dr. HEWITT then moved that the two following motions be forwarded in the name of the Medico Legal Society to the General Medical Council and to the Privy Council respectively:—

1. That in view of the importance of the administration of anæsthetics this society is of opinion that it is highly desirable, in the public interest, that every member of the medical profession before he is registered shall have received instruction in the administration of anæsthetics. It therefore earnestly begs the General Medical Council to consider whether they can see their way to include a course of instruction in anæsthetics amongst their requirements in regard to professional education.

2. That as the administration of any drug or drugs with the object of producing generalised insensibility to pain or actual unconsciousness for any medical and surgical operation, or during child-birth, cannot be safely undertaken without medical knowledge and skill, your petitioners humbly pray that legislation be granted whereby the administration of any drug or drugs with either of the aforesaid objects by any person other than a duly registered medical practitioner or some one acting immediately under his supervision, direction, and instruction be made a penal offence.

One question seemed to Dr. Hewitt to come to the front before all others on that occasion—namely, the means which should be adopted for protecting the public against accidents under general anæsthetics. It was one of the most vital and pressing questions of the day. The present state of things he could only describe as antiquated and slipshod. In the first place what was the present position of the law? He felt that he was treading on most delicate ground because he was not a lawyer. It appeared that any person, whether qualified or unqualified, experienced or inexperienced, reputable or disreputable, might administer an anæsthetic, and provided that he did this to the best of his ability and with no unlawful motive he was not likely to be punished or even blamed if his patient died as the result of the anæsthetic given. Was it right in the public interest that some of the most powerful drugs in the British Pharmacopœia should be at the disposal of ignorant, if well-intentioned, persons? The community was protected against risks incidental to the sale of poisons, the adulteration of food, milk, and the like, but the advertising bone-setter, the herbalist, or in fact anyone might freely employ chloroform without any infringement of the law. When anæsthetics were first introduced, more than half a century ago, they were often intrusted to unqualified persons, nurses, and others; but surgery had completely changed since then and the requirements of the surgeon and of the public were such that the administration of an anæsthetic, in the modern sense of the term, could only be safely undertaken by those possessing medical knowledge and skill. Possibly the attractions of medicine and surgery had taken away men of brilliant abilities whose work would have been welcomed by those who had interested themselves in this particular branch, but at the present time the average medical man who gave an anæsthetic and the general practitioner in the country had not had the amount of training which he ought to have had and that amount of experience which would entitle him to administer these drugs. Secondly, he would refer to the share which the educational authorities took in the matter. The General Medical Council, which governed the various examining bodies, did not make a course of instruction in anæsthetics one of its requirements. It recognised that some instruction should be given. He had written recently to the 22 examining bodies of England, Scotland, and Ireland and he found that only eight made it compulsory for candidates to have received any instruction in anæsthetics. So that a man might graduate in medicine and surgery at one of our leading Universities without ever having administered an anæsthetic. In England there were 11 examining bodies; of these seven showed the skiagram.—*Dr. Solly* showed a case of a child who had an Eruption on the Face and Limbs probably due to scabies.—Mr. J. D. Harmer showed for Mr. A. C. Roper a case of extensive Epithelioma of the Skin of the Face.—Mr. Harmer also showed a case where Mr. Roper had performed the Radical Mastoid Operation.—Mr. Domville showed a case of Middle-ear Disease in a man where he had performed the radical mastoid operation, and had also opened an abscess in the temporo-sphenoidal lobe, and another case in a girl where the radical mastoid operation had been performed. Both patients were doing well.—Mr. Harmer showed for Mr. Roper the Suprarenal Capsules removed post mortem from a case of Addison's disease exhibiting extensive caseation. Mr. Harmer also showed for Mr. Roper a Meckel's Diverticulum removed during operation for supposed appendicitis.—Dr. Solly showed Blood Films of: (1) Benign Tertian Malarial Parasite from a patient recently in the Royal Devon and Exeter Hospital; and (2) Myelocytic Leukæmia in the case of a man exhibited showing neutrophile, eosinophile, and basophile myelocytes, and nucleated red corpuscles. Dr. Solly also exhibited the test for Acetone, lately described in THE LANCET, where equal quantities of the urine and a weak solution of nitroprusside of sodium are mixed together in a test tube and strong ammonia (0·880) is floated on the top. A prune-coloured ring was demonstrated where the fluids joined.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 12th, Dr. G. Thomson, the President, being in the chair.—Professor J. M. Beattie read a paper on Acute Rheumatism: the Evidence in Support of its Bacterial Origin. After reference had been made to the clinical resemblances between acute rheumatism and other infective diseases and the epidemic nature of the disease a brief outline was given of the work of the various observers who had isolated organisms from cases of acute rheumatism. The work of Wassermann was specially emphasised and the confirmation of this work by Poynton and Paine, Ainley Walker and Beaton, Fitzmeyer, and others was reviewed. Professor Beattie then gave an outline of his own work in which, with a streptococcus isolated from three typical cases of acute rheumatism, he had produced in rabbits the clinical picture of acute rheumatism. He laid special stress on the fact that the organism in his cases was localised to certain areas in the synovial membrane and was not found in the blood or joint exudations. By intravenous injection he produced in a series of 23 rabbits 76 per cent. of non-purulent arthritis and 56 per cent. of endocarditis. Only three animals of the series died, two of these with very acute arthritis, and one with large mitral vegetations. In two of these the streptococcus was found in the blood but in the other it was found only in the synovial membrane of the knee-joints. These results were compared with parallel experiments carried out by himself and by Rufus Cole with streptococci from other sources than rheumatism and it was shown that the conditions produced were quite dissimilar, the arthritis being purulent and the endocarditis uncommon. Recovery was rare, the death-rate being 40 per cent. in his own cases and 80 per cent. in those of Cole. Reference was also made to the occurrence of acute interstitial nephritis in the animals experimented upon and of amyloid degeneration in cases of rheumatic fever. From the experimental work it was concluded that in acute rheumatism, at any rate in adults, the bacteria are in the majority of cases localised and that many of the clinical manifestations and pathological effects are due to the toxins.

NURSING AND MIDWIFERY CONFERENCE AND EXHIBITION.—In order to arouse and to maintain interest in the provision of properly trained midwives it is proposed to hold a series of annual conferences at which lectures will be given and discussions held on subjects of importance to midwives and new appliances shown. The first conference has been arranged to take place from April 28th to May 1st prox., under the patronage of H.R.H. Princess Christian, and it will be held at the Cavendish Rooms, Mortimer-street, Regent-street, London, W. It is hoped that railways will grant special rates to those attending the congress. No subscriptions are asked and there are to be no entrance charges. Tickets will be distributed from provincial centres or will be forwarded to responsible nurses and midwives who apply, sending a stamped addressed envelope, to Mr. Ernest Schofield, organising secretary, 32, Sackville-street, Piccadilly, London, W.

Reviews and Notices of Books,

A System of Medicine by Eminent Authorities in Great Britain, the United States, and the Continent. Edited by WILLIAM OSLER, M.D. Oxon. and McGill, F.R.S., Regius Professor of Medicine in the University of Oxford, England; formerly Professor of Medicine in Johns Hopkins University, Baltimore, &c. Assisted by THOMAS MCCRAE, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. III.: Infectious Diseases (continued); Diseases of the Respiratory Tract. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 960. Price to subscribers, 24*s.*; to non-subscribers, 30*s.*

IN our review of the first volume of this "System"[1] we explained the nature and scope of the work and expressed the opinion that it would be sure to secure the favour of a large public. As will be seen by the title detailed above, the present volume completes the consideration of the infectious diseases and also contains a series of articles on diseases of the respiratory tract.

The first contribution is on Malta Fever and is written by Colonel David Bruce, R.A.M.C. He defines the fever as a disease of long duration, characterised clinically by continued fever, profuse perspiration, constipation, frequent relapses, rheumatic or neuralgic pains, swelling of joints or orchitis; bacteriologically by the presence in the blood and organs of the micrococcus Melitensis (Bruce); and anatomically by congestion of the spleen and other organs. He also shows that the disease is a widespread one, cases having been reported from numerous places in the Mediterranean and also in Hong-Kong, in the Philippine and Fiji Islands, in the Mississippi Valley, and in certain places in the West Indies and in South America. The cases, however, do not seem to occur in large numbers in any place except Malta. The manner in which the micrococcus may enter the body is discussed at length and infection by means of goat's milk is duly referred to. The evidence in favour of this mode of infection is very strong and many of the curious features in the epidemiology of Malta fever are thus explained. The treatment of the disease has not as yet made any great advance. Hydrotherapy is probably the most useful measure, baths or sponging being employed.

Beri-beri is described by Dr. Maximilian Herzog. He remarks that in spite of the fact that the pathological anatomy of this disease is well known the etiology is far from being definitely and satisfactorily understood. The various theories which have been advanced as to the cause of the malady are discussed, especial attention being drawn to the observations of the two Japanese army surgeons, Okata and Kokubo, who had an excellent opportunity of studying the large number of cases transferred from Manchuria to Japan during the recent Russo-Japanese war. These investigators isolated a coccus which generally assumes the form of a diplococcus and which may also at times present itself as a coccus. They confidently maintain that this coccus is the causal factor in beri-beri. Dr. Herzog, however, is by no means convinced on the point. He failed to obtain the same organism from typical cases of beri-beri in the Philippine Islands. Also in about 50 cases of the disease occurring in Manila the search for the coccus again proved negative. He seems to have no doubt that in spite of these failures beri-beri is an infectious malady and is of opinion that further bacteriological investigations are necessary.

In Chapter III. Dr. Mazÿck P. Ravenel gives a good account of the present state of knowledge in reference to Anthrax, Rabies, and Glanders. The subject of Tetanus is discussed by Dr. J. M. Anders, and that of Leprosy by Dr.

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[1] THE LANCET, Oct. 19th, 1907, p. 1091.

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One question seemed to Dr. Hewitt to come to the front before all others on that occasion—namely, the means which should be adopted for protecting the public against accidents under general anæsthetics. It was one of the most vital and pressing questions of the day. The present state of things he could only describe as antiquated and slipshod. In the first place what was the present position of the law? He felt that he was treading on most delicate ground because he was not a lawyer. It appeared that any person, whether qualified or unqualified, experienced or inexperienced, reputable or disreputable, might administer an anæsthetic, and provided that he did this to the best of his ability and with no unlawful motive he was not likely to be punished or even blamed if his patient died as the result of the anæsthetic given. Was it right in the public interest that some of the most powerful drugs in the British Pharmacopœia should be at the disposal of ignorant, if well-intentioned, persons? The community was protected against risks incidental to the sale of poisons, the adulteration of food, milk, and the like, but the advertising bone-setter, the herbalist, or in fact anyone might freely employ chloroform without any infringement of the law. When anæsthetics were first introduced, more than half a century ago, they were often intrusted to unqualified persons, nurses, and others; but surgery had completely changed since then and the requirements of the surgeon and of the public were such that the administration of an anæsthetic, in the modern sense of the term, could only be safely undertaken by those possessing medical knowledge and skill. Possibly the attractions of medicine and surgery had taken away men of brilliant abilities whose work would have been welcomed by those who had interested themselves in this particular branch, but at the present time the average medical man who gave an anæsthetic and the general practitioner in the country had not had the amount of training which he ought to have had and that amount of experience which would entitle him to administer these drugs. Secondly, he would refer to the share which the educational authorities took in the matter. The General Medical Council, which governed the various examining bodies, did not make a course of instruction in anæsthetics one of its requirements. It recognised that some instruction should be given. He had written recently to the 22 examining bodies of England, Scotland, and Ireland and he found that only eight made it compulsory for candidates to have received any instruction in anæsthetics. So that a man might graduate in medicine and surgery at one of our leading Universities without ever having administered an anæsthetic. In England there were 11 examining bodies; of these seven whilst the pathologist Hanau considered it to have its origin in the periosteum. Dr. Denker points out that, although the view put forward by Katz is at least a probable one in many cases, yet the fact that the mucous membrane appears to be normal in so many instances must, if this theory be accepted, leave unexplained a certain proportion of the cases, and we must of necessity be forced to consider that a primary affection of the periosteum or the bone must account for these, though we are not as yet in a position to state whereabouts it commences. This is rendered the more probable when we consider that Politzer has demonstrated the existence of isolated foci of disease unconnected with the surface and the periosteum.

Dr. Denker next reviews the etiology of the affection. Here he points out that in the larger proportion of cases the disease appears in the female sex, and he alludes to the opinion of Walb that it is due to the condition of the blood in pronounced anæmia which is so much more often found in women than in men, and that pregnancy also has an influence on the development of the disease. He also refers to the well-established facts pointing to the influence of heredity. We find, however, that in the larger number of Dr. Denker's patients—namely, in no less than 77·7 per cent., the disease commenced between the ages of 20 and 50 years. 26 out of the 306 cases were affected in the second decade and 34 (or 11·1 per cent.) after the fiftieth year, while eight patients could give no history. Chill is credited with a large share in the causation of otosclerosis, while by other writers something more than a casual relationship is ascribed to syphilis. Beyond these three factors no other cause—casual or otherwise—is adduced. Under the heading of functional testing we find, carefully described in historical precedence, all the various aural tests and their explanations, so far as our present knowledge goes. In the symptomatology and progress of the disease the author refers, amongst other things, to the temporary character of the disturbances of equilibrium as well as to their relative rarity in otosclerosis, as compared with diseases of the middle ear proper. He enters fully into the various theories extant as to the causation of paracusis Willisii and gives preference to that which assumes that people speak more loudly in a noise. A very useful and short summary of the diagnosis is given. The most important portion of the book, however, is a careful and elaborate description of the pathological, macroscopical and microscopical, conditions found in all the hitherto reported cases. This is by far the most complete summary extant. The concluding chapter of the book deals with what the author very pertinently describes as "various therapeutic experiments."

We have dwelt at unusual length on the contents of this work, for we feel that it would not have been possible otherwise to do justice to the result of the important labours of the author. That the last word has not yet been spoken on this subject there is no question. But to all those who are interested in the advancement of otology, whether it be from a scientific standpoint or from the desire to be able to afford relief to the numerous sufferers from this insidious complaint, Dr. Denker's book will prove of the utmost value.

The Elements of the Science of Nutrition. By GRAHAM LUSK, Ph.D., M.A. Illustrated. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 326 Price 12s. net.

IT is a far cry to the time of Sanctorius of Venice in the early part of the seventeenth century. He, however, was the first to apply the balance, or rather a steel yard, to the study of the "insensible perspiration." The modern science of nutrition began with Lavoisier who with Laplace made experiments on animal heat and respiration. Lavoisier declared that life processes are the result of oxidations with the resulting formation of heat. Liebig received part of his training in Paris in 1822. His researches in Munich and elsewhere fired Voit to study the problems of metabolism. With the name of Voit must be associated that of Pettenkofer who made famous the Munich School of Metabolism. The work has been carried forward with extraordinary success by Rubner, a former pupil of Voit. Lavoisier established the fundamental fact that the oxygen inspired and the carbon dioxide given off depend primarily on food, work, and temperature. Liebig devised new methods for organic analysis and the study of the carbon compounds. With the fact established that the nitrogen in the urine and the fæces could be made a means for the determination of protein metabolism the next step was gained. Meat contains 16 per cent. of nitrogen or 1 gramme of nitrogen in 6·25 grammes of proteid, therefore for every gramme of nitrogen in the excreta 6·25 grammes of protein were destroyed in the body. The next question was the determination of the total carbon excreted, which problem was attacked by Voit and Pettenkofer. As to the manner of metabolism, it was shown that the metabolism in the body is not proportional to the combustibility of foodstuffs outside the body, for in the body protein is burned with greater ease than are carbohydrates, while fat is the most difficult of all. It is the metabolic action of the cells which determines the amount of oxygen absorbed. It is not due to a lack of oxygen that sugar does not burn in diabetes, or cystin in cystinuria. The cleavage of these substances into bodies which can unite with oxygen cannot be effected and hence they cannot burn. Respiration does not regulate metabolism, it is metabolism which determines respiration partly by its production of carbon dioxide. Metabolism may be defined as the chemical changes of living cells: "it vivifies the material under the influence of energy potential and chemical compounds."

After an introductory chapter the author sets forth his subject under the following heads: Fæces, Starvation, Temperature, Influence of Protein Food, Specific Dynamic Actions of Foodstuffs, the Influence of Fat, Carbohydrates and Mechanical Work, Normal Diet and Food Requirements during Growth, Metabolism in Anæmia, High Altitudes, Myxœdema, Exophthalmic Goitre, Diabetes, Phosphorus Poisoning, Fever, Gout, and Purin Bodies, and concludes with a study of the theories of metabolism.

Normal fæces are not, as is often stated, composed chiefly of residues of undigested food; they consist chiefly of unabsorbed residues of intestinal secretions. In herbivora, however, they consist largely of undigested or indigestible food, and indeed there is as much nitrogen in the fæces of the cow as in the urine. In connexion with diabetes it is interesting to note that β oxybutyric acid and acetone are present in large amount in extreme hunger. The blood in starvation retains its normal composition as regards its nutrient constituents except that it carries fat in increased quantity to the cells. The plasma is very like normal plasma except that there is a slight increase of globulin. The temperature of a fasting man is usually normal and falls only a few days before death. The regulation of temperature is essentially controlled through the nerves. If a rabbit be cooled to the temperature of 19° C. the heart beat may fall to one beat per minute. The "law of superficial area," known as "Rubner's Law," is not often mentioned in English works. It states that the metabolism is proportional to the superficial area of the animal—*i.e.*, it depends on the amount of heat lost at the surface—and its variation in accordance with this law is necessary for the maintenance of a constant temperature.

There is a careful review of the question as to the origin of fat from proteins. This does take place, probably through an intermediate sugar. As to exercise, we find the having had several opportunities under skilled supervision of the administration of chloroform, but they were not required to show a certificate on coming up for examination. All cases of death under anæsthetics in Scotland were inquired into by the Procurator Fiscal in precisely the same way as were other cases of sudden death, with the addition that the Crown required that the whole of the precognitions with the report should be submitted to some qualified man who was asked to report (1) whether the operation ought to have required the administration of an anæsthetic; (2) whether the patient had been previously examined to see if there was anything to contra-indicate the administration; and (3) whether the anæsthetic had been properly given. All these inquiries were held without the facts coming before the public at all.

Professor H. Harvey Littlejohn (Edinburgh) said that he thought the subject far too wide to lead to any good discussion. There was no advantage in holding a public inquiry. Surgeons must give chloroform for operative purposes and there was no object in setting up the public mind against the use of it and in making people believe that there were greater dangers than was really the case. He went most strongly against Dr. Hewitt if he said there was no danger connected with the administration of anæsthetics. They knew that people died not from chloroform but under chloroform, sometimes during the operation but sometimes from causes apart from chloroform. Then patients came out from chloroform and sometimes died afterwards. What was the proof that death had taken place from chloroform? Could it be obtained from a post-mortem examination? No. He had made many post-mortem examinations and found nothing diagnostic. Could they get proof from a chemical examination? Certainly not. What did the inquest lead to? How were they going to prove any fault either on the part of the surgeon or the administrator so long as he could say he used ordinary precautions? There was no object in having a public inquiry. The only object was to make out what was the cause of death, though he thought there ought to be a post-mortem examination to try to find out what was the cause of death in circumstances entailing the proper scientific examination of the organs. If competent men did that after a time there might be material to lead to an understanding of the state which led to a predisposition in some people, because no doubt there was a predisposition to suffer from the effect of chloroform in individuals.

Dr. J. Blumfeld referred to Dr. Hewitt's statement that nine out of ten deaths were preventable. If deaths were inevitable then those who performed the largest number of operations should have the largest number of deaths, but the reverse was the case. A year's cases were reported in the newspapers numbering 74, and out of these five happened in the hands of men who were constantly engaged in giving anæsthetics and the other 69 in the hands of men with whom it was only an occasional duty. It did not seem to him to be a fair argument that because they did not believe Parliament would ever be induced to legislate on the lines suggested the society should not endeavour to introduce the thin end of the wedge, even if there was no immediate result.

Dr. J. F. W. Silk wished to dissociate himself from the old-fashioned idea that to say that some cases were inevitable was incorrect. He believed that there were cases in which it was perfectly impossible to avoid death. He believed that things had very much improved and although it might be that the licensing bodies did not require any particular form of definite instruction, in most medical schools, at any rate, training was given. He entered a most emphatic protest against the statement that inquests should be held in all cases. One of the favouring factors in causing these deaths was the state of terror which was often induced in a patient by reading sensational literature on the subject. They could not muzzle the press but he would muzzle the coroners.

Dr. W. H. Willcox thought that post-mortem examinations were of great value in many cases.

Mr. Harvey Murphy, barrister-at-law, thought that so long as a qualified man was doing his best the law was perfectly clear but what was wanted in the interest of the law and the public was to prevent unqualified men from dealing with dangerous drugs.

Mr. W. Schröder said that the coroner had no power to hold a private inquiry. He had a discretion in certain cases but that did not apply to any deaths occurring from unnatural causes. It was clearly laid down in the Coroners Act of 1887 that he should inquire in all cases due to violence and where he has reason to believe that the death was unnatural. He held that death from anæsthesia was unnatural and as the law stood an inquest should be held in every case.

Mr. H. Bellamy Gardner thought that they were 50 years behind the time. Chloroform was used everywhere and surely death from it was as natural as any form of death. It could not be differentiated from death arising from the injection of antitoxin to save a patient from diphtheria. He had been an anæsthetist for 13 years and stood in constant terror of being dragged before the coroner and his reputation and living taken away from him in consequence. He had given chloroform in over 20,000 cases and he could not conceive of anything more terrible than having to go before a jury who knew nothing about the subject. The simplest thing would be for the coroner to accept the certificate of two medical men which should be taken in cases of deaths while under anæsthetics as sufficient.

Mr. Hubert Sweeney, barrister-at-law, thought that statistics were of value, for otherwise the present discussion would not be taking place. He thought that even when the medical man did his best he should not be entirely exonerated from responsibility. He might use a drug about which he knew nothing and with regard to which he had not taken the precaution to be properly qualified. If death occurred surely some responsibility attached to him for neglecting to bring himself up to date in his profession. As regarding the suspicion which resulted from inquiries, suspicion would be ten thousand times greater if there were no coroner's inquests as advocated by some of the speakers.

The President said that he quite agreed with the last speaker, and if a person killed a man in performing some operation on him it would not be an absolutely sufficient excuse for that person to say that he had done his best. With regard to the subject of inquests, although that was a little outside the special matter which they were considering, it was impossible to confine the discussion to the resolutions altogether because, after all, it was a discussion on Dr. Freyberger's paper. The law was perfectly simple and plain. The difficulty arose from the facts. The law said that a coroner must hold an inquest if he thought the death was an unnatural one. The coroner was the judge, and if he had reason to think it an unnatural death he must hold an inquest. That involved various questions. To apply it to the death from anæsthetics, in the first place there must be reason to think that the death was caused by chloroform; that was the kind of death they were considering. And then he had to consider whether death by chloroform administered as an anæsthetic in the ordinary course of medical or surgical practice was such a death as an unnatural death. That question might perhaps be considered by the court some day and therefore he (the President) was not going to deal with it now. If death by chloroform was an unnatural death, and therefore if the coroner had reason to think the death was a death by chloroform, he must open an inquest. It seemed to him (the President) to follow that if the death was by an operation, if the man died from an operation, that plainly would be an unnatural death and there would be an inquest in every case in which a man died from an operation. The two things seemed to be on the same footing. With reference to the second of the resolutions, he had not had time to look into the matter carefully, but he thought that undoubtedly the only medical practitioner who committed an offence by practising without a qualification was the apothecary. He thought the Act of George III. was still in force by which persons were forbidden to practise as apothecaries unless they were qualified apothecaries. So far as he knew to practise as a physician, he (the speaker) did not mean to say to pretend he was a physician, but to do the work of a physician or a surgeon was not in itself a penal offence. To practise as an apothecary appeared to be a penal offence. Why, he did not know. But a man might perform operations or administer medicines and so forth provided he did not practise as an apothecary, whatever that meant, without committing an offence in doing so in itself. Of course, if he killed somebody in the course of his practice and he was not qualified he (the speaker) quite agreed that it was not sufficient for him to say he had done his best if he was doing something which was in itself a dangerous thing likely to cause death unless done with great skill and he knew he had no skill. In such a case he thought it would be obviously manslaughter and probably wilful murder.

The first proposition was unanimously agreed to.

nervous system is profusely illustrated and it is refreshing to find that the picture of the spinal cord and nerve roots is true to nature, bringing out the varying sizes of the *different* roots. The diagram of the various conduction tracts given in Fig. 600 is not easy to unravel; it might be improved. The final section illustrates the anatomy of the eye, the ear, the skin, and, in an appendix, the lymphatic system. The last might easily and with advantage be more liberally treated. As with previous sections, a handbook of Essentials is supplied. This is equal in size to this instalment of the Atlas and contains the important details of the subject with due reference to the appropriate plates. Without professing to be unduly exhaustive the letterpress faithfully fulfils the object in view.

Stoichiometry. By SYDNEY YOUNG, D.Sc., F.R.S., Professor of Chemistry in the University of Dublin. With 88 figures in the text. Together with an Introduction to the Study of Physical Chemistry by Sir WILLIAM RAMSAY, K.C.B., F.R.S. London: Longmans, Green, and Co. 1908. Pp. 381. Price 7*s.* 6*d.*—This book forms yet another admirable member of the series of text-books of physical chemistry published under the direction of Sir William Ramsay. In such excellent hands we may expect to find that the subject is brought up to the date of the most recent additions to knowledge and that expectation is fulfilled. Sir William Ramsay says that it is hoped by issuing a series of volumes instead of a single comprehensive treatise to keep abreast of the vast subject of physical chemistry, for as the edition of each volume is exhausted it will be possible for each author to bring his subject up to date. The author of the present volume, Professor Young, has been engaged in considerable research work involving important theoretical considerations and he has brought forward many important experimental facts which strengthen the evidence in favour of given theories. His selection, therefore, as the writer of a text-book on stoichiometry, or the methods used to determine atomic and molecular weights, is justified. The choice has, at any rate, fallen upon an author who has proved in this book that he can write clearly and intelligibly on a difficult subject. Modern students of chemical science are fortunate in being able to obtain a text-book presenting so attractively the latest additions to knowledge (together with historic references as to how such knowledge has been acquired) on the important questions of the determination of atomic and molecular weights.

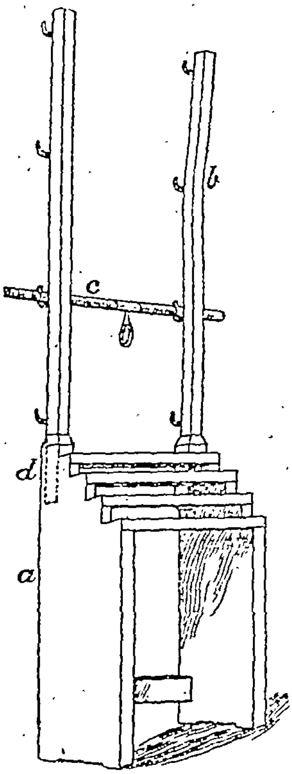
JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by Sir RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM S[illegible] F.R.S., SYDNEY J. HICKSON, F.R.S., and E. [illegible] M.A. With lithographic plates and text fig[illegible]: J. and A. Churchill. March, 1908. New seri[illegible] Vol. LII., Part 2). Price 10*s.*—The articles cont[illegible] this part are: 1. Investigations on the Development of Trypanosomes in the Tsetse Flies and Other Diptera, by E. A. Minchin, professor of protozoology in the University of London (with Plates 8–13 and two text figures). 2. The Nematocysts of Turbellaria, by C. H. Martin, B A., Magdalen College, Oxford (with Plate 14). The presence of nematocysts in turbellaria is, in the author's opinion, due to the transference of the nematocysts of a cœlenterate to the animal which preys upon it. This conclusion is arrived at from the consideration of three facts: (*a*) that the nematocysts of Microstoma lineare are normally derived from the hydra upon which it feeds; (*b*) that if the microstoma is fed upon cordylophora nematocysts are found under the skin; and (*c*) that the nematocysts of Stenostoma Sieboldii are derived from the cœlenterata on which it feeds. The presence, therefore, of three nematocysts in a turbellarian offers no ground for the generally accepted homology between Nematocysts and Rhabdites. 3. Deridoeides Gardineri: A Doridiform Cladohepatic Nudibranch, by Sir Charles Eliot, Vice-Chancellor of the University of Sheffield, and T. J. Evans, lecturer on zoology in the same University; with Plates 15 and 16 and one text figure.

New Inventions.

A NEW APPARATUS FOR WEIGHT EXTENSION.

HAVING recently tried in vain to obtain from instrument makers a simple and at the same time universally applicable device for applying weight extension to fractured limbs I have had made for my own use an apparatus which is shown in the accompanying illustration. It consists of (*a*) a wooden base; (*b*) two wooden uprights carrying a series of hooks in pairs, which support at a convenient height (*c*) a transverse iron bar on which slides a ring carrying a pulley. The special features of the wooden base are that it presents on the side facing the bed a series of steps, on one or other of which the foot of the bed can be supported, thus obviating the use of blocks. Moreover, the apparatus is firmly fixed by the superimposed weight of the bed. The uprights slide into sockets (*d*) at the upper angles of the wooden base and can be removed when the apparatus is not in use, so that the whole can be packed into a space measuring about 4 feet × 2 feet 6 inches × 1 foot. The position of the pulley when the bar is placed on the highest pair of hooks is well adapted for extension with Hodgen's splint. The apparatus can also be used at the side of the bed to apply extension to a fractured arm.



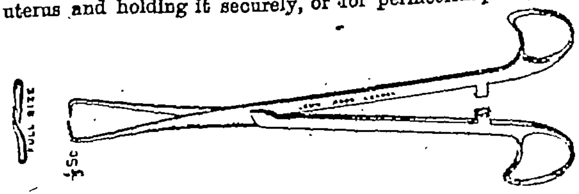
It is quite simple and costs only 23*s.*

H. P. SYMONDS, F.R.C.S. Edin.

Oxford.

A NEW VULSELLUM FORCEPS.

THE annexed illustration represents a new vulsellum forceps which I have devised and for which the following advantages are claimed: 1. The points interlock and therefore cannot give, especially on side pressure. 2. The under surfaces of the points are flattened, which prevents them pulling through the tissues whether it be the cervix when required for such operations as curetting and dilating, or trachelorrhaphy, seizing the fundus of the uterus and holding it securely, or for perineorrhaphies, &c.



3. The upper surfaces of the points are flattened to prevent undue pressure on other tissues. 4. The handles have been so made as to cause as little pressure as possible on the hands. The foregoing points can best be seen from the accompanying diagram.

The forceps have been made for me by Messrs. Down Bros., Limited, 21, St. Thomas's-street, London, S.E., from whom they can be obtained.

J. S. ASHE, L.R.[illegible] S. Irel.

Dublin.

body had been able to raise a sufficient defensive force by the production of antibodies or antitoxins. These substances were produced by the body, where they did not know, in answer to a stimulus applied by the introduction of living germs. Further, the body could be artificially stimulated by the products of the germs in question or by the injection of the dead bacilli themselves. Koch's tuberculins were examples of such excitants, generally known as vaccines. No treatment, therefore, which had not this end in view could be effective. The sanatorium treatment and the vaccine treatment were distinct, but the former could be of no use without the latter, whether produced naturally or artificially. The chief difficulty in both modes of treatment was the dosage. Sanatorium treatment must be long carried out to be effective. Tuberculin if injected in too large a dose paralysed for the time being the production of antibodies. It had been shown by Wright that if a tuberculous knee were exercised or massaged a result was obtained similar to that following the injections of tuberculin. If the exercise had been excessive the production of antibodies sank; if rightly proportioned the formation of antibodies was stimulated. This process he termed auto-inoculation. It followed that the increased amplitude and frequency of the respirations due to walking might be a powerful aid to recovery, or the reverse, in pulmonary tuberculosis. The dose of this exercise must be measured by the opsonic index. At present this could not be applied in practice. Dr. Eurich next discussed the early diagnosis of pulmonary tuberculosis under two heads: 1. Which class of physical signs was the earliest and most reliable? 2. What was the best technique in percussion? He agreed with those authorities who said that the results of percussion were more constant and reliable than those of auscultation. The lightest form of percussion should be practised both in front and at the back and in mapping out an organ the plane of percussion should always be the same. It is by neglecting these precautions that different authors differed so widely in marking out the boundaries of the apex of the lung. The tuberculous nature of the process could be definitely proved in one way only —namely, by the finding of the tubercle bacillus in the sputum, which was a sure sign that destructive processes had already begun in the affected part. If the search for the tubercle bacillus should repeatedly prove negative then there remained four other bacteriological tests for the presence of a tuberculous infection of some organ. The four tests were: (1) the tuberculin reaction; (2) the estimation of the opsonic index; (3) von Picquet's vaccine reaction; and (4) the ophthalmic or conjunctival reaction of Wolf-Eimer and Calmette. Dr. Eurich described and discussed these methods and summed up his conclusions thus: "Given a suspected case of phthisis in which the physical signs are either absent or point only to some catarrh or consolidation at one apex, if tubercle bacilli are not discovered on repeated examination, to clear away any doubt as to the nature of the affection, I would propose to give an injection of tuberculin. If the patient has fever this test cannot be applied. If the eye be healthy I would then apply the ophthalmo-reaction. If the state of the eyes prohibit it and the patient be a child I think I should employ Picquet's test, and failing these I should have the opsonic index taken."—The paper was discussed by Dr. F. W. Goyder, Dr. J. Metcalfe, Dr. Johnston, Dr. H. J. Campbell, Mr. J. Arnold Evans, Dr. G. T. Beatton, and Mr. R. Mercer.—Dr. Eurich then replied.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on March 20th, Dr. O. W. Chapman being in the chair.—Dr. Chapman read a paper on a case of Granular Kidney in a girl, aged 15 years, probably due to congenital syphilis. The patient had always been delicate but it was not until three weeks previously that advice was sought on account of extreme difficulty in breathing and swelling of the feet and legs. The left ventricle was much hypertrophied and the second sound at the base was accentuated; no thrill or murmur could be detected. The radial arteries were hard and thickened. The liver was enlarged nearly to the umbilicus. The urine was of specific gravity 1010 and contained 2½ per cent. of albumin and granular casts. The condition gradually became worse and the patient died seven months later. Post mortem both kidneys were markedly granular, the right weighing two ounces and the left one and a half ounces. Inherited syphilis was suggested as the most probable cause of the condition found in this patient, as the bridge of the nose was depressed and the child's development was that of one six years her junior, and the face had an aged aspect. There was no history of any one of the generally recognised causes of renal inflammation; the mother had had four miscarriages, while of the two children born at term one died at eight months from marasmus.—Dr. F. Langmead showed (1) a case of Mongolian Imbecility associated with other Malformations. The patient was the only child. In addition to the characteristic signs of Mongolian imbecility there were (a) congenital morbus cordis (probably an imperfect septum ventriculorum); and (b) an accessory auricle on the right side. 2. A case of Extensive Anterior Poliomyelitis with Ballooning of the Abdominal Muscles. There were evidences of very extensive involvement of the anterior cornua which had occurred 18 months previously. The legs were useless and allowed great mobility, easily meeting behind the head. The back was sharply curved to the left in the lumbar region. The abdominal muscles were paralysed, especially on the left side, so that on coughing or crying two rounded protrusions were produced due to local yielding of the muscles.—Dr. J. Porter Parkinson showed a case of Tuberculosis of the Kidney with Pyonephrosis. The patient was a girl, aged nine years. During the last 18 months she had suffered from attacks lasting a few days with fever, headache, and pain in the left side of the abdomen. During the last attack a quantity of custard-like material came away with the urine. The liver was not enlarged, but the spleen extended slightly below the costal margin, and immediately below this but more deeply situated was a mass extending downwards for two or three inches, resistant and slightly nodular, with a rounded lower end like a kidney. It was dull except for the colon resonance which could be obtained over it. The right kidney was also thought to be enlarged. Tubercle bacilli had been found in the urine which was reduced in amount, being from 12 to 16 ounces daily. It was acid and deposited a large amount of pus; there was a trace of albumin but no blood. During the last five weeks she had increased five pounds in weight and the pus had almost disappeared from the urine.—Dr. F. Parkes Weber showed a boy, aged 10½ years, suffering from a Chronic Rheumatoid Affection. He also had enlargement of lymphatic glands, ankylosis of both knee-joints, and limitation of movement in the hip-joints.—Mr. Sydney Stephenson showed a case of Juvenile Tabes. The patient, a girl, aged 14 years, had bilateral optic atrophy, imperative desire to urinate, and absence of one knee-jerk and enfeeblement of the other. The family history was suggestive of syphilitic taint, although the patient showed no personal stigmata of inherited syphilis.—Dr. F. W. Higgs and Mr. P. Turner showed a case of Infantile Hemiplegia in a girl, aged eight and three-quarter years. The hemiplegia appeared after a series of fits at the age of ten months. There were lower facial paresis, spastic paralysis of the arm with athetosis of the hand and fingers, and paresis of the leg, with a talipes varus which was only present when the child walked quickly, and was probably of an athetoid nature also.—Dr. George Carpenter showed: 1. A case of Laryngeal Stridor in an infant aged six months. 2. A case of Cerebral Diplegia in a boy aged six years. 3. A Mongol, aged five months, with Congenital Morbus Cordis. 4. Photographs of kidney, ureter, and bladder from a case of Congenital Stricture of the Ureter. 5. Specimens and drawings of a case of Acute Pleuro-Pneumonia, with extensive fibrinous plugs visible to the naked eye in dilated lymphatics.

DEVON AND EXETER MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 12th, Mr. G. L. Thornton, the President, being in the chair.—The following cases and specimens were exhibited. Mr. R. Coombe showed a child the subject of most extensive Nævus of the left side of the face, where very great improvement had taken place under electrolysis, the child having been anæsthetised 11 times.—Dr. R. V. Solly showed a case, under the care of Dr. W. Gordon, of Myelocytic Leukæmia with great enlargement of the spleen in a man, aged about 60 years. There were 850,000 leucocytes per cubic millimetre. The patient was being treated by the x rays and with arsenic.—Dr. Solly showed a case, under the care of Dr. H. Davy, of a man who exhibited some Tabetic Symptoms, having marked Romberg's symptom, loss of knee-jerks, and stamping gait, but no Argyll-Robertson pupil or oculo-motor paralysis or loss of muscular sense. Sight had failed of late and the discs were unduly pale. Shooting pains in the limbs were also present occasionally. The man was a compositor and had suffered from lead poisoning.—Mr. E. J. Domville showed a case of Congenital Dislocation of the Hip in a girl. He also nervous system is profusely illustrated and it is refreshing to find that the picture of the spinal cord and nerve roots is true to nature, bringing out the varying sizes of the different roots. The diagram of the various conduction tracts given in Fig. 600 is not easy to unravel; it might be improved. The final section illustrates the anatomy of the eye, the ear, the skin, and, in an appendix, the lymphatic system. The last might easily and with advantage be more liberally treated. As with previous sections, a handbook of Essentials is supplied. This is equal in size to this instalment of the Atlas and contains the important details of the subject with due reference to the appropriate plates. Without professing to be unduly exhaustive the letterpress faithfully fulfils the object in view.

Stoichiometry. By SYDNEY YOUNG, D.Sc., F.R.S., Professor of Chemistry in the University of Dublin. With 88 figures in the text. Together with an Introduction to the Study of Physical Chemistry by Sir WILLIAM RAMSAY, K.C.B., F.R.S. London: Longmans, Green, and Co. 1908. Pp. 361. Price 7*s.* 6*d.*—This book forms yet another admirable member of the series of text-books of physical chemistry published under the direction of Sir William Ramsay. In such excellent hands we may expect to find that the subject is brought up to the date of the most recent additions to knowledge and that expectation is fulfilled. Sir William Ramsay says that it is hoped by issuing *a series of* volumes instead of a single comprehensive treatise to keep abreast of the vast subject of physical chemistry, for as the edition of each volume is exhausted it will be possible for each author to bring his subject up to date. The author of the present volume, *Professor* Young, has been engaged in considerable research work involving important theoretical considerations and he has brought forward many important experimental facts which strengthen the evidence in favour of given theories. His selection, therefore, as the writer of a text-book on stoichiometry, or the methods used to determine atomic and molecular weights, is justified. The choice has, at any rate, fallen upon an author who has proved in this book that he can write clearly and intelligibly on a difficult subject. Modern students of chemical science are fortunate in being able to obtain a text-book presenting so attractively the latest additions to knowledge (together with historic references as to how such knowledge has been acquired) on the important questions of the determination of atomic and molecular weights.

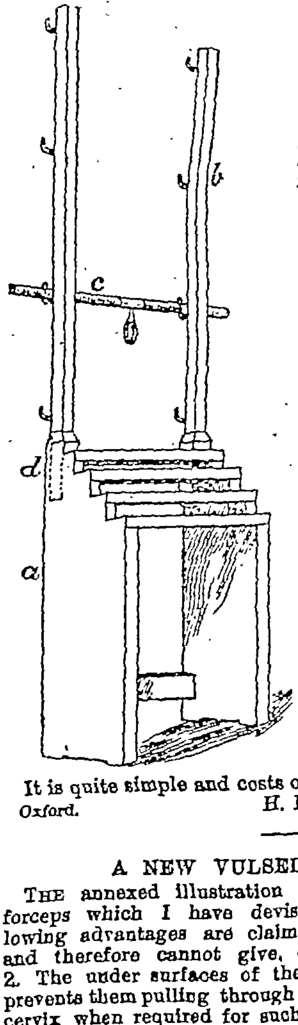
JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by Sir RAY LANKESTER, K.C.B., F.R.S., with the coöperation of ADAM S[illegible], F.R.S., SYDNEY J. HICKSON, F.R.S., and E. [illegible] M.A. With lithographic plates and text fig[illegible]: J. and A. Churchill. March, 1908. New seri[illegible] (Vol. LII., Part 2). Price 10*s.*—The articles cont[illegible] this part are: 1. Investigations on the Development of [illegible]ypanosomes in the Tsetse Flies and Other Diptera, by E. A. Minchin, professor of protozoology in the University of London (with Plates 8–13 and two text figures). 2. The Nematocysts of Turbellaria, by C. H. Martin, B.A., Magdalen College, Oxford (with Plate 14). The presence of nematocysts in turbellaria is, in the author's opinion, due to the transference of the nematocysts of a cœlenterate to the animal which preys upon it. This conclusion is arrived at from the consideration of three facts: (*a*) that the nematocysts of Microstoma lineare are normally derived from the hydra upon which it feeds; (*b*) that if the *microstoma* is fed upon cordylophora nematocysts are found under the skin; and (*c*) that the nematocysts of Stenostoma Sieboldii are derived from the cœlenterata on which it feeds. The presence, therefore, of three nematocysts in a turbellarian offers no ground for the generally accepted homology between Nematocysts and Rhabdites. 3. Doridoeides Gardineri: A Doridiform Cladohepatic Nudibranch, by Sir Charles Eliot, Vice-Chancellor of the University of Sheffield, and T. J. Evans, lecturer on zoology in the same University; with Plates 15 and 16 and one text figure.

New Inventions.

A NEW APPARATUS FOR WEIGHT EXTENSION.

HAVING recently tried in vain to obtain from instrument makers a simple and at the same time universally applicable device for applying weight extension to fractured limbs I have had made for my own use an apparatus which is shown in the accompanying illustration. It consists of (*a*) a wooden base; (*b*) two wooden uprights carrying a series of hooks in pairs, which support at a convenient height (*c*) a transverse iron bar on which slides a ring carrying a pulley. The special features of the wooden base are that it presents on the side facing the bed a series of steps, on one or other of which the foot of the bed can be supported, thus obviating the use of blocks. Moreover, the apparatus is firmly fixed by the superimposed weight of the bed. The uprights slide into sockets (*d*) at the upper angles of the wooden base and can be removed when the apparatus is not in use, so that the whole can be packed into a space measuring about 4 feet × 2 feet 6 inches × 1 foot. The position of the pulley when the bar is placed on the highest pair of hooks is well adapted for extension with Hodgen's splint. The apparatus can also be used at the side of the bed to apply extension to a fractured arm.

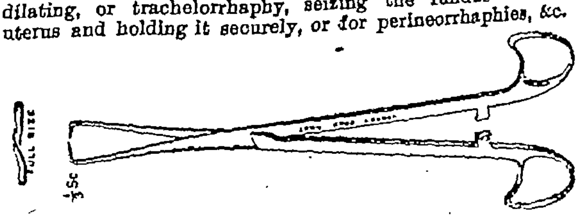


It is quite simple and costs only 23*s.*

Oxford. H. P. SYMONDS, F.R.C.S. Edin.

A NEW VULSELLUM FORCEPS.

THE annexed illustration represents a new vulsellum forceps which I have devised and for which the following advantages are claimed: 1. The points interlock and therefore cannot give, especially on side pressure. 2. The under surfaces of the points are flattened, which prevents them pulling through the tissues whether it be the cervix when required for such operations as curetting and dilating, or trachelorrhaphy, seizing the fundus of the uterus and holding it securely, or for perineorrhaphies, &c. 3. The upper surfaces of the points are flattened to prevent undue pressure on other tissues. 4. The handles have been so made as to cause as little pressure as possible on the hands. The foregoing points can best be seen from the accompanying diagram.



The forceps have been made for me by Messrs. Down Bros., Limited, 21, St. Thomas's-street, London, S.E., from whom they can be obtained.

Dublin. J. S. ASHE, L.R.C.P. & S. Irel.

Isadore Dyer, Tulane University. Chapter V. is devoted to a consideration of Gonococcus Infections, the author being Dr. Rufus J. Cole (Associate in Medicine in the Johns Hopkins Medical School and Hospital).

The subject of Tuberculosis is considered at great length, five chapters being required for the description of the disease in its various aspects. The history and etiology of tuberculosis are discussed by Dr. E. R. Baldwin; the pathology by Dr. W. G. MacCallum; whilst the symptoms, diagnosis, prognosis, prophylaxis, and treatment are described and commented on by Dr. Lawrance Brown. All these authors are American physicians who have had a large experience in tuberculous affections. Dr. Baldwin remarks that one of the most encouraging and instructive facts in connexion with the disease is the remarkable decrease in the death-rate in civilised countries during the last 15 years. He rightly expresses the opinion that this decrease is at once a confirmation of the value of the hygienic measures which have been enforced and one of the obvious benefits of improved conditions of life for the labouring classes in large cities. Some statistics are given in striking proof of these observations. Dr. Baldwin gives an interesting account of the four fairly distinct types of strictly infectious tubercle bacilli which have been recognised—the human, bovine, avian, and reptilian or piscine. He observes that these forms have certain characteristics in common but are sufficiently variable in others to be distinguished from each other. The views held by various observers on the identity or otherwise of these organisms are carefully criticised. The remarks on the mechanism of resistance and immunity afford instructive reading, as do also the observations on the infectivity of tuberculosis. Dr. Baldwin sums up the evidence in connexion with infection in a masterly manner. He considers that the doctrine of inherited or acquired susceptibility still holds sway, except that a specific susceptibility is in doubt and at most is not common; he also maintains that all infants are susceptible, that the susceptibility lessens with increasing age, and further, that adults are comparatively insusceptible "when without general or local lowered resistance and repeated or prolonged exposure." With regard to the sources of infection, he believes that the consensus of opinions and ascertained facts point to the sputum as of overwhelming importance, but in certain cases, and especially in restricted areas in which there is a large percentage of tuberculous cattle, cow's milk is an important factor, the flesh of tuberculous animals being of minor importance. The modes of transmission are also summarised but for a full account of the important matters discussed by Dr. Baldwin we must refer our readers to the original work. The other aspects of tuberculosis are admirably discussed by the physicians whose names we have already mentioned, the remarks on treatment by Dr. Lawrance Brown being particularly worthy of note.

Nine chapters in this volume are devoted to a consideration of the diseases of the respiratory tract. The Mechanism of Respiration and of the Respiratory Tract is ably described by Dr. T. R. Brown, Associate in Medicine in the Johns Hopkins Medical School, Baltimore; Diseases of the Naso-pharynx, Pharynx, and Tonsils, by Dr. F. R. Packard of the Philadelphia Polyclinic; Diseases of the Larynx, by Dr. H. L. Birkett of McGill University; and Hay Fever by Dr. W. P. Dunbar, director of the Hygienic Institute, Hamburg, Germany. Diseases of the Bronchi are discussed by Dr. A. McPhedran of the University of Toronto. He divides cases of bronchitis into two classes: one in which the disease is due to a specific micro-organism, such as the pathogenic organism of influenza, measles, and whooping-cough; and the other he terms "common bronchitis, or bronchitis due to non-specific infections." He considers that "common bronchitis" usually develops from infection by the bacteria normally found in the bronchial mucous membrane or carried down by the inspired air; but the bacteria alone are not sufficient to produce it. Dr. McPhedran therefore maintains that the natural resistance of the mucous membrane must be reduced and this may be brought about by a variety of causes. The bacteria develop, he argues, under the influences of all the causes which lessen the vitality of the epithelium and leucocytes, alter the secretion of mucus and cause congestion of the mucous membrane, whether by disturbance of the vaso-motor function or by enfeeblement of the heart's action.

The chapter on Diseases of the Lungs is written by Dr. Hobart Amory Hare of the Jefferson Medical College, Philadelphia, and his remarks on broncho-pneumonia will be found of value. Dr. Frederick T. Lord of Harvard University is responsible for the chapter on Diseases of the Pleura, Dr. W. B. James (Columbia University) for that on Pneumothorax, and Dr. H. A. Christian (Harvard University) for that on Diseases of the Mediastinum.

The editors of this work may be congratulated on having brought together such a mass of valuable information as is to be found in this volume. Each chapter is practically a monograph on the subject with which it deals and a most valuable work of reference is the result.

Die Ohrenheilkunde der Gegenwart und ihre Grenzgebiete. (Otology of the Present Day and its Province.) In Single Parts. Edited by Dr. OTTO KÖRNER, Honorary Professor of Medicine, Director of the Clinic of the University and of the Polyclinic for Diseases of the Ear and Larynx at Rostock. *Die Otosklerose. (Otosclerosis.)* By Dr. ALFRED DENKER, Extraordinary Professor, Director of the Clinic of the Imperial University and Polyclinic for Diseases of the Ear, Nose, and Larynx at Erlangen. With 11 figures and 8 diagrams. Wiesbaden: J. F. Bergmann; Glasgow: F. Bauermeister. Pp. 135. Price 4s. 9d.

Dr. Denker, in the first chapter of this book on otosclerosis, describes with minuteness the anatomical characteristics and peculiarities of the inner wall of the tympanic cavity and he points out the importance to be attached in this disease to the fact that the cartilage which surrounds the oval window sends processes into the bone itself, and also that there are found at various spots in the labyrinthine capsule small cavities containing remnants of cartilage. He also details with great accuracy the functions of the various bones and muscles in connexion with rarefaction or compression of the atmosphere. The second chapter consists of remarks on the physiology of the ear and Dr. Denker draws attention, amongst other things, to the researches of Helmholtz, who showed how well qualified the auditory apparatus was to receive the deeper tones of the scale by air conduction. He also refers at length to the researches of Bönninghaus on the temporal bone of the whale, which is only connected with the other cranial bones by connective tissue and to the deductions which Bönninghaus made from this fact. Another argument which the author brings forward as a proof of the part played by the auditory ossicles in the perception of sound is derived from the contemporary appearance in the lower animals of the auditory apparatus and of the ossicles.

A short section is devoted by Dr. Denker to a definition of what is understood by otosclerosis and here we may remark that in this work neither chronic sclerosis of the catarrhal type nor that condition left after, or arising from, suppurative otitis is included. The various theories as to the origin of the disease are dealt with—namely, that put forward by Katz, that a predisposing cause in the shape of a constitutional dyscrasia exists, which, however, always requires an acute inflammatory condition of the part to set up the usual chain of pathological changes; and that held by Moos, Bezold, and others, that the process is a primary one in the bone and is not dependent upon previous inflammation of the middle ear;

when they have been due to pressure only. A distinction must be drawn between a total transverse lesion anatomical in nature and one which is merely physiological. Complete physiological abolition of function may occur without actual destruction of the nerve elements and these nerve elements may recover more or less completely. In this connexion the point of the greatest interest is the *question of the possibility* of regeneration of a sutured cord. A peripheral nerve if sutured will unite and in favourable circumstances it may recover completely. Can a similar recovery take place in the spinal cord after complete division and suture? Most observers have agreed that in man such regeneration cannot take place but recently two cases have been reported in each of which the spinal cord had been divided by a bullet and had been sutured. In both a remarkable degree of recovery was reported, so the question has had to be discussed anew. Many experiments have been performed on animals and none of these experiments provides any definite evidence of regeneration of the divided cord, and it is suggested that as the central nerve fibres do not possess a neurilemma sheath from which nerve *regeneration* in peripheral nerves mainly, *if not solely*, occurs this is the reason for the non-regeneration of the cord. A few tracts of fibres of the cord which are of undoubted peripheral type may attempt to regenerate but the attempt appears to be abortive. The clinical evidence is even less convincing than the experimental and at *present it can only be said that* recovery of function after total loss indicates that the *loss of function* must have been due to pressure or œdema or some other removeable cause. On what cases of fracture-dislocation of the spine should the surgeon operate? The main object of an operation in fracture-dislocation is to relieve pressure, whether from bone or from blood clot. If the pressure be allowed to continue a degeneration will assuredly result which will be as *serious as though* the cord had been destroyed by the original injury. It is true that, so far as we know, *no operation* will restore a cord in which *complete* transverse section has taken place; but as we cannot determine in a reasonable time whether a total *transverse lesion* is present or not we should surely, urges Mr. ARMOUR, give the patient the benefit of an operation which experience shows neither materially endangers his life nor *adds* to his discomfort but lessens his pain. The tendency at the present time is to select only the exceptional case for operation. Mr. ARMOUR endorses WALTON when *he says*, Should we not rather *select as* unsuitable for operation the *occasional* case in which definite contra-*indications* for operation exist? In fact, the *rule* should be to operate, the *exception* to refrain from *operation*.

In the last lecture was considered the *surgery of* tumours involving the spinal *cord*. These may be divided into those primarily in the *coverings* of the cord, *only* involving the cord secondarily, *and those* originating from the spinal *cord* itself. Mr. ARMOUR described the various *forms* of growth arising from the vertebral column which may *involve* the spinal cord and also tumours *of the* membranes and *of* the cord itself. He quoted statistics which *show* that extramedullary tumours are over four times as frequent as the intramedullary and of the *extramedullary* the intradural are twice as frequent as the extradural. Of intramedullary tumours it is worthy of note that *tubercle* and gumma have the shortest course, nine months and seven and a half respectively, while sarcoma and glioma have a course of two years or more. In all cases, except those in which the symptoms are due to a syphilitic mass, the only possible treatment which can be of any avail is operation, and its success will depend partly on the nature and extent of the growth but in great part on the care and skill of the operator. With an account of paraplegia due to hydatid disease and its treatment these valuable lectures ended.

Three Decades of Scientific Work in Oxford (1650-1680).

THE middle of the *sixteenth century saw the* publication of the work of VESALIUS of Padua which laid the *foundation of modern anatomy, and its great* truths were taught by his successors, COLOMBO, FALLOPIUS, and FABRICIUS, *in spite* of ecclesiastical opposition. Through WILLIAM HARVEY the new biological knowledge was transplanted from Italian to English soil. The publication of HARVEY'S work in 1628 is one of the great landmarks of physiological discovery. The latter *half* of the seventeenth century was a fertile period in the progress of natural knowledge by means of observation and experiment, and with it are associated in Oxford the names of ROBERT BOYLE, CHRISTOPHER WREN, and THOMAS WILLIS, and two others, both Cornish men, who were connected with the University of Oxford—viz., RICHARD LOWER (1631-1691) and JOHN MAYOW (1643-1679). Professor FRANCIS GOTCH[1] has written an eloquent discourse on the *work of these* two men, while the Alembic Club of Edinburgh[2] has recently published an excellent *translation* of the medico-physical works of JOHN MAYOW which consist of five treatises written in Latin. JOHN MAYOW was one of the greatest *scientific men of* the seventeenth century, or indeed of any century. LOWER, "that expert anatomist," whose name is still *preserved* in *the name* "tubercle of LOWER," helped in the anatomical work of R. WILLIS who was then professor of natural philosophy in Oxford. In 1665 LOWER *demonstrated* the transfusion of blood from an artery of one *animal into* the vein of another animal, and indeed he was in the *front* rank of experimental *physiologists*. In his work on the heart and on the colour of the blood he accepted HARVEY'S *view of the* circulation of the blood and pointed out that the heart is muscular and, like all *muscles, is able to contract*. He thought that the movements of the heart were dependent on a nervous flow through the vagus nerves going to the heart, for he noticed that ligature of the eighth pair caused the heart beat to become irregular and feeble. This experiment was not repeated until 1845, when the brothers E. H. and W. WEBER showed that these nerves were excited by the application of a ligature, which irritation *caused* inhibition of the heart's activity. LOWER also noticed by means of experiments on animals that the colour of the blood going to the lungs is dusky and bright red after its transit *through the lungs*. *This fact was shown to* MAYOW. He observed the dark following (p. 176): "Sometimes muscular exercise is mistakenly considered as favouring intellectual activity. Yet college presidents are not selected from the ranks of prize-fighters." In discussing Chittenden's diet it is pointed out that a jaded appetite is an automatic signal of excess (p. 184) and that Chittenden is in error in the commendation of from 2500 to 2600 calories as an ample diet for a soldier at drill. As to German beer, it "contains 3 to 4 per cent. of alcohol and 5 to 6 per cent. of extractives. It yields 450 calories to the body, only half being derived from the alcohol, the rest from the dextrose and proteid-like extractives. Here is a material whose 'fattening' properties may be very highly considered." The chapter on food requirements during growth is of interest both to the physiologist and to the physician.

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[1] Two Oxford Physiologists: *Richard Lower*, 1631 to 1691; *John Mayow*, 1643 to 1679. By *Francis* Gotch, M.A., D.Sc., F.R.S., Waynflete Professor of *Physiology*, University of Oxford.

[2] *Alembic* Club Reprints, No. 17. *Medico* Physical Works. Being a translation of Tractatus Quinque *Medico-Physici*, by John Mayow, LL.D., M.D., 1674. The Alembic Club, Edinbur

The saying of Pflüger that "the atmosphere in which one lives is really the air in our alveoli" is made use of to illustrate the respiratory phenomena at high altitudes. There is a very careful discussion of diabetes. The *piqûre* experiment of Bernard led many to attribute its origin to nervous causes. It is otherwise: (1) either the organism cannot burn sugar, or (2) some tissues may lose their sugar-retaining functions, and therefore the author states that it would be well to distinguish between glycosurias where the "sugar-holding" capacity of organs has been diminished and those in which the "sugar-burning" capacity has been affected.

The author quotes in full Minkowski's rules for gout. In fever, because of the specific dynamic action of proteins, Rubner would restrict the use of proteins and substitute carbohydrates as the source of energy. During the heat of summer decreased protein diet will markedly improve the personal comfort by decreasing the heat production and therefore sweat production. Obese people work under great disadvantages in a hot and moist climate; the profuse perspiration explains the desire for water to drink. In connexion with the chapter on purin metabolism we have failed to find a reference to the work of I. Walker Hall. As to gout, "clinical experience teaches that the predisposing causes are excessive eating, little muscular exercise, the abuse of alcoholic beverages, and lead poisoning."

In spite of the necessarily numerous tables of figures the work is excellent reading and represents a careful study of the modern facts of metabolism.

LIBRARY TABLE.

The Chemical Basis of Pharmacology. By FRANCIS FRANCIS, D.Sc., Ph.D., Professor of Chemistry, University College, Bristol; and J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon., Demonstrator of Physiology, University College, Bristol. London: Edward Arnold. 1908. Pp. 372. Price 14*s.* net.—The appearance of this book is a sign of the progress that is being made in a much-needed direction—the replacement of empirical by rational methods in pharmacology. There is no study of greater interest or importance to general medicine than that of the relationships existing between the chemical structure and the physiological action of drugs. Much valuable work, as this book shows, has been done, but more remains, and we cordially agree with the authors that the student of medicine should have impressed upon him more than has hitherto been the case the bearing of structure, and especially that of organic compounds, on pharmacology. The quotation from Locke's "Human Understanding," Book IV., Chapter iii., Section 25, which is given on the page preceding the preface, is appropriate. "Did we know," it commences, "the mechanical affections of the particles of rhubarb, hemlock, opium, and a man, as a watchmaker does those of a watch, whereby it performs its operations and of a file which by rubbing on them will alter the figure of any of the wheels, we should be able to tell beforehand that rhubarb will purge, hemlock kill, and opium make a man sleep." It is striking to compare with this some of the modern scientific statements scattered through the pages of this book, such, for example, as the following: "When the amido group replaces a hydrogen atom in the benzene nucleus substances of the nature of aniline result and a completely new and valuable set of pharmacological properties appear; this observation has formed the basis of a large group of so-called antipyretics." "The entrance of a second amido group gives rise to powerfully toxic substances." "The entrance of the hydroxyl group into benzene with the formation of phenol causes a great increase in antiseptic and toxic properties." "In the aldehydes the replacement of oxygen by sulphur is followed by a rise in toxic properties; paraldehyde, for example, does not act upon the heart, whereas tri-thioaldehyde also possessing hypnotic properties is a powerful heart poison.' "The replacement of hydrogen by the halogens causes an increase in narcotic action; thus sodium acetate is quite inert but sodium monochloracetate has pronounced narcotic properties." These few examples serve to show the high purpose of the book and though clinical experience may be the only test of the value of a drug, yet, as the authors point out, the probable physiological action may often be fairly accurately gauged by a consideration of its chemical structure. It seems probable, too, that if greater regard had been paid to the relationship of structure to physiological action it might have been seen how superfluous or unnecessary was the introduction of a great number of synthetic remedies. The book should appeal to all those readers who take seriously to heart the problem of establishing therapeutics firmly on a scientific foundation.

The Illustrated Medical Dictionary. By W. A. NEWMAN DORLAND, A.M., M.D. Fourth edition, revised and enlarged. London: W. B. Saunders Company. 1907. Pp. 836. Price 19*s.* net; with thumb index, 21*s.* net.—This medical dictionary is in every way a sound one and the appearance of a fourth edition proves that its author intends to keep it up to date. We are told that 2000 new terms have been included in the present issue and six new coloured plates are given, including that of the Leishman-Donovan bodies which originally appeared in this journal. The plate of the reconstructed human embryo of 26 days (after F. Mall) forms an excellent diagram. Several well-illustrated anatomical tables are given. We have tested many of the definitions and failed to find an error in them; the pronunciations given should be useful to the student who has become rusty in his Greek. It is embarrassing to watch the growth of medical nomenclature. We wonder how many people when asked, "What is pneumo-thermomassage?" could answer glibly, "The application to the body of hot condensed air that has been medicated."

Atlas der Deskriptiven Anatomie des Menschen. (*Atlas of Descriptive Human Anatomy.*) By Dr. J. SOBOTTA, Würzburg. Third section. Part I., Nervous and Vascular Systems. Part II., Sense Organs and Lymphatics. Munich: J. F. Lehmann. 1907. Part I., M.16; Part II., M.6. *Grundriss der Deskriptiven Anatomie des Menschen.* (*Essentials of Human Anatomy.*) M.16.—The last two instalments, together forming the third section of Dr. Sobotta's atlas, fully maintain the excellence attained by the previous parts. Of the instalments now under notice the first illustrates the nervous and vascular systems, whilst the second is devoted to the sense organs and lymphatics. The illustrations, as before, are beautifully reproduced and are from paintings by Karl Hajek, the mention of whose name is sufficient tribute to their excellence. We note with satisfaction that the colour of the muscles has been considerably toned down in comparison with that adopted in the earlier parts. Of the plates of the vessels and nerves, those illustrating the anatomy of the triangles of the neck and the blood-vessels of the pelvis strike us as being amongst the best and the most useful. The central milk-supply in question Professor HAY attributes it to the return to the farm on April 28th or 29th of a maidservant who had been recently nursing her mother who had been ill with enteric fever. This servant did not herself suffer from enteric fever, nor is it apparently claimed that she was a "carrier" case, but she came directly to the dairy from a non-disinfected house wherein her mother, who still had enteric fever bacilli in her urine, resided and at once began to take part in the work of the dairy. Professor HAY regards the chain of circumstances as completing the proof of the immediate origin of the epidemic in the infection of the milk-supply in question. We should rather hesitate to use the term "proof" and should prefer to regard infection of the milk in the manner suggested as the most probable theory to account for the origin of the outbreak. The epidemic once started was kept alight, it is thought, by secondary cases and the report contains numerous illustrations of what are regarded as "contact" cases. We have no doubt that enteric fever is more communicable from person to person than is generally believed, but of course in connexion with this term "communicable" there have also to be considered cases infected by food contaminated by the patient or the attendant and consumed by other dwellers in the invaded house. This outbreak at Peterhead has been a difficult problem to unravel and Professor HAY is to be congratulated upon the energy and ability which he has displayed in dealing with it, more especially as he was only consulted when the outbreak was apparently on the wane. We are glad to hear that the Peterhead town council is taking active steps with regard to the improvement of the water-supply which is clearly liable at any moment to become specifically polluted; however small may have been the part which it played in the recent epidemic it might otherwise be responsible some day for an outbreak of even greater magnitude. It is useless to waste time in chemical and bacteriological examinations and in discussions as to their meaning while a catchment area is being manured with privy refuse. But how many more towns in Scotland are there with water-supplies in an equally precarious position and how many of them will have to wait until an outbreak of enteric fever draws attention to the circumstance?

Annotations.

"Ne quid nimis."

THE CASE OF CROPPER v. STOKES.

IN another column will be found a forcible but moderately expressed letter from Dr. B. G. Morison setting out the circumstances of the treatment received by Dr. Henry Fraser Stokes, one of the best-known and most respected practitioners in the North of London, at the hands of Mr. Edge, a county court judge. We need not repeat the story, firstly because Dr. Morison's sketch of it contains all the essentials, and secondly because (to the grave disadvantage of Dr. Stokes) every newspaper in England seems to have contained a more or less garbled account of the case. Judge Edge appears to have said that he did not shrink from his responsibilities when he calmly accused a well-known medical man of perjury, but that is exactly what he did do when he refused a request for leave to appeal. He was courageous enough in his own court, where his conduct could not be brought into question, but he was so particularly timid as to what other people might say of his attitude that he has decided to take care that it is not discussed. We understand that Dr. Stokes was represented in this case by the Medical Defence Union. The Medical Defence Union cannot possibly afford to allow the case to remain here. If the Union does not take some steps to see that reparation is made to Dr. Stokes for the treatment which he has received its position will be seriously affected. We suppose it is open to Judge Edge to say publicly that he has made a mistake and has been betrayed into an accusation which is only not laughable because of its cruelty to an honourable gentleman. If nothing can be done by legal procedure, and if Judge Edge makes no attempt to set right the mischief which he has done, we trust that the Medical Defence Union will take the responsibility of telling the true story publicly.

INVALID TRAVEL IN ITALY.

FROM its headquarters in Rome (writes an Italian correspondent) the "Society for Encouraging the Influx of Foreigners" appeals for such hints or indications as may assist it to "welcome the coming," and not prematurely to "speed the parting," guest. It professes to be fully alive to the need for improved railway service, which, to do it justice, it has succeeded in making more punctual, though reform is still needed in other details. Prominent among these latter are the means available on departure and arrival for the transport of the physically infirm from the cab or hotel omnibus to the station, and from this to the compartment in the railway carriage. As it is, the bed-ridden or the cripple is liable to undergo extreme discomfort before being fairly accommodated for his journey—nothing but previous arrangements of an elaborate and costly kind sufficing to save him from exposure that he would rather not court or from pain that he would gladly be spared. Even in the case of sufferers, let us say, from rheumatoid arthritis, whose walking power is so impaired that they have to be carried, their fate on an arrival or a departure platform is often such as to evoke commiseration. No skilled help is at hand unless provided for in advance by complicated and often expensive "combinazioni"; delay, frequently trying when the train is being precipitately evacuated or wildly taken by storm, is quite inevitable; and when after a long wait, either in the open air or under a draughty "tettoia" (roof) exposed to the cold if not the rain, the sufferer at length succeeds in getting a "portantina" (sedan chair) and "facchini" (porters) capable of carrying it, he is charged so exorbitantly and, rather than make a "scene," has to pay such a round sum that he is prone to make a mental vow never to incur such another experience. Few English-speaking practitioners in Italy can fail to recognise the picture, just sketched, of what the lame, the halt, or the bed-ridden have often to endure, and this in a country which justly boasts of its "Misericordia," its "Croce Verde," and its other organisations, some of them of great antiquity, for lifting, carrying, and depositing the physically incapable or infirm. The transport available for invalids at railway stations or landing piers is only such as porters can supply—porters often rough, malodorous, and strong in language rather than in limb, who insist on their extortionate demands and when remonstrated with reply gruffly: "Non c'è tariffa per ammalati" (There is no tariff for invalids). Much has been done to bring the Italian railway service up to the standard of that of other European Powers but there is much still to do, particularly in the interests of that steadily increasing contingent of the "grand' armée" of travel which is year by year attracted to the southern shores of the Mediterranean, whose presence in Italy during winter and spring is a national asset, and whose departure

THE LANCET.

LONDON: SATURDAY, APRIL 4, 1908.

The Surgery of the Spinal Cord and its Membranes.

THE lesions of the spinal cord are many but only a few of them are amenable to surgical treatment. Yet the scope of surgery in this region of the body is steadily extending and with the increased aid afforded by improvements in diagnosis the results in the future will be better even than those obtained at present. Mr. DONALD J. ARMOUR took for his subject in the Hunterian lectures, which he has recently delivered at the Royal College of Surgeons of England and which have been published in THE LANCET,[1] the Surgery of the Spinal Cord and its Membranes and all who have worked at the surgery of this portion of the body will read with great interest the reports of his lectures. It was quite impossible for him to compress into these lectures all that could be said on the surgery of the cord and its adnexa and Mr. ARMOUR was therefore compelled to select certain portions of the subject. He devoted one lecture to spina bifida, one to fracture-dislocation of the spine in so far as it relates to injury of the spinal cord, and in the third lecture he spoke of tumours of the cord.

Spina bifida is a congenital condition of no small importance; if left untreated the majority of cases will go on with certainty to a fatal ending but in some instances at least surgery can offer a chance, and often much more than a chance, of a complete cure of the condition. Mere palliative treatment is all that can be employed for many of these patients. MORTON'S injection method, at one time widely employed, was approved by the committee appointed by the Clinical Society of London in 1885; in the report issued by that committee nearly 50 per cent. of cures were reported but the cases which are the most suitable for MORTON'S method are the simple meningoceles and these are the cases which are most suited for excision. Moreover—and Mr. ARMOUR lays stress on this fact—it is impossible, in spite of the indications from translucency described in many of the books, to diagnose what variety of spina bifida is present in any particular case until the sac has been opened. HILDEBRAND and MUSCATELLO have shown that myelocystoceles are often mistaken for simple meningoceles and there can be little doubt what would be the result of injecting MORTON'S iodo-glycerine solution into a myelocystocele. Excision is now almost universally adopted except when that procedure is impossible on account of ulceration and threatening rupture. In such cases as these Mr. ARMOUR considers that injection may be tried. The chief cause of death in untreated spina bifida is a septic meningitis produced by the penetration of micro-organisms through an ulcerated or ruptured sac wall; so, too, after operations on spina bifida the chief cause of death is a septic meningitis caused by an infection of the wound. The utmost cleanliness, the most perfect asepsis, is the first essential for any operation for spina bifida, for if the slightest sepsis is present healing by first intention cannot occur and the result will be failure. When the sac is opened, if no nerve roots are present it is an easy matter to close the sac. If, however, nerve roots are found in the sac they must be dissected off the sac wall and replaced, unless, indeed, they end in the sac, and then they are functionless and they may be removed. The chief contra-indication of the operation of excision is paralysis, especially if there is complete paraplegia with involvement of the sphincters. Sometimes it is true that the paralysis is due to tension of the nerve elements and then if the tension is relieved some improvement may be expected. The cases of partial paralysis may reasonably be looked upon as suitable for operation. The results of excision must be considered in connexion with the results of cases in which no operation is performed. The majority of cases of spina bifida if untreated die during the first year, and especially during the first three months of life. The death-rate of operation is much higher if the operation is performed during the first few months than in those cases in which the operation is postponed till the child has survived for five or six years. In 1905 MOORE collected all the reported cases, 378 in number, though doubtless many operations have never been published and unsuccessful cases are certainly less likely to appear in print than those which have ended favourably. Of these 378 cases, the mortality before 1885 was 30 per cent.; since then the death-rate has been reduced to 24 per cent. The longer that cases are kept under observation after operation the greater the death-rate would probably be. Post-operative hydrocephalus is by no means rare but an explanation of its occurrence is hard to find; it may follow operations for spina bifida which have been apparently entirely successful. In all forms of spina bifida except pure meningocele the prognosis of operation is exceedingly grave but the results of non-operative treatment are graver still.

In his second lecture Mr. ARMOUR dealt with the lesions of the spinal cord occasioned by fracture-dislocation of the spine. In any case where there has been fracture of the vertebral column or dislocation, or a combination of the two, the cord may suffer injury by compression, contusion, laceration, or complete division. Even when extensive injury is present the cord on external examination may show nothing; this fact is obviously of the greatest importance, for the surgeon cannot be absolutely certain of the condition of the cord at an operation. Even complete dislocation with fracture of the upper two cervical vertebræ is not always immediately fatal; this is because of the large size of the neural canal in the cervical region. In the dorsal region extensive injury to the cord follows. The diagnosis between partial and total transverse lesions of the cord is very difficult and Mr. ARMOUR shows that the "classical" signs of a total transverse lesion are very untrustworthy. Even when there is complete paralysis of motion and sensation below the lesion the deduction is not justifiable that the lesion is total, for recovery may follow the occurrence of these symptoms the opportunity of acquiring a much-needed breathing-space to slip from the control of the committee. There is an increasing agitation for establishing "an arbour day" throughout England which shall be celebrated by the planting of trees for the benefit of future generations. This is an excellent movement and should be supplemented by the attempt to save from the axe as many trees at present existing as may be possible, remembering the old proverb in regard to the tree-feller, that a fool in five minutes can destroy the forethought and work of 50 years. Mr. Thomas A. Cook of the Soap Works, Bow, and Mr. George W. Paton of Fairfield Works, Bow, are the joint honorary secretaries. The joint honorary treasurers are Mr. C. E. Riche, London and South-Western Bank, Bow-road, and Mr. W. R. Few, London and Westminster Bank, Bow-road. Any of these gentlemen will gladly acknowledge contributions towards the object in question.

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[1] THE LANCET, March 7th, 14th, and 21st, 1908.

A DARWIN CELEBRATION AT CAMBRIDGE.

ARRANGEMENTS are being made by the University of Cambridge to celebrate on Tuesday, June 22nd, Wednesday, June 23rd, and Thursday, June 24th, 1909, the hundredth anniversary of the birth of Charles Darwin and the fiftieth anniversary of the publication of the "Origin of Species." It is proposed to invite representatives of universities and other learned bodies, together with distinguished individuals, to visit the University on the occasion. A programme of the celebration will be issued in the near future. The honorary secretaries to the movement are Mr. J. W. Clark, the Registrary of the University, and Professor A. C. Seward, professor of botany in the University.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS, 1908.

THE preliminary announcement has been issued concerning the International Congress on Tuberculosis which is to be held this year in Washington, U.S.A., under the organisation of the American National Association for the study and prevention of the disease, of which Dr. Frank Billings is president, and Mr. Theodore Roosevelt, Mr. Grover Cleveland, and Professor William Osler are honorary vice-presidents. We have already announced that the Congress will be held on Sept. 24th and the two following days under the auspices of the United States Government, seven of its nine departments having petitioned the House of Congress for authority and means to participate in the conference, while the Department of State has been authorised to invite the governments of other countries, through their ministers, to send representatives to the Congress. The programme is divided into seven sections, which are: (1) Pathology and Bacteriology; (2) Clinical Study and Therapy—Sanatoria, Hospitals and Dispensaries; (3) Surgery and Orthopædics; (4) Tuberculosis in Children, Etiology, Prevention, and Treatment (a full syllabus of the work of this section is given); (5) Hygienic, Social, Industrial and Economic Aspects of Tuberculosis; (6) State and Municipal Control; and (7) Tuberculosis in Animals, and its Relation to Man. An exhibition will gather illustrative material, appliances for treatment and so forth, from all parts of the world, including literature on tuberculosis, and readers of THE LANCET[1] have already been informed of the nature and conditions of the prizes offered in connexion with this exhibition. They may like to be reminded of the terms of membership, for it is our hope that Great Britain, which has throughout been in the van in dealing with tuberculosis, will be well represented at the Congress. Active members will pay a fee of $5 and will receive the full set of published transactions. Associate members, who pay $2 only, do not receive the transactions or vote in the Congress. An entertainment and a transport committee have been formed, which will enable visitors to the Congress to receive the benefits of special rates of travel, and a tour of many of the principal cities of the Eastern States, lasting from Sept. 21st to Oct. 10th, and including a visit to Niagara, is to be arranged. Those of our readers who have experienced American hospitality will rest assured that they will be welcomed in a very practical manner by their brothers across the ocean if they can spare the time to make an extended summer holiday. Applications for membership or for further information should be made to the Secretary-General, Dr. John S. Fulton, Colorado Building, Washington, D.C.

THE PURIFICATION OF POTABLE WATER.

IN the *Union Pharmaceutique* a simple and apparently harmless method is given for purifying potable water. The method, as given by M. Célestin Hy, is based on that originally devised by M. Girard and M. Bordas. The water to be purified is first treated with a powder consisting of one equivalent of potassium permanganate and sodium carbonate and slaked lime, of each seven equivalents. After an interval of five minutes eight equivalents of anhydrous ferrous sulphate are added. The method is based upon the fact that potassium permanganate in an alkaline solution oxidises organic matter and destroys micro-organisms, the sodium carbonate precipitates any calcium sulphate that may occur naturally in the water, and the calcium hydrate precipitates any bicarbonate of lime that may be present. On adding ferrous sulphate the excess of permanganate is removed in the form of a dense precipitate. The water as drawn off from the precipitate is very pure and limpid and contains only a very small amount of the sulphates of potassium and sodium. The presence of these salts is not at all objectionable. In the case of the water of the Seine, containing a great number of bacteria, including the colon bacillus, M. Hy found that this process produced a perfectly sterile water. There is very little danger of using an excess of either of the powders. An excess of the powder containing potassium permanganate would impart to the finished product a noticeable pink colour, while an excess of iron would be precipitated partly by the sodium carbonate and partly by the calcium carbonate resulting from the first reaction.

THE TREATMENT OF SCARLET FEVER BY SERUMS.

SEVERAL attempts have been made to treat scarlet fever by serums, the serum of convalescents having been tried without much success and also an anti-streptococcic serum, the latter owing to the belief that the causal agent in the disease was a streptococcus. It is, however, more probable that the streptococci found in scarlet fever are a secondary infection, and though they may be the cause of some of the complications met with in severe cases, and anti-streptococcic serum may therefore be of some use, it can hardly be regarded as a specific remedy. The actual infective agent is at present unknown, the protozoal organisms described by Mallory not being as yet generally accepted. Recently Marpmann, proceeding on the assumption that the infective agent resided in the scales of the desquamative stage of the disease and that the toxins formed were present in the blood and urine of patients, has used these substances for injecting animals and has obtained from them a serum which, he states, is both protective against the disease and curative of it when it has developed. Two separate serums are manufactured, one prophylactic and the other curative. The difference in the respective modes of preparation is not stated in the articles dealing with the remedy which we have been able to obtain. From the brief account given above the serum would seem

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[1] THE LANCET, March 21st, 1908, p. 882.

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[1] THE LANCET, March 7th, 14th, and 21st, 1908.

CARE OF THE FEEBLE-MINDED.

AN interesting paper by Miss Mary Dendy, the lady inspector of the special schools for the feeble-minded, was read recently before the members of the Manchester Statistical Society, on the Problem of the Feeble-minded. The point on which she insisted was that, unless the result of injury, weakness of intellect was incurable and would tend to be handed down to the offspring of the sufferer. Therefore it was "the most pressing of all the social problems of our time" and from its nature "it was the only one which justified them in overriding the responsibility of the parent for his child." Most of the vices claiming the attention of sociologists resulted from weakness of intellect—"infantile mortality, child neglect, underfeeding (or improper feeding), drink, unemployment, purposeless crime, assault, murder, and theft." This is a strong indictment but in the main it will not be disputed. It was responsible for a large proportion of the unemployed, for if after leaving the special schools they get work the best of them only keep it as long as they can be considered boys and are turned adrift when a man's wages have to be given. Miss Dendy said it was unfortunate that in this country this condition was considered a curable disease which could be set right by differential treatment. From this fallacy came statements as to children being returned to ordinary schools in a normal condition, the fact being that in some towns "many of the children admitted to the special schools were not really weak-minded." The facts put together by the Birmingham After-Care Committee showed that, short of permanent detention, the very best of the trained feeble-minded were employed only irregularly and that the great majority of them were unemployed or criminal. The teaching of useful habits of imitation was advocated in lieu of the habits of reason which served the ordinary mind. This line of argument leads up, of course, to the necessity of permanent detention and control, so that feeble-mindedness and its attendant evils shall not spread from more to more. "Residential or permanent schools should be provided and children should be admitted to them at an age to be determined in every case by the medical man in charge." The discussion that followed showed a general acquiescence in the opinions expressed in the paper but Dr. J. Niven suggested an important question, whether, supposing the whole of the evidently feeble-minded were removed and permanently taken care of, the fountain would be materially affected. "It not infrequently happened that only one child in a family was obviously defective and in those cases it followed that if such a one was removed others were left behind whose defects were not so noticeable." Still, allowing for the loophole which Dr. Niven discovered, it is certain that the multiplication of these unfortunates would be considerably checked, if not altogether prevented. There would always remain the danger, more or less in degree, that abuses might arise and that some might be shut out from their normal career by being kept in a permanent establishment of the feeble-minded. Careful inspection would have to be provided.

THE CREMATION SOCIETY OF ENGLAND.

AN extraordinary general meeting of the Cremation Society was held on March 23rd, Sir Charles A. Cameron, Bart., being in the chair, to consider the substitution of a new draft of rules for the existing rules of the society. Sir Charles Cameron gave in his speech an interesting epitome of the history of the society, speaking of the hostility which its foundation in 1874 aroused on every side, of the support afforded to it by the founder, the late Sir Henry Thompson, and also by the late Sir Spencer Wells and the ninth Duke of Bedford, whose joint generosity resulted in the erection and equipment of the crematorium at Woking in 1879. He narrated how it was six years before the judgment in the Welsh Druid case allowed of its employment and how the first cremation took place in March, 1885. In five years only 100 bodies were cremated in Great Britain, but the numbers steadily increased until in 1900 the office was performed 301 times at Woking. Last year 705 cremations took place in the 13 crematoriums throughout the kingdom. After reviewing the sanitary advantages and disputing the ethical drawbacks of cremation, Sir Charles Cameron went on to regret the fact that the practice had hitherto been limited to the upper and professional classes and pointed out that a cremation need cost the poor no more than they habitually spend on a decent funeral. He then proposed that the present single payment of 10 guineas, which constitutes a person a life member of the Cremation Society and entitles him to cremation without fee after his death, should be replaced by a single payment of 5 guineas or six annual payments of 1 guinea each, and further that the cremation should be paid for by the society at any crematorium in the kingdom. He hoped that when the number of cremations was such that the furnaces could be kept continuously heated, the fees would be reduced even more. Sir Charles Cameron's motion that these new rules should be substituted for the old was seconded by Sir Herbert Thompson, Bart., and carried unanimously by the meeting. Many of our readers will be glad to know of the society's progress and will wish it a still more rapid extension of its sphere of influence. It seems possible that the growth of city populations may ultimately necessitate general cremation as the solution of the problem of disposing of the dead. On sentimental grounds many will prefer for the means by which their bodies shall be resolved into their constituent elements a process the name of which, by a singular analogy with the Greek πῦρ, strongly suggests purification, to the more usual process which is uncompromisingly putrefaction, but, on the other hand, the biological aspect of the question must not be forgotten. Would the great elemental vegetable-animal cycle run risk of disturbance by the spoliation of the soil of a bulk of its wonted organised enrichment, or would the nitrifying bacteria rise equal to the occasion and derive compensatory toll from the atmosphere? It is a question that is not unworthy of consideration in respect of the expediency of cremation. Its social safety would seem to be assured by the regulations for death certification to which cremation has been made subject, but it must not be forgotten that the Druce *canard* could not have been so thoroughly falsified if venous colour of the blood in suffocation and noticed that the bright red colour could be restored if air was blown through the lungs—in the absence of respiratory movements—so that the air alone was the cause of the change of hue. Shed blood, he saw, became bright red on the surface, and from his observations and experiments Lower concluded that the purpose of the respiratory movements was to bring air to the blood and to make that fluid fit for the heart and other organs—a quality denoted by its redness. The blood absorbs air as it passes through the lungs, and when the "air has escaped into the parenchyma of the viscera the venous blood being deprived of it appears more dusky and black."

But a greater than Lower was Mayow whose books were not much noticed in his own time and indeed a little later they seemed to have been almost forgotten. S. Hales is the only writer of the eighteenth century who refers to them in his "Vegetable Statics" (1727). They were reprinted in Paris, Geneva, Jena, and the Hague. But after the great revolution in chemical theory which followed the discovery of oxygen by Priestley and Lavoisier Mayow's work was unearthed and it was seen that the new chemistry was to be found in this old and largely forgotten work. Thomas Beddoes in 1790, Scherer in 1793, and G. B. Yeats in 1798 set forth the claims of Mayow, but these attempts to make known Mayow's claims met with no great success. Mayow set forth that air is impregnated with a vital, igneous, and highly fermentative spirit and he begins his fifth treatise with a history of nitre, this wonderful salt which makes no less noise in philosophy than in war and fills the universe with its sound. The nitro-aerial salt obtained from nitre becomes food for fires and also passes into the blood of animals by respiration, and is "also the primary instrument of life and motion not only in plants but also in animals." He proved by beautiful and convincing experiments that air contains this special "nitro-aerial" constituent which could unite with what was called salino-sulphurous matter—what may be called the combustible principle, without any suggestion that it contains sulphur in the modern sense of this term. Starting from this fact Mayow proved that something was taken from the air by the respiration of animals—this was his nitro-aerial constituent—and this it was and not the air as a whole which was a necessity of life; the great bulk of the air was not necessary, and this small part was as necessary for life as for combustion. In our tissues a process resembling combustion, as shown by the production of animal heat, was continually going on. He concluded that it is in the muscles that this animal heat is chiefly produced. It was not until 1845 that Helmholtz demonstrated that muscular motion was associated with the oxidation of carbon compounds and the production of heat. One of Mayow's most striking observations is that the nitro-aerial supply to the fœtus must be provided by the respiration of the mother and pass from her blood from the maternal part of the uterine wall. What he failed to recognise was the product of the combustion in the tissues—viz., the giving out of carbon dioxide, or "fixed air," which was discovered by Black in 1752.

The study and teaching of history have of late years entered upon a new phase. Many of the best books on history are not in the words of any modern writer but consist of carefully collated extracts from the writings of men who lived in the time with which the particular period treated deals. There are two admirable modern histories of England appearing in instalments, and both show the qualities of learning and philosophical research, but apart from these our historical reading is better conducted by the help of documents written at the times of the events portrayed. Such works as "Leading Documents of English History" and the valuable series entitled, "English History by Contemporary Writers," bring before us our "rough island story" in a more lifelike manner than even the brilliant antitheses of Macaulay. And so, too, with the history of science and of those branches of it with which we as medical men are the more concerned. As Professor Gotch remarks: "The study of the lives and works of our predecessors is as imperative for scientific men as it is for historians, whilst the duty of undertaking it receives an additional sanction, when, as in the case of Lower and Mayow, their deeds lie buried with their bones in tombs which have been suffered through neglect to fall into decay."

The Outbreak of Enteric Fever at Peterhead.

Reputations may be of the enviable or of the unenviable order, and up to quite recently the fishing town of Peterhead on the rock-bound coast of eastern Scotland, northwards of Aberdeen, has been almost world-renowned for its vast herring fishery, an industry which in years gone by was preceded by that of whaling. Now, unfortunately, it has established an unenviable notoriety for enteric fever, and the side-lights which have been thrown upon its sanitary condition by the detailed investigation which has been made by Professor Matthew Hay make us wonder why its inhabitants have for so long escaped other visitations of a similar nature. From May to October of last year there occurred no less than 425 cases and 23 deaths in this population of some 16,000, the number of cases varying from 30 to 40 per week during the months of May, June, and July. The prolonged duration of the outbreak appears to us to have been one of its most remarkable features, as in this respect it is somewhat unlike other outbreaks. As was to be anticipated, the investigation of this epidemic was beset with many difficulties, partly owing to the stress of administrative work consequent upon the outbreak and partly owing to the difficulty of obtaining accurate data as regards certain particulars. There appears to have been no question whatever as to the fact that the water-supply was, as a whole, open to pollution from the privy and ashpit refuse which was deposited upon parts of the agricultural land from which the water was derived, and it is clear, bearing in mind ambulant cases of enteric fever, that at any time specific pollution may have reached the water. Still, Professor Hay furnishes evidence which points to the conclusion that the water was not a potent factor in the spread of the disease, although in the first instance he evidently regarded the outbreak as being water-borne. The case against the milk was, however, a stronger one and Professor Hay is inclined, on the whole, to regard the outbreak as having in the first instance been milk-borne and as having been subsequently kept going by "contact" or secondary cases. With reference to the actual infection of the chauffeurs and whose cars are kept away from their residence. The assurance that none of the petrol one pays for is wasted will surely recompense for the cost of this accessory.

Another useful article for the man who drives and looks after his own car is the "Pushon" instantaneous pump connexions which do away with all adapters and twisting swivel joints and when pushed over any make of tyre valve instantly and automatically form an air-tight joint. From past experience I know the trouble which ordinary pump connexions are so I can welcome and recommend the "Pushon."

The airship section in the gallery contained a model of Mr. Henry Farman's aeroplane and a Spencer airship, but I fear it is premature to consider the purchase of one of these for medical work, though in years to come they may be as popular with the profession as cars are now!

THE "FASTING CURE" IN WANGANUI NEW ZEALAND.

WE have received from Dr. Robert H. Bakewell (Surgeon-Captain, Army Medical Department) an interesting series of papers which he has published in a New Zealand journal, supplemented by a short report which he has prepared for us on the proceedings of a small sect of "health cranks" who arose during last year in Wanganui, New Zealand, and have excited considerable interest in that colony. The cardinal principle of their strange doctrine is that mankind owes the ills of its flesh to eating, and they propose as a universal panacea the abstention from food for periods of two or three weeks at a stretch, the victim going about his daily work during the term of his self-inflicted fast. Dr. Bakewell devotes some columns to the origin of this "treatment," and of this we need say little more than that it is American and sprang from the brain of a Dr. Dewey of the University of Michigan in the form of a book which he called "The True Science of Living." One extract from the book will suffice: "When death occurs"—i.e., under the system—"before the skeleton condition is reached, it is always due to old age or some form of disease or injury and not to starvation." If this wild scheme had not gone beyond print we should hardly have noticed it but it is interesting to record that it has reached New Zealand and has been ardently adopted by a band of zealots in Wanganui. Dr. Bakewell's attention was called to these people by the personal narrative of one of them, in which he gave a subjective account of a 25 days' fast, which was widely published in New Zealand. Our correspondent was exceedingly sceptical of the story and last December he proceeded to the new faddists' Mecca to assure himself of its truth or falsehood. He found evidence which he considers convincing that eight people had voluntarily undergone fasts of a fortnight and longer, one of whom, a Maori chief, had died, as it was said, from "blood poisoning" shortly afterwards. The remainder of the people were white men, six of whom Dr. Bakewell saw, although they were not actually fasting at the time. He writes: "After hearing all the evidence, after minutely examining and cross-examining them, I found it so difficult to believe that these six persons, all occupying the respect of their fellow townsmen, could without any conceivable object enter into a conspiracy to utter such improbable lies that I found it easier to believe in the fasts themselves." With regard to the examination of them it may be said in a word that though the fasters thought they were the better for their performance Dr. Bakewell says he would not have passed one of them for insurance as a first-class life, and he noted particularly a dangerous heart weakness. They acknowledged losing weight at the rate of about a pound a day during the fast. The men all stated that the mouth and tongue became covered with a thick fur and that the breath was very offensive; further, that the sexual instinct was entirely absent during the fast. One man stated that after 35 days during which the bowels never acted he passed one most offensive evacuation, and at the same time, or on the same day, vomited most offensive matter. Some of them endured tortures of headache and depression during a few days but subsequently regained their comfort. They took water only, with the exception of lemon juice; one man confessed to an occasional "nip of milk in soda-water."

Dr. Bakewell subsequently had an opportunity of observing one of the devotees in the course of his "cure" and has prepared the following note about his condition:—

> It will be observed that in no case was I able to see a person actually fasting at Wanganui. But since then I was visited at my residence near Auckland by a former patient and old acquaintance, not as a patient but simply because he knew I was interested in the subject. On his first visit he told me that he had been absolutely fasting, except from water, for four days. The first day he took no water even, but this was followed by acute pain in the lumbar region and the passage of a large quantity of uric acid and urates. This was relieved by drinking copiously of water. I had known my visitor for at least 20 years. He had always the appearance of a florid complexioned, rather over-stout man. Latterly he has very greatly diminished in bulk. On my first glance at him I was struck with the grey earthy pallor of his face, destitute of every vestige of healthy colour. He was bathed in a cold sweat, which literally poured from him; his wrists were wet; his pulse was 60, with intermissions of very long duration every 15 beats. He expressed himself as being, with the exception of slight lumbar pain, "perfectly well," although the exertion of walking from the electric tram station to my house—a distance, which I measured myself after he had gone, of only 237 paces all down hill—had plunged him into this cold sweat. He came again two days afterwards, having continued the fast against my strong advice. His pulse was feebler and intermissions took place after every third or fourth beat. I urged him to take some food, but he refused, stating, however, that he intended to break his fast when he returned home. His face was even a darker earth-tint than on the previous visit. I obtained a drop of blood, which I examined immediately under an ⅙ in. power. The red corpuscles were abundant, but much smaller than normal. After a most careful search for half an hour I failed to find even a single leucocyte. Mr. —— not having visited me again, I have been unable to make any further examination of his blood.

Dr. Bakewell incloses extracts from American literature claiming something like the rejuvenation of a man as the result of a 45 days' fast, but he gives strong reason for doubting the accuracy of the story. He has, we think, established the *bona fides* of these Wanganui fanatics. The most interesting thing is that they were able to go about their work during their prolonged abstinence from food and in only one case was hunger a prominent symptom. His conclusion is that "there is some psychic force of which we know nothing, or little, at work which sustains them." At any rate the "fasting cure" of these New Zealanders is not without interest to the physiologist.

MEDICINE AND THE LAW.

A Prescribing Druggist and a Death from Opium Poisoning.

AN inquest held recently by Mr. Luxmore Drew at Hammersmith showed the following facts. A plasterer, Richard Smith, working at the building connected with the coming Anglo-French Exhibition, complained of diarrhœa and was given a dose of a mixture kept for the purpose by the St. John Ambulance Corps at the works. This occurred on March 11th and Smith did not resume work but remained at home, still suffering from diarrhœa and without medical attendance until March 14th, when his wife asked a druggist, James Thomson, of 161, Goldhawk-road, for "two pennyworth of composition powder" for him. In the course of the discussion which followed the druggist appears, from her evidence at the inquest, to have told her that what she asked for would not be of any use as her husband had been ill for so long, and she then asked him to "make her up something." He accordingly gave her a bottle of what she spoke of as diarrhœa mixture, labelled with directions to the effect that one-eighth part of its contents was to be taken every hour until the diarrhœa ceased. The word "poison" did not appear on the label, nor was there any warning that the *dose* named should not be exceeded. The mixture, according to the evidence of the druggist, contained with other ingredients 80 minims of tincture of opium. Smith, on his wife's return, not only took a dose but finding that it made him feel more comfortable took two more within an hour of the first. This was apparently in the evening and by the next morning he had emptied the bottle. During that day he was very drowsy and in the evening a medical man, Mr. C L Batteson, was summoned. According to his evidence he did not find the patient drowsy but was given a history of diarrhœa, mention being made of a bottle of medicine from a druggist, as to which he did not press any inquiry but concluded that the man was suffering from a chill and prescribed chalk and opium to be taken in doses each of which would contain about two minims of opium. On the following day Mr. J. Batteson saw the patient and stopped the medicine ordered by his son Mr. C. L. Batteson, giving a prescription containing strychnine. According to his evidence he found that the diarrhœa had stopped and considered that the for other climes she has as much to dread as (for instance) the abandonment of the "Brindisi route" for that other one by the Balkan States and Salonica.

THE SERPENT OF ÆSCULAPIUS AND SNAKE-WORSHIP.

IT has been pointed out by Dr. Boudin[1] that the worship of the serpent was so universal in antiquity that all temples came to be known as "draconia," serpent houses. However that may be, serpents were kept in many of the temples of antiquity, notably in those of Apollo, whose son Æsculapius is represented in ancient statuary carrying a serpent entwined round a staff or round his arm. The serpent, indeed, came in time to be the special mystical emblem or symbol of the Æsculapian art. The serpents of the ancient Greek temples were in all probability relics of that primitive serpent-worship which was at one time universal among prehistoric peoples and has not died out among many savage races at the present day. As "Voodoo" or "Obi" serpent-worship is still said to linger in the West Indies among the descendants of the less civilised negro slaves. In Hayti especially, where negroes were dumped down from Africa by the old slave-traders and were kept in reserve before being sold to masters in the surrounding islands, Voodoo has defied Roman Catholic missionaries and priests for ages. A French naval officer who visited the court of the Haytian potentate Soulongue in 1849 describes a Voodoo ceremony where cannibalistic and other orgies were indulged in. It is noticeable that the cock and black goat which were solemnly eaten on this occasion were both of them sacred to Æsculapius. Hence we may infer that the Æsculapian cultus was originally an innocent form of Voodoo and at the same time a primordial religion. The extreme antiquity of serpent-worship seems, indeed, to be hinted at in Genesis, where the Devil appears in the guise of the snake-god intent on the ruin of man. In the story of the Brazen Serpent healing qualities are attributed to the image.

HYSTERO-EPILEPSY IN A YOUNG MAN.

THE condition described in great detail by Charcot and his pupils under the name of hystero-epilepsy is one but rarely met with in this country and even in some of the cases recorded the phenomena did not follow the typical sequence. We have received a copy of a paper by Dr. W. Howells, read before the North Glamorganshire and Breconshire division of the South Wales branch of the British Medical Association, describing an example of this condition observed in a young man in his twenty-first year. The patient was of healthy appearance and of muscular build. He was apparently of somewhat erratic and unstable temperament, his memory was very defective, and he was at times passionate and vindictive. Having worked for two years as a miner he became subsequently baggage porter to a travelling concert troupe. He was of Bohemian and licentious habits and of sensual aspect. The family history revealed that his maternal grandmother was alcoholic and also violently hysterical, stigmata which were transmitted to the mother of the patient who, however, was himself not intemperate in regard to alcohol, being practically an abstainer. About four months before he was seen by Dr. Howells he had two fainting fits but otherwise he had not suffered from any serious illness. He showed no indication of organic visceral disease and very few hysterical stigmata, the only conditions found being defective vision with the right eye and some deficiency in the colour sense. The attack which Dr. Howells saw occurred after excessive sexual indulgence and was ushered in by a slight fit on Monday, in which he arched his back and stretched out his limbs. On Tuesday, after some violent exertion, he had several more fits of similar character but remained free until Thursday, when he had a very violent fit, after which he was seen by Dr. Howells for the first time, who found him conscious and coherent but very tender about the right groin, palpation in this region inducing a fit. Between Thursday evening and the following Sunday 80 more or less severe fits occurred, all presenting the same general features. The attacks were readily excited by the administration of food, drink, or medicine, by the striking of a clock, and by any noise. The tongue was not bitten in the fits and there was no involuntary micturition or defæcation. The sequence of the fits was as follows. There was first a period of semi-consciousness and simulated catalepsy followed by an interval with hysterical manifestations. During this period the pupils were dilated, afterwards they gradually contracted and the eyes rolled slowly upwards, ushering in the stage of violent convulsions. There was usually marked opisthotonos and sometimes the body would assume an arc of a circle towards the right. The convulsive stage was followed by a period during which the patient made curious pantomimic gestures "illustrative of his Bohemian life." After the Sunday evening no further attacks occurred. The patient was able to talk intelligently but appeared to have no recollection of his attacks. A few days afterwards he was able to proceed home. Dr. Howells saw him some months later but the man then said that he had no recollection of having seen him before, nor did he remember his illness or even the place at which it occurred. He seems to have also forgotten his pecuniary indebtedness to his medical attendant. Subsequently he enlisted in the army and was killed while serving in the South African war. During the 72 hours of his convulsive period he was given 14 drachms of potassium bromide, 11 drachms of bromidia, and 4 of paraldehyde, without any prejudicial effects. Dr. Howells rightly points out that the term "hystero-epilepsy" is a misleading one to apply to these cases, which should be described as hysteria major or, as he would prefer, convulsive hysteria. He also draws attention to some of the special features of the case under his care and notably to the marked immunity shown by his patient during the convulsive period to the effects of powerful depressant narcotic drugs.

A NEW OPEN SPACE FOR LONDON.

WE have already endorsed the appeal issued by the committee the object of which is to preserve part of the Grove Hall Park Estate, Bow, E. This piece of ground, the last available open space in a district where the provision of fresh air is greatly needed, is a portion of a site which originally consisted of about 12 acres of ground planted with trees. Only about three and a half acres now remain, the larger part having been cut up for building land. The London County Council has promised towards the laying out of this space as a public park and children's playground the sum of £4500, besides offering to maintain the property when acquired, while the borough council has contributed £2250. The remainder, about £2250, with the exception of £200 which are now urgently required to save the space from the builder, has been made up by public subscriptions. The Bishops of London and Stepney have given their hearty support to the appeal. The manufacturers of the neighbourhood have given their practical support and financial aid towards the carrying out of the objects of the committee, recognising as business men as well as generous donors that the health of the people is an excellent investment in the long run. As only £200 remain to be subscribed to save the space in question from being appropriated by the builder we cannot believe that those who have at heart the health and well-being of our great and growing metropolis will allow in Hornsey, 10·3 in Tottenham, and 10·8 in Leyton; the rates in the other towns ranged upwards to 24·3 in Devonport and in Rhondda, 24·7 in Middlesbrough, 25·0 in Merthyr Tydfil, and 25·6 in Oldham. The rate of mortality in London last week did not exceed 17·2 per 1000. The 5405 deaths in the 76 towns last week showed an increase of 148 upon the number returned in the previous week, and included 486 which were referred to the principal epidemic diseases, against 400 and 410 in the two preceding weeks; of these, 203 resulted from whooping-cough, 141 from measles, 52 from diphtheria, 38 from diarrhœa, 36 from scarlet fever, and 16 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·6 per 1000, against 1·3 in each of the three preceding weeks; the rate from the same diseases in London was equal to 1·7. No death from any of these epidemic diseases was registered last week in Tottenham, York, Ipswich, King's Norton, or in three other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 4·0 in Sunderland, 4·3 in Croydon, 5·2 in Salford, and 6·1 in Merthyr Tydfil. The fatal cases of whooping-cough in the 76 towns, which had been 134 and 152 in the two previous weeks, further rose to 203 in the week under notice; the highest death-rates from this disease last week in these towns were 2·0 in Sheffield and in Rhondda, 2·5 in Aston Manor, 3·3 in Sunderland, and 3·4 in Merthyr Tydfil. The 141 deaths from measles also showed a considerable increase upon recent weekly numbers, and caused death-rates equal to 2·0 in Burnley, 2·4 in Salford, 2·6 in Croydon, 2·7 in Preston, and 2·9 in Stockton-on-Tees. The deaths referred to diphtheria declined again, however, to 52 from 58 and 62 in the two preceding weeks; this disease, however, caused death-rates of 1·1 in Hornsey and 1·4 in Merthyr Tydfil. The 38 deaths attributed to diarrhœa corresponded with the number in the previous week. The 36 fatal cases of scarlet fever showed an increase of six upon those in the previous week, and included 15 in London, four in Liverpool, three in Manchester and Salford, and two in Newport (Mon). The 16 deaths referred to "fever" corresponded with the low number in the previous week; two were returned in London, in Nottingham, and in Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 16 preceding weeks from 5581 to 3356, had further fallen to 3229 on March 28th; 355 new cases were admitted to these hospitals during the week under notice, against 312 and 378 in the two preceding weeks. A case of small-pox (the first for many months) was admitted to the Metropolitan Asylums Hospitals during last week. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 317 and 320 in the two previous weeks, further rose to 340 during the week under notice, and exceeded by 18 the corrected average number in the corresponding week of the five years 1903–07. The deaths directly referred to influenza in London, which had declined from 141 to 68 in the four preceding weeks, rose again to 71 in the week under notice. The causes of only 34, or 0·6 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified last week in Leeds, Bristol, Bradford, Newcastle-on-Tyne, and also in 54 other smaller towns; five uncertified causes of deaths were, however, registered last week in Birmingham, four in Leicester, and three each in Liverpool, Sheffield, and South Shields.

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[1] Études Anthropologiques, 1864.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·3 and 18·5 per 1000 in the two preceding weeks, rose again to 19·4 in the week ending March 28th, and exceeded by 2·0 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates last week ranged from 12·6 and 13·8 in Aberdeen and Greenock, to 21·7 in Glasgow and 26·9 in Dundee. The 683 deaths in these eight towns showed an increase of 31 upon the number returned in the previous week, and included 114 which were referred to the principal epidemic diseases, against 97 and 84 in the two preceding weeks; of these, 58 resulted from measles, 22 from whooping-cough, 21 from diarrhœa, seven from "fever," three from diphtheria, two from scarlet fever, and one from small-pox. These 114 deaths were equal to an annual rate of 3·2 per 1000, which was just double the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 47, 46, and 37 in the three preceding weeks, rose again last week to 58, and included 45 in Glasgow, six in Aberdeen, and four in Edinburgh. The 22 deaths from whooping-cough, however, were fewer by two than the number in the previous week; 13 occurred in Glasgow, four in Edinburgh, and two in Greenock. Of the 21 deaths attributed to diarrhœa, an increase of eight upon the number in the previous week, 12 were returned in Glasgow, and three in Dundee. The seven deaths referred to "fever," of which six were certified as cerebro-spinal meningitis and one as enteric, exceeded the low number in the previous week by four, and included four in Glasgow. Two of the three deaths from diphtheria last week were returned in Dundee, and the fatal case of small-pox was registered in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 142 and 158 in the two preceding weeks, declined to 133 in the week under notice, but exceeded by nine the number returned in the corresponding week of last year. The causes of 19, or 2·8 per cent., of the deaths in these eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·6 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·8 and 23·9 per 1000 in the two preceding weeks, rose again to 27·4 in the week ending March 28th. During the 13 weeks of last quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·6 in London and 18·3 in Edinburgh. The 207 deaths of Dublin residents registered in the week under notice showed an increase of 26 upon the number returned in the previous week, and included but four which were referred to the principal epidemic diseases, corresponding with the low number returned in each of the two preceding weeks; these four deaths included three from whooping-cough and one from diarrhœa, whereas no death resulted from measles, scarlet fever, diphtheria, "fever," or small-pox. These four deaths from epidemic diseases were equal to an annual rate of but 0·5 per 1000, the death-rate last week from these principal epidemic diseases being equal to 1·7 in London and to 1·5 in Edinburgh. The fatal cases of whooping-cough in Dublin last week exceeded the numbers in recent weeks. The 207 deaths from all causes in the city last week included 29 of infants under one year of age and 68 of persons aged upwards of 60 years; the deaths of elderly persons showed a further increase upon recent weekly numbers. Three inquest cases and two deaths from violence were registered, and 77, or 37·2 per cent., of the deaths occurred in public institutions. The causes of ten, or 4·8 per cent., of the deaths registered during the week under notice were not certified; in London all but two of the 1581 causes of death were duly certified, and in Edinburgh the proportion of uncertified deaths was equal to 5·6 per cent.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Fleet Surgeons: E. C. Cridland to the *Minotaur* on commissioning; and J. D. Hughes to the *Egmont* and for Malta Dockyard. Staff Surgeons: H. H. Gill to the *Terror*, additional; W. H. O. Garde to the *Emerald*; and J. A. L. Campbell to the *Donegal*. Surgeons: A. R. Davidson to the *Actæon*; and T. F. O'Keeffe to the *Minotaur* on commissioning.

Royal Army Medical Corps.

Captain A. F. Carlyon has been appointed for duty in the London District. Captain F. J. Turner has been transferred to Jubbulpore for duty.

Imperial Yeomanry.

Lincolnshire: Surgeon-Major Thomas H. Openshaw, C.M.G., to be Surgeon-Lieutenant-Colonel (dated Feb. 22nd, 1908.

likely to be mainly antitoxic; though if the causal agent of the disease is contained in the epidermal scales it might also possess some germicidal power. It is called "scarlatin" and is administered by the mouth in doses of three to eight minims in milk. Good results are recorded by several continental writers, of whom the most recent is Professor Monti of Vienna, so that a trial of the remedy in the fever hospitals of this country would seem desirable.

THE PEABODY DONATION FUND.

THE munificent donations and bequest of Mr. Peabody between 1862 and 1873 for the better housing of the working classes in London amounted to £500,000, and the forty-third annual report of the governors of this donation fund shows that on Dec. 31st last the amount of the fund had increased to £1,571,252. It is further stated that the fund, with its accumulations since 1873, when Mr. Peabody's bequest brought his total gift to £500,000, "shows an average profit per annum, at compound interest, of almost exactly £3 per cent." Thus the governors of the fund, by the investment of the annual net income, have been able to expend £1,500,279 on land and buildings for the purposes of the Trust, or more than three times the amount of the aggregate donations and bequest. The net income of last year from rents and interest, added to capital account, was £41,343, and the expenditure on land and buildings during the year was £41,543. The rapid and automatic growth of this fund is full of interest and cannot fail to prove a most valuable asset for the promotion of the sanitary condition of the metropolis. At the end of the year this fund had provided for the artisan and labouring poor of London 5586 separate tenements, consisting of 12,913 rooms, including 199 cottages of five rooms, 105 tenements of four rooms, 1833 of three rooms, 2550 of two rooms, and 899 of one room. The mean population of these tenements during the year was 19,737, which constitutes, however, the one disappointing feature of the recent reports of the governors of the fund. On referring to the twenty-fifth report on the fund it appears that at the end of the year 1889 the 11,275 rooms then provided had an occupying population of 20,374 persons, exceeding by 617 the number residing in the buildings provided by the fund at the end of last year. During the 18 years 1889–1907, the number of new rooms provided has not exceeded 1638; notwithstanding this addition the number of residents has declined. This decrease appears to be due: (1) to greater stringency in the prevention of overcrowding in these improved dwellings; (2) to decrease in the number of young children in families residing therein; and (3) to the fact that during recent years the additions to the tenements provided by the fund have been mainly those consisting of more than two rooms. For instance, in the report for 1907 it is stated that 117 five-room cottages out of a total of 154 on the Tottenham estate were ready for occupation in June last; and further, that 64 cottages are in course of erection on the Herne Hill estate and will probably soon be ready for occupation. It seems open to question whether the provision of suburban cottages will, from the point of view of the health of the metropolis, prove as useful as the provision of improved dwellings in central London where so large a proportion of the working poor are bound to reside. Moreover, it is stated in the last issued report that the letting of the five-room cottages on the Tottenham estate "is proceeding very slowly." The beneficial effect of these Peabody Buildings on the health of the residents, in spite of a density of population equal to 635 per acre, may be judged by the fact that the death-rate last year among the nearly 20,000 residents did not exceed 12·2 per 1000, against 14·6 in the whole of London. It appears, moreover, that the proportion of infant mortality in these dwellings did not exceed 58 per 1000 births, against 115, the mean proportion in London. Realising the fact that this fund has more than trebled in the 35 years since 1873 it is difficult to over-estimate its future effect upon the housing of the poor of London and on their health and sanitary condition.

ARTERIO-SCLEROSIS IN THE YOUNG.

IN the *American Journal of the Medical Sciences* for February Dr. F. Fremont-Smith has published an important article on arterio-sclerosis in the young. He reports a case under his own observation and exhaustively reviews the literature of this interesting subject. A male mulatto, aged 32 years, was suffering from obliterative arteritis with gangrene of the toes, which necessitated amputation. His arteries were sclerosed and beaded. He gave a history of syphilis contracted in his eighteenth year. He had a son, aged 12 years, who, by his pinched and haggard appearance, complexion, figure, and carriage, suggested an aged man. Examination showed diffuse sclerosis of all his arteries, with calcification quite as advanced as in his father; the beading could not have been greater at any age. There was no evidence of heart or kidney disease. The boy was mentally bright but physically stunted and thin, and his muscles were undeveloped. The arterio-sclerosis was thought to be due to congenital syphilis. Isolated references to arterio-sclerosis in the young may be found in literature since the beginning of the last century. Portal, in his work on anatomy published in 1803, stated that "rarely the arteries of young persons become ossified." In "Diseases of Arteries," published in 1815, Hodgson described the temporal artery of an infant, aged 15 months, "converted into a complete tube of calcareous matter." Turning to recent literature, Romberg says that in Germany arterio-sclerosis augments with rapidity after the fifteenth year. In 1477 necropsies performed at all ages and in all conditions he found the arteries diffusely thickened in two subjects at the ages of one and 14 years respectively, and in 5·8 per cent. of the subjects between the ages of 15 and 19 years. But not until the recent studies of the pathology of arterio-sclerosis by Ortner, Flexner, Thayer, and others have the frequency and importance of arterio-sclerosis in the young been appreciated. These writers have thrown light upon the relation between the acute infections and arterial disease. In 189 persons who had long recovered from enteric fever Thayer found that between the ages of 10 and 50 years 48 per cent. had palpable arteries, as compared with 17·5 per cent. in ordinary healthy individuals. Symnitzky in 138 necropsies on persons under the age of 25 years who died from various infections found sclerotic changes in the aortic wall in 38, or 27·5 per cent. Excluding subjects under the age of two years, in which these changes did not appear, they were found in 48 per cent. As to the etiology of the condition Professor Osler states: "That heredity plays a most important rôle is shown in the cases to which arterio-sclerosis sets in early in life in individuals in whom none of the recognised etiological factors can be found." Congenital syphilis is a well-recognised cause but its importance has been exaggerated by earlier writers who were not aware of the part played by acute infections. Hoffbauer, investigating nodular and diffuse arterio-sclerosis in the tuberculous, says that he "can find no pathological difference in the arterial wall between tuberculosis and nephritis" and that it will be necessary to give up the causal connexion between blood pressure and arterial thickening. Dr. Fremont-Smith has been able to collect from literature in all 146 cases of arterio-sclerosis in the young. These must represent but a small minority of the cases, for in few necropsies on children in Hornsey, 10·3 in Tottenham, and 10·8 in Leyton; the rates in the other towns ranged upwards to 24·3 in Devonport and in Rhondda, 24·7 in Middlesbrough, 25·0 in Merthyr Tydfil, and 25·6 in Oldham. The rate of mortality in London last week did not exceed 17·2 per 1000. The 5405 deaths in the 76 towns last week showed an increase of 148 upon the number returned in the previous week, and included 486 which were referred to the principal epidemic diseases, against 400 and 410 in the two preceding weeks; of these, 203 resulted from whooping-cough, 141 from measles, 52 from diphtheria, 38 from diarrhœa, 36 from scarlet fever, and 16 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·6 per 1000, against 1·3 in each of the three preceding weeks; the rate from the same diseases in London was equal to 1·7. No death from any of these epidemic diseases was registered last week in Tottenham, York, Ipswich, King's Norton, or in three other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 4·0 in Sunderland, 4·3 in Croydon, 5·2 in Salford, and 6·1 in Merthyr Tydfil. The fatal cases of whooping-cough in the 76 towns, which had been 134 and 152 in the two previous weeks, further rose to 203 in the week under notice; the highest death-rates from this disease last week in these towns were 2·0 in Sheffield and in Rhondda, 2·5 in Aston Manor, 3·3 in Sunderland, and 3·4 in Merthyr Tydfil. The 141 deaths from measles also showed a considerable increase upon recent weekly numbers, and caused death-rates equal to 2·0 in Burnley, 2·4 in Salford, 2·6 in Croydon, 2·7 in Preston, and 2·9 in Stockton-on-Tees. The deaths referred to diphtheria declined again, however, to 52 from 58 and 62 in the two preceding weeks; this disease, however, caused death-rates of 1·1 in Hornsey and 1·4 in Merthyr Tydfil. The 38 deaths attributed to diarrhœa corresponded with the number in the previous week. The 36 fatal cases of scarlet fever showed an increase of six upon those in the previous week, and included 15 in London, four in Liverpool, three in Manchester and Salford, and two in Newport (Mon). The 16 deaths referred to "fever" corresponded with the low number in the previous week; two were returned in London, in Nottingham, and in Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 16 preceding weeks from 5581 to 3356, had further fallen to 3229 on March 28th; 355 new cases were admitted to these hospitals during the week under notice, against 312 and 378 in the two preceding weeks. A case of small-pox (the first for many months) was admitted to the Metropolitan Asylums Hospitals during last week. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 317 and 320 in the two previous weeks, further rose to 340 during the week under notice, and exceeded by 18 the corrected average number in the corresponding week of the five years 1903–07. The deaths directly referred to influenza in London, which had declined from 141 to 68 in the four preceding weeks, rose again to 71 in the week under notice. The causes of only 34, or 0·6 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified last week in Leeds, Bristol, Bradford, Newcastle-on-Tyne, and also in 54 other smaller towns; five uncertified causes of deaths were, however, registered last week in Birmingham, four in Leicester, and three each in Liverpool, Sheffield, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 20·3 and 18·5 per 1000 in the two preceding weeks, rose again to 19·4 in the week ending March 28th, and exceeded by 2·0 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates last week ranged from 12·6 and 13·8 in Aberdeen and Greenock, to 21·7 in Glasgow and 26·9 in Dundee. The 683 deaths in these eight towns showed an increase of 31 upon the number returned in the previous week, and included 114 which were referred to the principal epidemic diseases, against 97 and 84 in the two preceding weeks; of these, 58 resulted from measles, 22 from whooping-cough, 21 from diarrhœa, seven from "fever," three from diphtheria, two from scarlet fever, and one from small-pox. These 114 deaths were equal to an annual rate of 3·2 per 1000, which was just double the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 47, 46, and 37 in the three preceding weeks, rose again last week to 58, and included 45 in Glasgow, six in Aberdeen, and four in Edinburgh. The 22 deaths from whooping-cough, however, were fewer by two than the number in the previous week; 13 occurred in Glasgow, four in Edinburgh, and two in Greenock. Of the 21 deaths attributed to diarrhœa, an increase of eight upon the number in the previous week, 12 were returned in Glasgow, and three in Dundee. The seven deaths referred to "fever," of which six were certified as cerebro-spinal meningitis and one as enteric, exceeded the low number in the previous week by four, and included four in Glasgow. Two of the three deaths from diphtheria last week were returned in Dundee, and the fatal case of small-pox was registered in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 142 and 158 in the two preceding weeks, declined to 133 in the week under notice, but exceeded by nine the number returned in the corresponding week of last year. The causes of 19, or 2·8 per cent., of the deaths in these eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·6 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 24·8 and 23·9 per 1000 in the two preceding weeks, rose again to 27·4 in the week ending March 28th. During the 13 weeks of last quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·6 in London and 18·3 in Edinburgh. The 207 deaths of Dublin residents registered in the week under notice showed an increase of 26 upon the number returned in the previous week, and included but four which were referred to the principal epidemic diseases, corresponding with the low number returned in each of the two preceding weeks; these four deaths included three from whooping-cough and one from diarrhœa, whereas no death resulted from measles, scarlet fever, diphtheria, "fever," or small-pox. These four deaths from epidemic diseases were equal to an annual rate of but 0·5 per 1000, the death-rate last week from these principal epidemic diseases being equal to 1·7 in London and to 1·5 in Edinburgh. The fatal cases of whooping-cough in Dublin last week exceeded the numbers in recent weeks. The 207 deaths from all causes in the city last week included 29 of infants under one year of age and 68 of persons aged upwards of 60 years; the deaths of elderly persons showed a further increase upon recent weekly numbers. Three inquest cases and two deaths from violence were registered, and 77, or 37·2 per cent., of the deaths occurred in public institutions. The causes of ten, or 4·8 per cent., of the deaths registered during the week under notice were not certified; in London all but two of the 1581 causes of death were duly certified, and in Edinburgh the proportion of uncertified deaths was equal to 5·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: E. C. Cridland to the *Minotaur* on commissioning; and J. D. Hughes to the *Egmont* and for Malta Dockyard. Staff Surgeons: H. H. Gill to the *Terror*, additional; W. H. O. Garde to the *Emerald;* and J. A. L. Campbell to the *Donegal*. Surgeons: A. R. Davidson to the *Actæon;* and T. F. O'Keeffe to the *Minotaur* on commissioning.

ROYAL ARMY MEDICAL CORPS.

Captain A. F. Carlyon has been appointed for duty in the London District. Captain F. J. Turner has been transferred to Jubbulpore for duty.

IMPERIAL YEOMANRY.

Lincolnshire: Surgeon-Major Thomas H. Openshaw, C.M.G., to be Surgeon-Lieutenant-Colonel (dated Feb. 22nd, 1908.

the Baker-street bazaar owner's body had been burnt instead of buried.

THE annual discussion at the Hunterian Society will be held at the London Institution, Finsbury-circus, E.C., on Wednesday, April 8th, at 8.30 P.M. The subject selected this year is "Rheumatism." Dr. Frederick Taylor will open the discussion, Dr. F. J. Poynton and Dr. T. J. Horder will speak on the bacteriological aspects of the subject, while Dr. A. P. Luff will deal with irregular manifestations of rheumatism and their treatment. All members of the medical profession are invited to attend.

THERE was a large attendance at the Hospital Conference which we announced recently would take place this week at University College, London. The motion by the Hon. Sydney Holland in approval of a system of part payment by hospital patients in a certain pecuniary position was adopted, as was Colonel Montefiore's motion in favour of the general appointment of trained almoners. On Wednesday evening the members of the Conference dined together at the Waldorf Hotel under the chairmanship of Mr. Cosmo Bonsor.

Sir Felix Semon, K.C.V.O., M.D., has been appointed to represent the British Government at the International Laryngo-Rhinological Congress to be held at Vienna on the 21st of this month and following days.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

CORDINGLEY'S Thirteenth International Motor Car Exhibition was held last week at the Agricultural Hall, London. I must say that this show always attracted me, chiefly, I suppose, because at the exhibition some ten years ago my thoughts were first directed to automobilism, and since buying a car after the 1899 show I have used no other means of conveyance. This is the time of the year when those about to embark in and on a car begin to think of taking the plunge, and though many good makes were conspicuous by their absence there were some well worthy of consideration by the medical man in search of a car.

The Star Cycle Co., Limited, of Wolverhampton, had on Stand Nos. 111 and 112 specimens of their Royal and Imperial Starling Cars, all excellent machines for a medical man. The Imperial Starling has a single cylinder 8-h.p. engine, governed by variable inlet valves, the crank being of the built-up type with internal fly-wheels. The clutch is of the leather-faced cone type and of good dimensions, and with care should be neither too fierce nor, if kept properly adjusted, likely to slip. A gate change is fitted and three speeds forward and a reverse, the motion shafts running on ball bearings. The transmission is by cardan shaft to the now popular live axle. Two internal expanding brakes are fitted on the road wheels and a powerful foot brake works on the gear box shaft. A fan keeps the radiators cool and the water is circulated by a centrifugal pump driven by friction off the fly-wheel. This form of pump is similar to the one used on the old 7-h.p. Panard and I understand answers well, though personally I must say I prefer a gear driven pump. Ignition is by high tension coil and accumulators and the commutator is in an accessible position; magneto can, I understand, also be arranged for and for a medical man the double ignition is an advantage. The car is light, which means small tyre bills, and as a two-seater with a cape cart hood and a mica wind shield seems an ideal car for a professional man, the only alterations that I would suggest are a gear driven pump and extra high tension magneto ignition and, of course, the Stepney spare wheel—it is an advantage not to be delayed by a puncture. The Royal Starling is much the same, but has a two-cylinder engine of 10 h.p. and can be turned out with either a two- or four-seated body; the one shown with a four-seated body appealed to me as it was not too large for ordinary work and was also roomy enough for a tour with a couple of friends and baggage. Another advantage of these cars is that they are very simple and so in every way suitable for the owner who does not desire to employ a regular chauffeur.

Those in search of a larger and more powerful machine will perhaps fancy that shown by the Union Motor Car Company of Denbigh-street, London, who on Stand No. 89 had a fine specimen of Italian work in a 20-h.p. chassis, manufactured by the Societa Meccanica Bresciana, of Milan, which had four cylinders, variable lift to valves, Eiseman high tension magneto, automatic carburettor, single metal to metal clutch, positive lubrication by pump, four speeds and reverse with direct drive on top speed, gate control and cardan shaft transmission, with two universal joints. The metal expanding brakes have a neat compensating device, a differential gear in miniature making it impossible to apply the back brakes unequally. The makers seem to have a good opinion of their work, as a six years' guarantee is given against faulty material or workmanship. I do not know of any other manufacturer giving one covering such a long period.

The Reo Motors, Limited, of Broad Sanctuary, London, had on Stands Nos. 62 to 67 a fine collection of their cars ranging from 10 to 22 h.p. Their 10-h.p. single cylinder has a horizontal engine 4¾ by 6 inches, with transmission by a planetary gear giving two speeds forward and reverse, the drive being by single chain. Cooling is by a positive gear pump and the ignition is by accumulator and high tension coil, and at the price, £125 it certainly is worthy of consideration. It is true that horizontal engines are not fashionable, but the old Wolseleys had such engines and they did excellent work, and the fact that vertical engines are now so much in demand does not mean that they are the best.

An excellent four cylinder car is the Empress, exhibited on Stand No. 117 by the Empress Motor Company of Manchester. The cylinders are cast in pairs and the valves work in cast iron guides, while the pistons are of steel, which seems certainly a step in the right direction. Ignition is by low tension magneto in conjunction with a coil, so with an accumulator a double ignition is provided, which for a medical man is certainly an advantage. The clutch is of the internal type, faced with leather, and being mounted on the crank shaft is bound to remain always in alignment with the fly-wheel. The carburettor is the invention of the designer of the car and is so constructed that the motor is supplied with a constant mixture of petrol and air, irrespective of the speed of the motor, thus insuring great engine flexibility. Another low-priced four cylinder car well worthy of inspection is the F. N., shown by the F. N. Agency, of Great Portland-street, London. This is a Belgian car, built at Herstal, near Liège. The valves are all located on one side and operated off a single cam shaft; the crank, which runs in three long bearings, is slightly desaxe, cooling is by a centrifugal pump, and a fan is fitted behind the radiators. Lubrication is by positively driven pump. The clutch is of the friction-cone type and the male cone can be easily removed; it is connected by a flexible coupling to the change-speed gear, so the alignment of these parts is not affected by any movement or twisting of the frame. The transmission to the back axle is by a cardan shaft, having a universal joint at each end, and the joints are well protected from mud and dust. Ignition is by a high-tension magneto and the distributor is easily accessible, which is a great advantage.

Messrs. R. Reynold Jackson and Co., of Notting Hill-gate, London, had some light cars on view, of which the dog-cart and four-seated phaeton were most suitable for medical work. I understand that they will shortly introduce a special car for medical men with a De Dion engine. A body that was most beautifully upholstered was the "Sedan Chair," shown by the Metropolitan Garage Association of 12A, Palace-street, Westminster, London. The levers were all brought inside the carriage and the driver is absolutely protected, and if painted in a colour less easily soiled I cannot imagine a more comfortable or more suitable body.

A most useful device for motorists having a driver is the Donisthorpe Petrol Meter. It tells whether the driver is careful or wasteful with petrol, whether the car has been used for unauthorised trips, and whether the engine is working economically or not. It indicates precisely how much petrol is put into the tank, how much is used each mile of the journey, and how much remains at the journey's end. This meter, which is made by the Donisthorpe Patents Co. of 5, Southampton-street, Strand, London, can be quickly fitted and certainly is an advantage to owners who employ

TUBERCULOSIS AND THE MILK-SUPPLY.

To the Editor of THE LANCET.

SIR,—A conference was held at the Town Hall, Manchester, on Feb. 28th, of delegates representing the public health committees of the cities of Liverpool, Manchester, Birmingham, Leeds, and Sheffield in regard to the danger to man of milk containing the living infection of tuberculosis. Each of the above cities has had by reason of local Acts of Parliament considerable experience in the examination of samples of dairy milks for this infection. The result of this experience may be briefly stated by saying "*that the milk in about 10 per cent. of the churns sent into these towns contains the living infection of tuberculosis.*" From experience elsewhere it is almost certain that this high proportion is exceeded in many districts.

The report of the Royal Commission on Tuberculosis issued in January, 1907, states that "there can be no doubt that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis; and there can also be no doubt that in the majority at least of these cases the bacillus is introduced through cows' milk. Cows' milk containing bovine tubercle bacilli is clearly a cause of tuberculosis and of fatal tuberculosis in man."

With this important statement, and the knowledge that in their own towns the amount of infected milk was large, the conference decided to approach the Government with a view to getting effective steps taken to eradicate bovine tuberculosis. The conference felt much strengthened in urging adequate preventive measures by the knowledge that any steps which will effectively deal with the tubercle-infected milk will at the same time benefit all consumers of milk in the direction of insuring a cleaner supply. And again, they feel that the direct benefit to farmers and butchers in preventing loss due either to the reduced value of the stock or to the seizure of tubercular meat intended for human food will be an important one. The conference passed the following resolution:—

> That having regard to the experience of the five towns whose delegates have conferred on this subject, and also to the return recently made to the House of Commons at the request of Dr. Rutherford, a representation be made to the Presidents of the Local Government Board and the Board of Agriculture and Fisheries with a view to inducing these Boards to take effective steps to enforce uniformly throughout the country proper and suitable inspection of dairies and cowsheds, and for regulating the construction of such dairies and cowsheds so as to insure cleanliness and suitable hygienic conditions; and further, that the Government be respectfully asked to include in their prospective legislation dealing with milk, clauses calculated to bring about the eradication of tuberculosis from bovines within a measurable period of years.

It is intended to present this resolution to both the Local Government Board and the Board of Agriculture.

I am, Sir, yours faithfully,
THOMAS FLETCHER,
Chairman of the Conference and Chairman of the
Health Committee of the Corporation
of Birmingham.

The Council House, Birmingham, March 21st, 1908.

CALMETTE'S TUBERCULIN TEST IN 210 ASYLUM PATIENTS.

To the Editor of THE LANCET.

SIR,—I have recently applied the Calmette test to 210 patients in this asylum. After reading the many papers on the subject I took the reliability of the test for granted and undertook its application with a view to ascertaining the proportion of tubercular cases here, influenced as I was by the proposed building of a verandah for such patients and the question of the necessary amount of accommodation to be provided. In performing the test I left out every patient where struggles or excitement was likely to interfere with the proper application of the tuberculin to the eye. I selected only those whose eyes were healthy. The 210 patients constituted 80 per cent. of the total paupers resident. At the time there was only one case of active phthisis. This girl, tested with a solution of 1 in 150, gave the reaction in three hours. There were also four cases where the patients had during the past two years suffered from active pulmonary tuberculosis, but all were in a quiescent state and in good condition after prolonged open-air treatment. All four reacted to a 1 in 150 solution. Of the others 91 patients gave a positive reaction. Many of these were undoubtedly of poor nutrition but none of them as yet have furnished any other proofs of tubercle.

One hundred cases were tested with the 1 in 150 solution, the remaining 110 with solutions varying in strength from 1 in 300 to 1 in 700. Taken in batches of 25 for each particular solution it was found that there was a slightly reduced proportion of positive reactions as the solution was weakened. In the batch tested with 1 in 700 there were six positive reactions; two of these in very healthy persons were the most violent reactions of all the cases. If the test be reliable it cannot anywhere be of such service as in an asylum where the symptoms of tubercle like those of other diseases are often more obscure than usual and where early separation of the affected cases is so desirable. This asylum has had for years the reputation of being singularly free from tubercle, though in the past year the death-rate from phthisis has gone up, but a proportion of nearly 50 per cent. of positive reactions to the Calmette test suggests either a serious condition of affairs here or a want of reliability in the test. It would be rash in view of other experiments performed by specialists to accept the latter theory and so it seems to me that it is not verandahs or sanatoria for consumptive patients alone that we so much need as a general extension of the system of open-air treatment of all the insane.

I am, Sir, yours faithfully,
JAMES P. STURROCK, M.A. St. And., M.D. Edin.

Midlothian and Peebles Asylum.

A DIAGNOSTIC SIGN OF INFLUENZA.

To the Editor of THE LANCET.

SIR,—Since the reappearance of influenza in 1889 I have attended many thousands of cases and for several years have noticed that in every case there is present a swelling or œdema of the uvula. This swelling gives the uvula a pale, waxy, œdematous appearance. It is found at the commencement of the attack and usually lasts for several days. It is often present before there is any rise of temperature and remains after the temperature has fallen to normal. It is therefore useful in diagnosing very early cases and also those seen after the acute symptoms have passed off. I believe this œdema of the uvula is a certain sign of influenza. The present epidemic will give many medical men an opportunity of observing this sign.

I am, Sir, yours faithfully,
W. GIFFORD NASH.

Bedford, March 28th, 1908.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—I have to sincerely thank you for the patient and impartial hearing you have given me on the above matter and, if I am not mistaken, *time will show* that there are a great many besides myself—general practitioners, "specialists," and public—who will also have reason to be grateful to you. If Dr. Saundby will refer to my letter of March 14th ult. he will see that I specifically mentioned that "the patient or the patient's friends must needs agree" to my proposal: that *one-third* of an upset fee for surgical (or special medical) treatment and after-attendance with assistance at operation be paid "on the nail" to the family practitioner and two-thirds to the so-called "specialist," the fees of either practitioner ranking equally as when and how paid or payable in due proportion. Dr. Saundby has no doubt misunderstood me and as a consequence has misrepresented me, so that his "slight modification" was quite unnecessary.

The main point is, that my proposal is, according to Dr. Saundby, late President of the British Medical Association, chairman of its ethical committee, member of the General Medical Council, and an acknowledged author of a valuable work on ethics, "*a perfectly honest and fair transaction.*" That is my point fully conceded and the rest does not now matter.

What is to be expected from this important reform in medico-chirurgical tariff? (*a*) It will be a powerful lever in stopping hospital abuse; (*b*) it will meet the pockets of patients whose resources are slender, but who desire to pay for what they get in proportion; (*c*) it places the interests of the general practitioner and "specialist" on an equal drowsiness and contraction of the pupils which he observed were due to the opium in his son's medicine. On the following morning Mr. F. H. Fawcett was called in. According to his evidence he found the patient comatose, with pin-point pupils, a temperature of 96° F., and stertorous breathing. He found traces of albumin in the urine but did not consider that there were indications of the kidneys being affected sufficiently to account for the state in which the man then was or to account for his death which took place that night. Dr. G. C. Low, pathologist at the West London Hospital, who had held a post-mortem examination by order of the coroner, gave evidence that he had found no disease except that the heart was flabby with thin walls; the lungs had spots of tubercle, and the substance of the kidneys was slightly fatty but there was no Bright's disease. He was of opinion that the diarrhœa was not of a typhoid but of a tuberculous nature, and that there was no disease to account for the death which, he had no doubt, was due to opium poisoning. After a prolonged inquiry the jury found a verdict of "Opium poisoning due to misadventure," adding a rider by which they requested the coroner "to caution severely the druggist against prescribing medicine indiscriminately and especially for giving poison without caution." The druggist had given evidence after being informed by the coroner that in the circumstances he need not do so. He took up the position that he did not transgress the law in handing to the woman a medicine for diarrhœa when she asked for one but that he would have done wrong if he had examined the patient or had joined in a consultation with regard to him, and he considered that what he had done did not amount to making a diagnosis. With regard to the question of selling a poison without so describing it on the label, he relied on the exemption in the Pharmacy Act, 1868, Section 17, applying to poisons forming part of "ingredients dispensed by a person registered" under the Act. It was then pointed out to him that even if this application of the term "dispensing" were correct, the exemption only applied when medicine was dispensed under conditions which included the entry of the ingredients in a book with the name of the person to whom it was sold, and he admitted that he had made no such entry. For this omission he had no explanation except that it was an error. Discussion took place with regard to the terms of the Apothecaries Act and the Pharmacy Act so far as they might apply to conduct such as that admitted by Mr. Thomson, and it was shown that they were not susceptible of easy interpretation. The coroner, in summing up to the jury, laid stress upon the gravity of the position in which Mr. Thomson had placed himself by what he had done. He was not, however, of the opinion that his conduct amounted to criminal negligence such as would involve the charge of manslaughter, but rather to recklessness to be met by such censure as the jury afterwards found to be due. It will be enough to add that in the interests of the public, of the medical profession, and of the druggists the position of the last named should be more strictly defined, and that their responsibility in attempting to treat disease should be made so clear that any approach to doing so would be avoided by them.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions should have been included in the first list of contributions to this fund which was published in THE LANCET last week:—

Subscribers of One Guinea.

C. R. Graham, Wigan.
G. J. W. Pluching, Gravesend.
W. E. Thomas, Bridgend.
H. Egerton Williams, Newport, Mon.

A second list of subscriptions has now been sent to us by Mr. William Sheen and includes support which he has received between March 21st and 28th:—

Subscribers of Five Guineas.

Plymouth Medical Society, per J. Elliot Square.
Woolwich, Plumstead, and Charlton Medical Union, per E. Atkins.

Subscribers of Two Guineas.

Sir John Broadbent, Bart., London.
T. M. Butler, Guildford.
Philip Frank, London.
W. W. Leigh, Treharris, Glam.
Grantham Medical Society, per J. W. Hancock Stell.
J. Crawford Renton, Glasgow.
T. J. Walker, Cambridge.

Subscribers of Two Pounds.

South Essex Division, British Medical Association, per W. Cardy Black.
W. Domett Stone, London.

Subscribers of One Guinea.

W. F. Addey, Croydon.
H. A. Ballance, Norwich.
Arthur Bevan, London.
G. Buckston Browne, London.
W. S. Carroll, Pontypridd.
W. A. Collins, Bexley.
W. Cotton, Bristol.
C. J. Cullingworth, London.
C. A. Ensor, Tisbury, Wilts.
Frederick Eve, London.
L. G. Glover, London.
Geo. Govan, Cockermouth.
J. A. Hall, Huddersfield.
P. S. Hichens, Northampton.
A. H. W. Hunt, Wolverhampton.
F. H. Jacob, Nottingham.
Hugh Lett, London.
H. R. Campbell Litchfield, Twickenham.
E. Muirhead Little, London.
T. R. Llewellyn, Penygraig, Glam.
F. Manser, Tunbridge Wells.
John Marnoch, Aberdeen.
Andrew McFarland, Aylesbury.
L. M. McIntosh, Blackpool.
Norman Porritt, Huddersfield.
J. G. Rowell, Huddersfield.
R. P. Rowlands, London.
S. H. Sharpe, Goring-on-Thames.
G. C. Sprawson, Blackpool.
Edward Turner, London.
Dawson Williams, London.
John H. Wood, Hereford.
R. J. Worger and J. Pratt, Radstock, Bath.

Subscribers of One Pound.

G. Leonard Brown, Pau, France.
N. H. Harris, Surgeon, R.N.

Subscribers of Half a Guinea.

C. S. Bowker, Pontnewydd, Mon.
John Brown, Bacup.
C. W. Cathcart, Edinburgh.
J. Charles, Stanley, Durham.
A. J. Couzens, London.
E. Hooper May, London.
F. J. Nicholls, Eltham, Kent.
A. G. Osborn, Dover.
W. P. Purvis, Southampton.
M. K. Robinson, Dover.
A. Scot-Skirving, Edinburgh.
A. C. Wood, Nuneaton.
M. A. Wood, Ledbury.

Subscribers of Five Shillings.

B. Jex Blake, Hereford.
H. Leak, Winsford, Cheshire.

Erratum.—The name of J. B. Footner, Tunbridge Wells, was wrongly included among those of subscribers of one guinea last week. It should have been inserted in the two-guinea section of subscriptions.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 3rd, 1830.

ACTION OF ASPARAGUS[1] ON THE CIRCULATION.—Digitalis and prussic acid possess the property of weakening the action of the heart, but the employment of these medicines is frequently prevented by the gastric irritation they produce. M. Broussais proposes, as a substitute for these remedies, asparagus, which is perfectly inoffensive to the stomach, and acts as a sedative upon the heart. If a patient, who is suffering from hypertrophy and excessive action of the heart, eat asparagus, M. Broussais assures us he will find relief; and if the remedy be discontinued, the habitual symptoms will return. Syrup of the green ends of asparagus, like the plant itself, has the power of diminishing the action of the heart, without annoying the stomach. A man, having hypertrophy of the heart, perceived a very decided alleviation of his sufferings while he was in the habit of eating asparagus, and he consequently prepared a syrup of the plant for use when it was out of season. A physician whom M. Broussais does not name, but to whom he is indebted for this discovery, collected many cases in support of this statement; and the Professor of Val-de-Grâce declares that it is confirmed by the result of his own experience.—*Ann. de la Méd. Phys.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8583 births and 5405 deaths were registered during the week ending March 28th. The mean annual rate of mortality in these towns, which had been equal to 17·6, 17·2, and 16·9 per 1000 in the three preceding weeks, rose again to 17·4 in the week under notice. During the 13 weeks of the past quarter the annual death-rate in these towns averaged 18·0 per 1000; the mean rate in London during the same period did not exceed 17·6. The lowest annual death-rates in the 76 towns last week were 9·5 in East Ham, 9·6 children it is quite as important that the parents should be in the finest physical condition and they should therefore be carefully selected so that the stud farm might show satisfactory results. An era of perfection has not yet arrived and may possibly not be hastened by the best intentioned panaceas, so that for the present we must go on doing what can be done by individual effort, by individual help such as is given by the Ladies' Sanitary Association, and by the cultivation of sincerely friendly relations between the various sections of the people. In regard to all these matters it is to be hoped that after the throes and strife of the present educational turmoil a more practical, more impressively moral, and less lifeless, machine-made education may be evolved.

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[1] It may be interesting in conjunction with the above to recall an annotation entitled "Is Asparagus Wholesome?" which appeared in THE LANCET of May 19th, 1906, p. 1405.

The late William Walter, M.A., M.D. Dub., F.R.C.S. Irel.

Manchester has sustained a serious loss by the death of Dr. William Walter who for many years had stood in the front rank of the local medical profession. He was honorary surgeon to St. Mary's Hospital and to the Manchester and Salford Lying-in Hospital, and contributed many papers to the medical journals on gynæcological subjects. His body was cremated at the Manchester crematorium on March 20th. In addition to the widow and sister there were many private mourners and a large attendance of medical and other friends, some of whom represented the Medical Society of Manchester, the Clinical Society, the South Manchester Division of the British Medical Association, and other societies.

Ink Applied to Scalds.

A child, three years old, was playing in the kitchen on March 25th, when, as small children are prone to do, he pulled over a vessel of scalding hot coffee. His back was severely scalded and he died in the Manchester Royal Infirmary on the next morning. When the child arrived at the infirmary his back was covered with ink. The father said that he thought the ink would do the scalds good. The coroner remarked that it was the most weird thing he had ever heard of to put ink on wounds received by scalding and the foreman of the jury added that it was a most ridiculous thing to do. With these opinions many will agree.

March 31st.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondent.)

The Notification of Pulmonary Tuberculosis.

A conference was recently held at Merthyr Tydvil on the initiation of the board of guardians to consider the desirability of making pulmonary tuberculosis compulsorily notifiable within the Merthyr Tydvil union. Those who took part in the conference represented the corporation of Merthyr Tydvil and the district councils of Aberdare, Gelligaer, and Rhigos, and Vaynor and Penderyn. Mr. J. L. W. Ward, the medical officer to the workhouse, said that compulsory notification would enable the sanitary authorities to advise those responsible for the care of patients as to the necessity for isolation and in other ways to prevent the spread of the disease. Dr. A. Duncan, the medical officer of health of Merthyr Tydvil, was of opinion that notification by itself would be of little advantage. He thought that the boards of guardians might do more than they do at present for the family of a worker when the latter was undergoing treatment and spoke with approval of the establishment of a special dispensary where curable cases could be discovered and sent for treatment to a suitable institution. Ultimately a resolution was carried approving of the principle of compulsory notification of the disease.

A Combined Sanitary District in Monmouthshire.

One of the results of the inspections of the colliery districts in the Western valleys of Monmouthshire during the past few years by medical inspectors of the Local Government Board has been a very strong recommendation by the Board to two district councils to appoint a whole-time medical officer of health to act jointly for certain adjacent districts. All the councils concerned have been very much opposed to this recommendation, but at a meeting recently held between delegates from the authorities and the medical officers of the Board the latter emphasised the advantages that would arise from the formation of a combined district and it is probable that one will now be made.

Exhibition of Week-end Cottages at Malvern.

In very many schemes for the provision of houses for the working classes it has too often happened that the dwellings when erected have not been occupied by the class of persons for whom they were intended. Rows of low-rented cottages have been tenanted by well-paid artisans and detached dwellings in garden cities have been utilised as week-end cottages by the well-to-do. The promoters of an exhibition of small houses to be erected on the western slope of the Malvern Hills state quite frankly that they do not desire the erection of houses for the working classes but small inexpensive dwellings suitable for the requirements of a better class of tenants. Prizes will be given for the best and second best of three different types of dwellings: one to contain at least four bedrooms and to be either detached or semi-detached, to cost between £300 and £500; a second to be in the form of a detached bungalow and to contain at least six bedrooms, to cost from £500 to £800; and a third of a more pretentious character to contain eight bedrooms and to cost between £800 and £1200. The land which is set apart for the proposed buildings will be let for the first year at a peppercorn rent and subsequently either leased or sold outright. The capital cost of the land will range, it is said, from £100 to £300, according to the amount and position of the plot. The parish of Colwall in which the houses will be erected is one of the healthiest parts of Herefordshire. The death-rate, according to the recently issued report of the medical officer of health, was in 1907 only 5·6 per 1000 and the average rate in the past seven years was 8·5 per 1000. Under the terms of a recent Act of Parliament the district is supplied with water from the mains of the Malvern urban district council.

March 31st.

SCOTLAND.

(From our own Correspondents.)

The Medical Education of Women in Edinburgh.

The close of the winter session in Edinburgh has been signalised by a considerable amount of excitement and activity on the part of a section of those who are interested in the medical education of women in Edinburgh. To understand the position aright it is necessary to recall the steps which have led up to the present. The establishment of a medical school for women in Edinburgh was due to the energy and resourcefulness of Dr. Jex-Blake. The school which she established was not long in existence when a split occurred which led to an action at law and the starting of an opposition school. The schismatics, if the word can be used without offence, got a certain measure of public sympathy and support and an association was formed called the Scottish Association for the Medical Education of Women. A board of lecturers was appointed from the junior members of the extramural school. The association consisted of (1) persons who contributed a small sum per annum to the association; (2) the lecturers who were to pay to the association a percentage of their class fees; and (3) the students who were to pay a matriculation fee to the association. These contributions were required to meet the expenses incurred in the form of rent for premises and a lady secretary's salary, &c. A number of persons were appointed as the court of the association with a president to preside over its deliberations. The members of the court were to be appointed, so many by (1) the members of the association, including contributors to its funds, lecturers, and students; (2) by the lecturers; and (3) by the students. At first the number of students was very small, five or six, perhaps; humble but efficient accommodation was obtained in Chambers-street, including an office and a dissecting room. Some of the lectures were given in these rooms, others were given elsewhere, according to whether the lecturer had his rooms elsewhere or not. At that time women were not admitted to the degree in medicine but were admitted to the double or triple qualification given by the licensing bodies. Owing to changes in the extramural school the anatomy room and some other rooms at Minto House, Chambers-street, became available and the association rented them for the use of its students and transferred the secretary's office to them. The University, after considerable agitation, opened its degree to women and accepted the classes supplied by the Scottish

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Hampshire: Percy James Sandys Bird (late Surgeon-Captain, 1st West Riding of Yorkshire Royal Garrison Artillery (Volunteers)), to be Second Lieutenant (dated Feb. 1st, 1908). 1st Northumberland: Surgeon-Captain (Honorary Captain in the Army) John Wreford to be Surgeon-Major (dated Jan. 21st, 1908).

Rifle: 3rd Volunteer Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant Herbert M. Jamieson resigns his commission (dated Feb. 29th, 1908). 5th (Irish) Volunteer Battalion, The King's (Liverpool Regiment): Surgeon-Captain John J. O'Hagan to be Surgeon-Major (dated Feb. 25th, 1908). 1st Volunteer Battalion, The Hampshire Regiment: Surgeon-Lieutenant Herbert J. Godwin to be Surgeon-Captain, remaining supernumerary (dated Feb. 22nd, 1908). 2nd Volunteer Battalion, The Hampshire Regiment: Surgeon-Lieutenant Robert E. Lauder to be Surgeon-Captain (dated Feb. 7th, 1908). 3rd Volunteer Battalion, The Essex Regiment: Surgeon-Captain Francis J. Warwick to be Surgeon-Major (dated Feb. 26th, 1908). 3rd Volunteer Battalion, The Queen's Own (Royal West Kent Regiment): Surgeon-Captain Lewis T. F. Bryett to be Surgeon-Major (dated Jan. 21st, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Liverpool Bearer Company: Captain Samuel H. House resigns his commission (dated March 31st, 1908).

DEATHS IN THE SERVICES.

At Wellington, Somerset, on March 24th, Colonel Joseph Henry Moore, R.A.M.C. (retired), in his sixty-fourth year. The deceased had been for 30 years in the service. He was in the Ashanti War, 1873–74, being at the defence of the hospital at Foomana (medal and clasp). In the Afghan War, 1878–79, Colonel Moore was present at the occupation of Candahar, the battle of Khelat, the Ghilzai actions, and also at Ahmed Khel and Urzoo (mentioned in despatches, medal, and clasp). Subsequently Colonel Moore served in India and was principal medical officer both at Quetta and Bombay.

Surgeon-Major-General Thomas William Fox, A.M.S., on March 28th at his residence at Rochester. He joined the service as assistant surgeon in 1852, became surgeon in 1860, surgeon-major in 1872, deputy surgeon-general in 1880, and surgeon-major-general in 1887. He retired in the following year. He served with the 14th Light Dragoons in the Persian campaign of 1857 and was present at the bombardment of Mohumrah (medal with clasp).

OUTBREAK OF DIPHTHERIA ON H.M.S. "IMPREGNABLE."

It has just been officially notified that owing to the number of cases of diphtheria on board the *Impregnable* (the boys' training establishment at Devonport) the ship has been placed under sanitary regulations. For some time there have been an unusual number of cases of illness and over 100 boys have been removed to the Royal Naval Hospital, Stonehouse, including 24 suffering from diphtheria. There are now about 700 boys and instructors on board.

RECRUITS AND BAD TEETH.

At a meeting of the Royal Dental Hospital held on March 26th the Hon. W. F. D. Smith, M.P., who presided, called attention to the large number of recruits for the army who were rejected owing to their teeth being too bad to eat army food.

Colonel Valentine Matthews, late commanding London Companies Royal Army Medical Corps (Volunteers), has been appointed an honorary officer (1er Jefe Honorario) of Ambulancia No. 3 (Madrid), Spanish Red Cross.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.—The annual general meeting of the Medical Graduates' College and Polyclinic was held at 22, Chenies-street, London, on March 27th, Dr. C. Theodore Williams being in the chair. The annual report, which was duly adopted, gave an interesting account of the success and the progress of the institution, the total number of attendances of medical men at the lectures and cliniques making a grand total of 13,852. The courses of instruction in opsonins and vaccine therapy had attracted a great many practitioners, and the clinical investigations conducted by Captain A. E. H. Pinch, I.M.S. (retired), the medical superintendent, had proved as profitable as they were successful.

Correspondence.

"Audi alteram partem."

"AUDI ALTERAM PARTEM."

To the Editor of THE LANCET.

SIR,—Many members of our profession have noticed with regret a statement that Mr. Edge, a judge in the Clerkenwell county court, has seen fit to criticise in very forcible language the conduct of a much respected medical practitioner. In the case of Cropper *v.* Stokes it was asserted by the plaintiff that Dr. Henry Fraser Stokes of Highbury had agreed to attend a patient at Horsham, that he stated his fee to be 5 guineas per visit, that he agreed to reduce this fee to 3 guineas (the charge per visit made for a previous attendance at Oxted, a much nearer point), that he subsequently demanded a cheque in payment on the 5-guinea basis, promising to refund £17, which would practically restore the 3-guinea scale, and that he did not make restitution as promised. Medical men will at once recognise that such an arrangement as this would be unique in the annals of practice and that improbability—nay, impossibility—is stamped on the face of it. Its existence was absolutely denied by the defendant. On the side of the plaintiff there were three witnesses. Dr. Stokes himself gave evidence for the defence. The judge appears to have had no difficulty in believing the stronger seeming side, and incidentally he is reported to have accused Dr. Stokes of perjury and that in terms which were not distinguished by moderation. To those who know Dr. Stokes its mere association with him is incredible. Mr. Edge is said to have based his decision and his strictures on the facts that the plaintiff was supported by several sworn witnesses and that these were corroborated by correspondence.

Under all the circumstances, Sir, I feel sure that your readers will be interested in hearing the other side of this singular case. In the first place, the "correspondence" referred to, which seems to have brought such weighty consequences in its train, was on one side only, like the bulk of the evidence—namely, on that of the plaintiff. No letter came from Dr. Stokes. Further, the assertion that fees once fixed at 5 guineas had been reduced to 3 guineas is without foundation. There is, indeed, no reason for such a reduction but every reason to the contrary.

Horsham is 39 miles from London, Oxted but 20, and the assumption that both places could be set on an equality of remuneration will commend itself to no sane man acquainted with medical procedure. Finally, the alleged engagement to receive a cheque and to refund a portion of it is, as every practitioner would suppose, entirely imaginary. It may have arisen, as has been suggested, by what process of logic I cannot conjecture, from a statement by Dr. Stokes that in the event of poverty on the plaintiff's part being shown he might consider some reduction of the amount due to him; in fact, from the sort of optional and provisional concession which medical men are making every day and which in future they are likely to make with greater caution than hitherto, if at all.

Such is the case and such the conditions of judgment which have given rise to the most emphatic reprobation of a universally respected and estimable practitioner engaged in simply maintaining his right to adequate remuneration. With Mr. Edge's position as a judge in dealing with a numerical balance of evidence or in sifting its purity I do not concern myself but certain points about this case must, I think, stand out in relief. These are the mainly one-sided character of the evidence, the imputation of perjury without any demonstrated proof, the violence of denunciation which attended this, and, lastly, the harshness which denied an appeal against a judgment with these aggressive accompaniments. It is possible that on reflection Mr. Edge himself regrets the freedom of his remarks and, if so, he cannot as a gentleman do less than state the fact. As for Dr. Stokes, he may rest assured that whatever the temporary discomfort of his present position he cannot forfeit the esteem of his medical brethren.

I am, Sir, yours faithfully,

Green-lanes, N., March 31st, 1908. B. G. MORISON.

Barnhill Poorhouse, 2542 patients; or, in all, 5104 patients. The cost of indoor medical relief for last year was £6556 at Stobhill Hospital, £2562 at the Eastern Hospital, £1916 at the Western Hospital, and £1795 at Barnhill Poorhouse. The medical cost of each patient in the various hospitals thus varies from 1*s.* 5*d.* to 3*s.* 11¾*d.* per week.

Cancer Hospital, Glasgow.

Glasgow will soon be furnished with a perfectly equipped Cancer Hospital in Garnethill, where large extensions to the old building are at present in progress. These extensions are estimated to cost £21,550 and towards this the directors have already in hand £17,980, including the sum of £1500 given by the corporation.

Frozen Boneless Meat.

The veterinary surgeon of the corporation of Glasgow has been asked to report on the regulations which in his opinion should be issued under the powers of the Public Health (Regulations as to Food) Act, 1907, in regard to frozen meat. In his opinion all meat imported from over seas ought to be presented for examination in such a form as to enable the inspectors here to revise the work of inspection at the place of slaughter. To enable this supervision to be exercised he suggests that all meat should be presented for examination as follows: beef, either in sides or quarters; mutton, lamb, and veal in carcasses; and pork in sides. Were such regulations to be enforced all boneless meat or scrap would be entirely excluded. He suggests that stripping or tampering in any way with the serous membranes should be prohibited and certain groups of the lymphatic glands ought to be mentioned specifically as requiring to be retained *in situ*. Provision should also be made that all pork imported into the country is examined microscopically for trichina spiralis. All preservatives other than common salt ought to be prohibited. In order to facilitate such work of inspection all imported meat ought only to be permitted to enter the country through certain specified ports. In that case it is suggested that the inspection staffs should be appointed and paid by Government and not by the local authorities.

The Glasgow Royal Infirmary Club.

Although for many years the past and present residents of the Glasgow Royal Infirmary have had an annual dinner it was only last year that as a result of these meetings the "Glasgow Royal Infirmary Club" was formed. The first annual dinner of the club was held in the Grosvenor Restaurant last week, Dr. John Aikman of Guernsey being in the chair. There was a large attendance of past and present residents and a very enjoyable evening was spent. The committee of the club is preparing for publication a list of all past residents from the opening of the infirmary in 1795. The list is particularly interesting in showing the great development of the work done since that time. In 1796 there was only one physician's clerk. In 1798 a surgeon's clerk was appointed but he also officiated as apothecary and in some years as chaplain in addition. Now there are 15 resident assistants. In preparing the list there has been some difficulty in obtaining addresses for the names on the roll and it is hoped that all past residents who have not received notice of the dinner will communicate with the secretary, Dr. James Scott, 103, Hyndland-road, Glasgow, and will give what information they can concerning the men of their time. The subscription for the life membership of the club is 10*s.* 6*d.* and it has been arranged that the annual dinner will in future be held on the second Friday in March.

March 31st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

University Bill for Ireland.

Mr. Birrell's University Bill for Ireland, considering the grievous nature of the difficulties presented by the question and the long-standing of those difficulties, has been received by the country concerned with a good deal of the pleasure that it deserves. Absolute satisfaction was not to be hoped for, and the criticisms both of Belfast and the Royal College of Surgeons in Ireland were anticipated and to some extent are reasonable. But the general feeling appears to be that the passing of this Bill will give a vast impetus to professional education in Ireland, a consummation which all medical men must devoutly desire.

Emigration from Ireland.

In 1907 the total number of emigrants who left Ireland was 39,562, an increase of 3644 as compared with 1906. Of these emigrants the males exceeded the females by 3000, and it is deplorable to find that 84 per cent. of all the people who left Ireland in 1907 were between the ages of 15 and 35 years, while it is noteworthy that the age period of between 20 and 25 years furnished the largest numbers of both males and females, showing that young men and women in their prime who ought if possible to be retained in the country are leaving it, to the great loss and injury of the country. The only one of the four provinces that did not show an increase in the number of its emigrants last year was Connaught, in which a decrease of 310 was reported.

The Recorder of Dublin on Crime and Insanitation.

The Recorder of Dublin took the opportunity, in opening the business of the city criminal sessions on March 26th, to refer at some length to one of the most important questions now engaging the public attention of our citizens—the housing of the poor and the connexion of the same with public health and with public morality and political justice. After congratulating the grand jury on the comparative freedom of their city from the graver classes of crime, in which it compares so favourably with many or most of the other large cities of the Empire, the Recorder passed to a consideration of the housing of the working classes. The transition exposed the contrasted conditions: while the slums of Dublin are conspicuously free from the worst forms of crime their physical conditions present a bad pre-eminence. The Recorder declared, as so many have declared before him, that the wretched dwellings of the poor were "largely the source of the drink evil, most certainly the source of the disease, and in many respects the cause of the crime, such as it is, which prevails in the city." He continued: "I cannot conceive the existence of the present condition of the houses of the working classes except upon the supposition of the long subordination of the interests of the poor and humble to vested interests in their disease, misery, and vice. I trust that some measure will be found to enable this eating canker in our midst to be eradicated. It affects the physical and moral well-being not only of our poorer citizens but of every inhabitant of the city." The truth of these remarks is well known to every observant citizen, and the one encouraging feature connected with their enunciation is that coming from such a source they are sure to receive a great deal of attention. In Dublin 24,000 families are living in single rooms, and it is to the effects of this appalling prevalence of the *tenement room* residence of so large a proportion of the families of the whole population of the city that the proverbially high mortality of the Irish metropolis is really due.

Election of Professor of Medical Jurisprudence and Hygiene in the Catholic University, Dublin.

The vacancy in the professorship of medical jurisprudence and hygiene, which was recently created by the sudden death of Professor Antony Roche, was filled on March 27th by the election of Professor E. J. McWeeney who already occupies the chair of bacteriology in the Catholic University. The reputation of the new occupant of the chair has been so well established for a considerable number of years in the science of bacteriology and in the various domains connected therewith, that no surprise was expressed at the double nature of the duties which he will now discharge in the teaching staff of an important and growing medical school. The wide range of Professor McWeeney's attainments have always been highly appreciated by his pupils and his colleagues; while in the pathological section of the Royal Academy of Medicine in Ireland—of which he is an ex-President—his communications have always been heard with great interest. He is also bacteriologist to the Local Government Board in Ireland; and his contributions to such periodicals as the Journal of the Department of Agriculture, the Journal of the Royal Agricultural Society of England, the Proceedings of the Statistical Society of Ireland, and the Proceedings of the Royal Dublin Society are always characterised by their practical utility.

Royal Victoria Hospital, Belfast.

At the 115th annual meeting of the corporation of the Royal Victoria Hospital, Belfast, held in that institution on March 23rd, it was reported that during the past year there had been 3080 new intern patients, which with the 201 remaining over from the previous year, made a total of 3281 cases treated in the wards during the twelve months of footing; (*d*) it insures the practitioner retaining his patient as his own; (*e*) the interests of patient, family practitioner, and "specialist" are now co-extensive, co-equal, and identical; (*f*) a fair chance in life is given to the younger and lesser lights amongst the "specialists"; and (*g*) the amenities of honourable and amicable dealing between the two grades of practitioners will be assured. And all this by a proposal which has been pronounced "*a perfectly honest and fair transaction*" in THE LANCET.

I am, Sir, yours faithfully,
F. W. FORBES-ROSS, M.D. Edin., F.R.C.S. Eng.
Harley-street, W., March 30th, 1908.

DEATHS DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—Certain reports which have recently appeared in the lay press seem to render it desirable that I should make my position with regard to the agitation now proceeding quite clear. 1. I maintain that a certain number of deaths from anæsthetics is inevitable. 2. In the majority of cases referred to by the coroners the primary cause of death was the nature of the accident or disease from which the patient was suffering and only very remotely the anæsthetic. 3. That even if one accepts the coroner's figures, they afford no justification for alarming the public in the way which is being done, either in themselves or in comparison with the enormous number of operations which are now performed. 4. All who administer anæsthetics are, I am sure, very willing that full inquiry should be made into their methods and results; but I, at any rate, firmly maintain that a coroner's court is not the proper place where, nor are the coroner and his jury the proper people by whom, such inquiry should be conducted. 5. Inasmuch as the tendency to a fatal result is to some extent influenced by the mental attitude of the patient, appeal is made to the coroners to assist in keeping out of the lay press all sensational reports and misleading statements which might tend to create a condition of panic in the public mind.

I am, Sir, yours faithfully,
J. FREDK. W. SILK.
Devonshire-street, W., March 31st, 1908.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Medical Inspection of Children in Birmingham.

THE education committee recently discussed and adopted the report of the elementary education subcommittee upon the medical inspection of school children. The subcommittee recommended that for the purposes of the inspection three medical practitioners and three women attendants should be appointed. The practitioners are to be appointed for one year, with eligibility for reappointment for a second and a third year, and the salary offered is £250 per annum. The salary of each woman attendant is to be £50 per year. The subcommittee further recommended that the present medical superintendent should be converted into the medical officer to the education committee, who should be held responsible for the whole work of inspection and the recording of the results obtained. It is scarcely probable that under the terms of the appointment any but comparatively inexperienced practitioners will be secured for the work of inspection, and it may be questioned whether they will be able to make an examination giving results of any great value in the ten minutes which is the time given as that probably required for each examination. It is estimated that the cost of the scheme will be £1500 per year but there can be no doubt that this sum will be considerably exceeded in the future. The scheme has yet to go before the council and it may meet with considerable opposition.

Food Poisoning.

At a recent meeting of the Midland branch of the Incorporated Society of Medical Officers of Health held in Birmingham there was an interesting discussion upon the subject of food poisoning. We are all familiar with the fact that bacteria may produce poisons in the foods which we eat or they may be introduced into our bodies with the food and act directly upon us. It is perfectly true, as Dr. R. A. Lyster pointed out, that with regard to ptomaines or to the direct action of bacteria there are personal idiosyncrasies and some of us may be immune to many potent organisms or poisons, but we cannot depend upon that immunity, consequently we are all anxious to know exactly where the danger lies and how it is to be avoided. Upon this point, however, the discussion threw no very clear light. Dr. A. Bostock Hill and Dr. H. Malet are impressed with the danger of leaving flesh intended for food in slaughter-houses and they would guard us by insisting upon the entire separation of slaughter-houses from the places in which food is further prepared for consumption. Dr. Robertson and Dr. Lyster appeared to be impressed with the idea that danger lay mainly in the gelatin either produced or used in the course of the preparation of foods. The discussion may lead to further useful investigations but as the matter stands the laity, and even those partially initiated into the mysteries of bacterial action, will have to live in the hope that they may avoid danger, for apparently no easily applied method is known by which the presence of dangerous bacteria and ptomaines can be recognised, and it is obvious that every meat pie and joint of meat cannot be submitted to scientific investigation before it is eaten.

Midland Reafforestation.

Soma data suggestive of distinct advances in the near future were brought forward at the recent annual meeting of the Wolverhampton section of the Midland Reafforesting Association. Apparently, according to the report, no very large amount of planting has actually been done during the past year, 5½ acres of pit mound at Spring Vale and 3½ acres near the Bilston Fever Hospital representing the total of the planting, but the interest of landowners and others has been much stimulated. This is evidenced partly by inquiries and partly by the fact that villages on the outskirts of the district are taking the matter into their own hands and the people of Ocker Hill are planting trees in their own streets. These and other favourable signs indicate that probably in the near future opportunities for more extensive work will be placed in the hands of the Wolverhampton section of the above society.

March 31st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Reformers.

THE annual meeting of the Manchester and Salford Sanitary Association was held on March 27th, under the presidency of the Lord Mayor. In moving the adoption of the report he spoke of the necessity of such an organisation to look after grown-up people, because it was they unfortunately who caused most of the trouble. He advocated better supervision of the milk-supply, for though no doubt as pure in Manchester as in any other city in the kingdom, "it did not follow that it could not be improved." They did not want to harass traders but to see that the supply should be "perfectly pure, or as pure as possible." The meeting was well attended, but it is not to the credit of Manchester that a society so useful, indeed so indispensable as a help to the official custodians of the sanitation of the city, should from the apathy and indifference of a large proportion of the well-to-do be crippled in many directions by want of funds. A widespread small subscription would in many ways be better than large sums from the few. An address was given by Mr. H. J. Tennant, M.P., on the "Children's Health Charter," and Mr. W. Thomson, F.R.S., gave a demonstration on the Air of Schools, &c. Mr. Tennant said that the medical inspection of school children should be only the first step towards a greater and wider scheme of school hygiene. The obvious corollary of it was medical treatment. It is, of course, much to be desired that when children require it they should be medically treated, but to some of us, who may be considered very backward, it seems not altogether wise to reduce parental responsibility to the vanishing point, and there may be a difficulty in doing all the parent should do and at the same time to guard against the loss to him of this sense of responsibility and of the family affection which would soon follow. Let help be given if need be, but so as to do as little injury as possible. Scoffers might say that surely if it is necessary for the community as a whole to assume the charge of the

Member of the Academy of Medicine and physician to the Asylum of Saint Anne, presented him with a medal in honour of his completion of 50 years' professional service. The President of the Council of Ministers and many professors of the Faculty of Medicine were present. Various speeches were made, amongst others one by M. Bajenoff in the name of sundry scientific societies of Moscow, and one by M. Lodame, speaking for Swiss experts in mental diseases. Dr. Magnan, who was much moved, warmly thanked those present in an eloquent speech. The medal, which is the work of M. Paul Richer, a Member of the Academy of Medicine and of the Academy of Fine Arts, bears on one side the bust of Dr. Magnan, while on the other he is shown surrounded by his patients and friends.

March 30th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Small-pox Scares.

SPORADIC cases of "vaiuolo nero," or black small-pox, occurring in Rome (but immediately isolated, with further spread of the disease circumscribed) have been magnified by report into something like an epidemic, much to the alarm of the public, resident or migratory. Hardly had this scare died down when another, this time affecting Naples, loomed large on the hygienic horizon, to disappear in turn under the searchlight of the public health officer. On March 24th the steamship *Montevideo*, of the "Compagnia Transatlantica" of Barcelona, hailing from Vera Cruz, dropped anchor in Neapolitan waters and immediately the rumour got abroad that ten cases of death from malignant small-pox had occurred among the passengers. The vessel was at once put in quarantine and a rigorous inquiry was instituted by the sanitary authority. Not one case of small-pox was verified but measles affecting 20 of the children on board was noted. The little patients were forthwith conveyed to the "*Ospedale Cotugno*" and the *Montevideo* was allowed to resume its voyage.

The "Bitter Cry" of the Cliniques.

Commenting on the recent State trial in Italy and the malversation to personal or political interests of funds reserved for schools and universities, THE LANCET drew attention to the deplorable condition of research and clinical work in Italy as "literally starved" in comparison with the same work in other nations. On March 26th His Excellency Signor Rava, Minister of Public Instruction, had a prolonged interview with a deputation of Piedmontese Members of Parliament on the "cliniche chirurgiche" in the University of Turin, all insufficient as those are for the requirements of the city and school. In the course of discussion His Excellency pointed out that Turin did not stand alone in asking from the Government increased support for its clinical accommodation and equipment—the Lombard school, represented by Pavia, being only another of the many seats of medical instruction clamouring loudly for similar aid. The Piedmontese deputies, however, had small difficulty in strengthening the claims of Turin to exceptional consideration and support, as the cost of land and of manual labour was much higher in the subalpine capital than in other Italian centres. His Excellency thereupon undertook to consult his colleague of the Treasury in the interests of Turin, with the result, it is hoped, of accelerating the measures required to put that great medical school on a level with its French, its Swiss, and its German sisters.

The Garibaldi Hospital.

True to his humanitarian ideal, the knight-errant of Italian freedom and unity left, among his death-bed dispositions, an injunction to found a hospital for the ailing or infirm poor among the islanders of the Straits of Bonifacio. His wishes have at length been complied with and the "Ospedaletto Giuseppe Garibaldi" on the Maddalena is now in effective working. With the exception of the "ambulatorio" (out-patient department) the hospital had recently been closed for reasons relating to the *personnel*. Donna Costanza Garibaldi (to whom the hospital owes so much) now writes to the *Tribuna* that the wards were reopened on March 25th (Feast of the Annunciation) under the supervision of a new directress who (*she says*) has been trained "nei primari ospedali Inglesi" (in the leading English hospitals).

Obstetric Aid to the Poor.

Thanks to the presence of a public-spirited physician in her communal council, Florence is now provided with organised aid to necessitous females "nei casi imprevisti e gravi del puerperio" (in unexpected and serious cases during and after parturition). Dr. Guido Banti, professor of pathological anatomy in the Istituto di Studi Superiori (the common councilman in question) was able to announce on March 27th that this service, instituted and organised by him, is quite gratuitous, one of the contributors to it being his colleague, Dr. Giuseppe Resinelli, professor of obstetrics and gynæcology, with the *personnel* attached to the "clinico d'ostetricia" in the same school. The movement is quite in keeping with Tuscan initiation in matters medical, of which (as I write) another instance reaches me from Rovezzano, where a series of popular lectures is to be addressed to mothers of families on the health conditions to be observed in their households. Dr. Lapo Falcioni of Florence will inaugurate the course on April 5th.

March 28th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Retirement of Professor Chrobak.

Professor Chrobak has resigned his position as professor of gynæcology and obstetrics, six years before reaching the legal limit, on account of his opinion that the work in the new clinic must be conducted by a younger man. He took leave of his former pupils and his fellow workers in the hall of the new clinic which will be available for the use of the public in a short time and a bust of him, beautifully executed by his daughter, was unveiled on this occasion in the hall as a good omen for the future of the new house. The assemblage included all his former assistants, most of whom are now professors and *privat-docenten*, representatives of the University and the medical staff of the army, his successor, and the staff of the medical faculty. Professor Chrobak thanked them for the many marks of kindness which they had shown to him and expressed confidence that the new clinics and the new hospital would once more as in former years attract the best men from all parts of Europe to work in Vienna. Continuing, he said that above all scientific work the physician and the surgeon must keep in mind that their first duty must be, "help, not harm"; and they must always do their best, whether in operation or in advice. Professor von Rosthorn, a former pupil of the retiring surgeon and now his successor, then described the remarkable individuality of Professor Chrobak who introduced the axiom that the function of medical or surgical intervention is only to help physiological processes. He said that in Professor Chrobak's operating theatre and lecture room the students would find displayed on the walls the admonition, "Primum non nocere." Professor Chrobak, who 19 years ago was with difficulty induced to accept the post of director of the clinic and clinical lecturer, soon made the clinic a notable place by the exactness of his diagnosis as well as by his surgical skill and the adoption of the newest methods of treatment. Dr. Peham, who is at present Professor Chrobak's first assistant, will act as temporary director of the clinic until Professor von Rosthorn takes over the new premises, which will not be before May or June.

A New Method of Approaching the Bulb of the Internal Jugular Vein.

Acting on a suggestion given by Professor Tandler, Dr. Bondy recently employed a new method of approaching the bulb of the internal jugular vein in a case of sinus thrombosis after acute mastoiditis, and the patient, who was a girl, was shown at a meeting of the Gesellschaft der Aerzte. She had been suffering from acute mastoiditis of two weeks' duration. As her temperature rose to 104·5°F. the mastoid process was opened and thrombosis of the sigmoid sinus was found. The thrombi were removed, but only the upper part of the sinus was afterwards freed for circulation. The lower portion of the thrombus could not be reached. As the temperature remained high and a rigor occurred it was resolved 24 hours after the first operation to open the bulb. The jugular vein had been ligatured the day before. The two incisions were united, thus exposing the sterno-mastoid muscle, which was retracted, and the spinal accessory nerve and the jugular vein were brought into view up to the jugular foramen. The facial nerve was also laid bare on the stylomastoid foramen, the apex of the mastoid process was removed, the biventer muscle was

Association as qualifying for graduation on the understanding, universal in the extramural school, that the lecturers should give the same system of instruction as was given by the professors in the University and should charge University fees. For years this arrangement has worked smoothly and, judged by the success of the women students at the degree examinations, admirably. The Scottish Association was, in fact, conducting a university college of medicine for women without any expense to the University and on the whole with remarkable efficiency and success. That all the classes and all the lecturers should be of equally high excellence could not be expected any more here than inside the University itself. The male student has, however, the privilege, which is no small one, to attend the class of an extramural lecturer when the professorial class does not attract him. This is a privilege which the women students are not granted, they must attend the lectures appointed by the Scottish Association. From time to time there is a recrudescence of agitation to have the women students admitted to the study of medicine on precisely the same conditions as men are admitted. The men students studying in Edinburgh for the University degree are, it is necessary to remember, allowed to take a considerable proportion of their classes outside the University—that is, to attend the class of an extramural lecturer on any particular subject, the extramural lecturers only acquiring this status on being recognised by the University Court as competent to lecture on their respective subjects. This is one form which the agitation takes and this is the form that appeals to the most forward agitators. They want the women to be allowed to attend the class of any professor or lecturer whom they may select and alongside the men. Another form which the movement takes is to get the University to take the medical education of women into its own hands and out of the hands of the Scottish Association. Those who favour this latter object dwell upon the disadvantages which the women labour under in the preliminary scientific subjects and in physiology from paucity of equipment as compared with the corresponding departments in the University, and they warmly urge the admission of women to any class where it is thought that the professor is friendly. The idea here is that admission to one class means getting the thin end of the wedge in and that it is only a question of persistent hammering to get it wholly in. Quite recently this agitation became acute, as Minto House was sold by its owner to a trading company and the Scottish Association found itself under notice to quit. This was at once seized upon as a heaven-sent opportunity for strong representations being made to the University Court to take the medical education of women into its own hands. The University Court, putting the idea of general mixed classes aside as not to be discussed, did not see its way to make any special provision for women students and therefore did not see any advantage in even discussing the position with representatives of the Scottish Association. Soon after this decision had been intimated the annual meeting of the Scottish Association was held. At this meeting a few of the lecturers were present, some lay members of the association, and the women students in full force. A motion was submitted by one of the leaders of the students expressing regret at the action of the University Court; an amendment was proposed by another student but the motion was carried by a large majority. This annual meeting elects the president, two vice-presidents, and three other members of the court of the association, the other four members being elected, two by the students and two by the board of studies—that is, the lecturers. The students are all members of the association and as there are over 100 students they only require to be organised to make the association represent their views. This year they were so organised and the annual meeting, after the chairman's statement was concluded, reminded one of a students' debating society. The speaking was good and warm in complexion. This is a fair representation of the position of those who are responsible for the present or recently acute phase of this agitation. The other side is as follows. The lecturers to the women in most instances lecture to men also but usually separately. In fact, the sanction of the University Court has to be obtained to have a class mixed and the sanction has to be obtained annually. The lecturers to the women are unanimously and strongly opposed to a general mixing of the sexes in the medical classes. This is also the view of the other extramural lecturers. It is understood that this view predominates amongst the medical professors. The men students are believed to be likewise opposed to such mixing. The active sympathisers, the majority of the women students and the women who write letters to the newspapers, see no reason why young men and young women should not sit side by side in the medical classes. The fact, however, remains that in the opinion of the great majority of lecturers, including probably professors, this is warmly opposed. This view is also, so far as is known, the only one held by the University Court. The students' view preponderates on the court of the association, as, of course, it is bound to do as soon as the students are organised on the lines indicated above. The position is a unique one and reminds one of Lord Dundreary's answer to his own conundrum: "Why does a dog wag its tail? Because if the dog didn't wag its tail the tail would wag the dog." Which is the dog and which is the tail may be left to the opinion of the two courts—the University Court and the court of the Scottish Association. Meanwhile it may safely be said that an agitation of this nature amongst students cannot but distract them from their studies and must foster a spirit of unrest and dissatisfaction which does anything but help either the teachers or the taught.

Church of Scotland Deaconess Hospital, Edinburgh.

The thirteenth annual meeting of the friends and supporters of this interesting charity has been held, with the Moderator of the General Assembly presiding over it. In the report submitted to the meeting it was shown that the number of patients who were treated in the hospital was 364, the average daily number being 24. The number of surgical operations performed was 268. The rate of mortality of patients under treatment was 4·3. The number of visits paid by the district nurses attached to the hospital was 4032. The number of surgical out-patients numbered 570. The total sum available for upkeep amounted to £1806, while the total expenditure was £1752. The chairman in his remarks indicated the hold which the hospital had taken on the members of their church and said that it was one of the best supported and the most popular of the church's agencies. The hospital authorities are to be congratulated on the economy with which the hospital is conducted as well as on the satisfactory state of their finances and the excellences of the work done by the members of the medical and the surgical staff.

Proposed Memorial of the late Professor Annandale.

A meeting has been called to consider what steps can be taken to establish a memorial of the late Professor Annandale.

Medical Relief of the Poor of Glasgow.

At a recent discussion under the auspices of the sanitary and social economic section of the Royal Philosophical Society of Glasgow interesting statistics were submitted regarding the medical relief of the poor in Glasgow. To give an idea of the number entitled to the services of the parish medical officers it may be stated that the number of persons on the roll for outdoor relief is 3581 and their dependents number 4544, making a total of 8125 possible patients. These figures, of course, refer entirely to the parish of Glasgow and to those who might be called the legal poor—i.e., those relieved under the Poor-law Acts. In addition, during last year 1477 medical relief orders were granted to persons not on the roll who, on account of their circumstances, were unable to provide medical attendance or medicines for themselves or for those dependent upon them. During last year the parish medical officers attended 10,576 patients either in their own homes or at the dispensaries. The total expenditure incurred during the year in outdoor relief was £3001, of which £1101 were expended on medicines and the remaining £1900 represented the combined salaries of the 19 medical officers. On the year's working the average cost per patient was 5*s.* 8*d.*, of which 2*s.* 1*d.* represented the cost of medicines, &c., and the balance, 3*s.* 7*d.*, represented the cost of medical attendance. It is to be noted that the cost of medical attendance would be less if the medical officers' duties were confined to dealing with cases of sickness only. Under the present system, however, every applicant for parish relief must be examined by a medical officer and a certificate given as to the state of his health on every application, no matter how short an interval elapses between each. As regards indoor medical relief, the parish council of Glasgow provides for the care of the sick and indoor poor as follows: Stobhill Hospital, with accommodation for 1922 patients; Eastern Hospital, 380 patients; Western Hospital, 260 patients;

was taken from the polluted water of rivers and was the undoubted source of the fever. The total number of cases originating on this vessel is estimated to be 200, but the number which resulted from those landed at different places, and from passengers who were sick of the fever after leaving the vessel, cannot be estimated. It now appears that the source of much, if not all, of the enteric fever occurring on the passenger vessels on the lakes is due to the custom of these vessels of obtaining their supply of drinking water from the polluted rivers at the mouths of which the chief cities are located. It is also believed that the practice of landing passengers sick from enteric fever at the various cities on the route has made these vessels carriers of the pestilence. The Surgeon-General has taken prompt action and has appointed a competent commission to investigate the question of the responsibility of these passenger vessels for the dissemination of enteric fever.

The Unnecessary Noise Law.

The New York Society for the Suppression of Unnecessary Noises had been successful in securing the passage of an ordinance to prevent noise in the vicinity of hospitals and places where the sick and aged are cared for and the result is very favourable. Sign-boards are posted on the corners of the streets near by announcing a "hospital district." So successful has this effort been that the society has introduced a Bill into Congress intended to suppress unnecessary whistling of steam vessels plying in harbours about large cities. The particular harbours referred to are Boston, New York, and Philadelphia, but the Bill is general in its provisions. It has already passed the Upper House and will in due time become law.

The Finger-Licking Habit.

The medical society of the city hospital alumni of St. Louis, Missouri, has sent to the Postmaster-General, the city postmaster, and the Health Department, a communication requesting that effective measures should be taken to protect the public against danger from the practice of habitual insalivation of the fingers by those who handle mail matter. The society desires that employees addicted to this habit who, in the performance of their duties as stamp sellers, postmen, clerks, cashiers, salespeople, waiters, conductors, and so on, are necessarily in contact with the public, and who persist in so doing after notice and warning, should be deprived of their positions as thereby constituting a menace to the general health. Sanitary and medical condemnation of the practice of finger-licking rests on the proved fact that the bacteria of many of the most virulent diseases are often abundantly present in the secretions of the human throat and mouth. The paper closes with a resolution that the St. Louis Health Department should be requested to investigate and publicly to report on the prevalence of the habit of finger-licking among the employees of the departments, corporations, and concerns serving, or catering for, the people of St. Louis in order that warning may be given of the risks to health incurred by patronising places, public utilities, and establishments where such an unclean and dangerous practice is permitted.

The Plague in San Francisco.

There has been a renewed outbreak of the plague in San Francisco, proving that the infection still has a foothold in some locality. The number of cases is very small but sufficient to arouse the health authorities and the citizens to renewed efforts to clear the city of every possible source of infection. A large fund is being raised to supply an increased corps of inspectors and to meet any extraordinary expenses. The bounty on rats has been increased to 25 cents for males and 50 cents for females. A citizens' health committee has been formed to coöperate with the health department.

March 21st.

GLOUCESTER INFIRMARY.—The annual meeting of the subscribers to the Gloucester Infirmary and Gloucestershire Eye Institution was held on March 26th. The medical report stated that 1390 in-patients were admitted during 1907, an increase of 91 as compared with 1906. The out-patients numbered 8412, being 500 less than in the previous year. The average cost per bed was £84. The financial statement showed that the deficit of £956 remaining at the close of the year 1906 was now reduced to £186.

Medical News.

VICTORIA UNIVERSITY OF MANCHESTER.—At examinations held in March the following candidates passed in the subjects indicated :—

DEGREES OF M.B. AND CH.B.

Final Examination.—John Allen, C. G. Howlett, J. L. Moir, J. V. Steward, B. V. Ward, and Edgar Wharton.

Obstetrics.—F. D. Walker.

Forensic Medicine and Toxicology.—J. A. Bateman, R. J. Batty, T. B Bolton, Elsie Brown, W. C. Denniston, Frances M. Huxley, M. C. S. Lawrance, E. K. Lomas, W. P. Marshall, W. W. Martin, John Morley, John Thompson, R. B. Thompson, B. W. B. Trevor-Roper, W. W. Uttley, T. G. Williams, and A. E. Woodall.

Second Examination.—A. R. Ainscow, Rupert Briercliffe, John Cowan, Caleb Davies, E. R. Eatock, Edgar Grey, Harold Heathcote, R. C. Hutchinson, R. B. Jackson, Geoffrey Lapage, Mabel E. May, W. J. A. Quine, J. R. Rigg, J. B. Scott, W. A. Sneath (awarded distinction in anatomy and the University prize in medicine), J. P. Stallard, Charlotte E. Warner, and Gordon Whitehead.

Third Examination (New Regulations).—Pharmacology and Therapeutics.—H. E. Allanson, C. G. Brentnall, W. A. Bullough, D. I. Connolly, F. H. Diggle, H. A. Dunkerley, Gertrude H. Geller, John Gow, T. T. Higgins, N. T. K. Jordan, Niel McDonald, C. B. Marshall, Cedric Pimblett, *Harry Platt, T. M. Popple, James Ramsbottom, A. A. Smalley, Norman Tattersall, R. H. Titcombe, and J. F. Ward.

General Pathology and Morbid Anatomy.—H. E. Allanson, C. G. Brentnall, W. A. Bullough, *D. I. Connolly, F. H. Diggle, Gertrude H. Geller, *John Gow, T. T. Higgins, N. T. K. Jordon, Niel McDonald, Edith M. Marsden, C. B. Marshall, Cedric Pimblett, Harry Platt, James Ramsbotrom, A. A. Smalley, Norman Tattersall, R. H. Titcombe, W. B. Wamsley, and J. F. Ward.

Public Health.—Elsie Brown, H. A. Dunkerley, W. W. Martin, Cedric Pimblett, T. M. Popple, and James Ramsbottom.

* Passed with distinction.

DIPLOMA IN DENTISTRY.

Third Examination.—Joseph Morrey.

Dental Anatomy and Histology.—T. B. Smith.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—In examinations held in March for the Degree of Bachelor in Medicine the following candidates were successful in the subjects indicated :—

FIRST EXAMINATION.

Elementary Anatomy and Biology, Chemistry and Physics.—Harold Fairclough (second-class honours), Eric Lawrence Hancock, and James Kenworthy Johnston Haworth, College of Medicine, Newcastle-upon-Tyne ; John Robert Dunn Holtby, Queen's College, Belfast ; and Edwin Kidd, Colin Mearns, Fred Phillips, and Alexander Gordon Taylor, College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy and Biology.—Fife Appleton, Ronald Greig Badenoch, William Leitrim Clements, Arthur Tannahill Crilley, Norman Hodgson, James Kerr, Francis James Lidderdale, Sydney Ellington Murray, Andrew Govan McFarlane, John George Ogle, Charles Henry Robson, Sidney Scott, William Arthur Slater, Thomas Copeland Storey, and Samuel Knibb Young, College of Medicine, Newcastle-upon-Tyne.

Chemistry and Physics.—Robert Ernest Bell and Arthur Sydney Hopgood, College of Medicine, Newcastle-upon-Tyne; and Russell Vyvyan Steele, University College, London.

Elementary Anatomy.—Sam Phillips Bedson and Theonie Bence Burrell, College of Medicine, Newcastle-upon-Tyne.

Elementary Anatomy, Chemistry, and Physics.—William Guy Lidderdale, College of Medicine, Newcastle-upon-Tyne.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—William George Bendle, Eliot Watson Blake, and Francis Percy Evers, College of Medicine, Newcastle-upon-Tyne ; Ivor Stanley Gabe, College of Medicine, Newcastle-upon-Tyne, and London Hospital ; Cyril Gray, Howard Tomlin Hunter, George Eric Warner Lacey, and Thomas Alfred Peel, College of Medicine, Newcastle-upon-Tyne ; Elliot Jessie Ramsbotham, London School of Medicine for Women ; Harold Frieze Stephens, Madras Medical College and Guy's Hospital ; and Alfred Tulloch Thompson and Charles Sim Thompson, College of Medicine, Newcastle-upon-Tyne.

TRINITY COLLEGE, DUBLIN.—At Examinations in medicine in Hilary term the following candidates were successful :—

INTERMEDIATE MEDICAL EXAMINATION.

Part I.—Herbert de L. Crawford, Douglas M. Moffat, Hugh E. M. Ferguson, Arnold K. Henry, George F. C. Healy, Thomas A. Watson, John B. Burgess, Ernest W. G. Young, Thomas M. Crawford, Richard P. Pollard, Charles H. Denham, James Beckett, and Cecil Grene.

Part II.—Adrian Stokes, Charles M. Finny, David L. M'Cullough, Marius A. Diemont, Beatrice Hamilton, John H. Woodroffe, Peter H. Lemass, Herbert de L. Crawford, Robert Dixon, Douglas M. Moffatt, Roelof A. Albertyn, Euphon M. Maxwell, Edmond F. Lawson, Perceval G. Leeman, Thomas M. Crawford, Hilgard Müller, William P. H. Smiley, Vicars M. Fisher, John G. Ronaldson, Arnold K. Henry, John B. Burgess, George F. C. Healy, John G. Dods, Samuel V. Richardson, Arthur C. Hallowes, Victor B. Best, Richard H. Mathews, Charles H. Denham, and Brindley H. Moore.

1907. Of these, 1305 were medical and 1775 were surgical. There were 1360 surgical operations. The average mortality was 4·09 per cent. In the extern department 29,433 were treated. The total number of cases (dental included) treated in the hospital, intern and extern, amounted to 32,513, while at the Martins Children's Hospital, at the Throne Convalescent Home, and in the consumptive department 334 convalescents were received and 116 children were treated, as well as 47 consumptive patients. The following figures give some idea of the work of the hospital. During the year 1583 ambulance cases were received, 1360 operations were performed, and there was an average of 465 patients treated every day in the year, of whom 223 occupied beds in the hospital. Financially for the first time in the history of the new hospital there was an excess of expenditure over receipts of £548. The Right Rev. Dr. Crozier, Bishop of Down, who presided, in moving the adoption of the report, spoke very warmly of the value of the institution in training the rising generation of medical men. Among the members of the medical profession who spoke at the meeting—which was very largely attended—were Dr. H. L. McKisack (secretary of the medical and surgical staff), Sir John Byers, and Dr. W. Calwell.

The Belfast Samaritan Hospital.

At the annual meeting of the supporters of this charity (the Lord Mayor presiding) on March 23rd it was reported by Dr. G. A. Hicks that during the past year 683 patients had been treated in the extern and 200 in the intern department of the hospital. Financially the debt at the end of the year was reduced to £89 and a sum of over £3000 is invested. In their report the medical staff suggested that as the wives of men of the labouring class as distinguished from the artisan class have from time to time to be refused admission owing to their not being able to pay the minimum fee of 10*s.* per week, such cases after admission should have a rate fixed by the ladies committee on inquiry into their circumstances. This procedure when used in other hospitals works satisfactorily.

The "Abbey" Sanatorium for Pulmonary Tuberculosis.

Mr. Robert Hall, physician to the Belfast union infirmary and to "The Abbey" sanatorium for pulmonary tuberculosis, has just presented to the sanatorium committee of the Belfast board of guardians a most interesting annual report as to the condition of patients who were treated for consumption in that excellent institution during 1907. During this period 311 patients were treated, of whom 163 (40 married, 14 widowed, and 109 single) were women and 148 (48 married, 13 widowed, and 87 single) men. Of these 115 are still under treatment. Of these 311 patients the following was the age incidence :—

From 5 to 10 years of age	6
" 10 " 20 "	59
" 20 " 30 "	100
" 30 " 40 "	82
" 40 " 50 "	45
" 50 " 60 "	14
" 60 " 70 "	5
Total	311

These are statistics which prove that advancing age does not give immunity from pulmonary tuberculosis. Of the 196 patients who left the sanatorium during the year 30 per cent. were so much improved that they returned to their ordinary avocations; 33 per cent. were considerably improved but were not able to do full work; and the remaining 37 per cent. remained in a stationary condition or the disease being in a too advanced stage on admission did not respond to treatment. 10 per cent. of the total number (311) treated died. Mr. Hall expresses the regret that so many persons when they are attacked by pulmonary tuberculosis either do not appear to realise the absolute necessity for early treatment or the gravity of their condition till they are completely broken down in health and frequently in a stage of disease when there is little or no hope of cure; if they did he thinks that there would not be so many hopeless cases admitted to the wards of the institution or so many homes poisoned by the germs emanating from the advanced cases. Mr. Hall says in admitting patients preference when possible was given to the "bread earners," and he points out the great benefit and possibility of an open-air life, for at least 25 per cent. of the patients slept on the verandahs during the winter. He advocates compulsory notification of pulmonary tuberculosis and he points out that patients transferred from the union infirmary to the sanatorium showed a distinct advance in their progress. Quite recently (since this report was written) the hospital block has been opened for the reception of patients and has been almost filled by the transference of patients from the union infirmary—the number at present under treatment being 256. It is interesting to note that since Mr. Hall took the great forward step—nine and a half years ago—of separating the consumptives from the other patients in the Belfast union infirmary (the first union infirmary in Ireland where this segregation of consumptive patients was done) over 6000 such cases have been treated in the infirmary and sanatorium. The Belfast board of guardians and its excellent medical officer, Mr. Hall, have in their treatment of consumptive patients given an object-lesson to the rest of Ireland.

March 31st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Action of Radium on the Blood.

AT a meeting of the Biological Society held on March 14th M. Aubertin and M. Delamarre communicated the result of some researches which they had made as regards the action of radium upon the viscera and especially upon the blood-forming organs. White mice were submitted to radium emanations, the effects brought about being very similar to those produced by the x rays. After exposure to the emanations for one hour marked leucocytosis occurred. Sometimes, however, during the second hour a marked diminution in the number of leucocytes occurred, which persisted more or less after the radium had been withdrawn. During this period the blood counts showed an excess of polynuclear cells, and leucocytes in course of histolysis were found in the blood. Daily exposure to the emanations brought about marked leucopenia and a diminution in the number of red cells. Prolonged exposure to the rays gave rise to necrosis of the follicles of the spleen and a fragmentary condition of the Malpighian bodies (*noyaux*). An irradiation of less duration did not give rise to any splenic lesion but leucopenia was very marked.

An Ambulance drawn by a Dog.

Lieutenant Paisais, of the camp at Ruchard, proposes the employment for ambulance work of a wheeled stretcher drawn by a dog. The ambulance is mounted on a spring four-wheeled carriage The front wheels are 49 centimetres in diameter and the hind wheels 60; the axles are removeable at pleasure. A trial of this method of transport was made at Poitiers with a policeman acting as the wounded man and the dog mounted without difficulty a gradient of very considerable pitch; on the return journey, instead of the policeman, the stretcher was loaded with 90 kilogrammes of sand (about 14 stones). The weight of the stretcher and the carriage is 30 kilogrammes and in the absence of the dog can easily be drawn by a man or even by a child.

Quinine in Algeria.

The Syndicate of Pharmacists of the department of Algiers has approved in principle of the sale of quinine at a price and in a form laid down by the Government. The syndicate hopes, by giving its approbation to these regulations, that the risk of the sale of quinine falling into the hands of foreigners will be avoided.

The Treatment of Hæmarthrosis.

At a meeting of the Surgical Society held on March 11th M. Lucas-Championnière recommended light massage applied directly to the muscles in the treatment of hæmarthrosis, and, contrary to the experience of some other observers, he considered that massage alone was sufficient to obtain muscular regeneration. Gentle massage of the joint should also be practised with passive movement, but care should be taken that no pain is produced. Any active movement should be made with great caution and should only last for a very short time. As to the regeneration of the muscular tissue M. Lucas-Championnière thought that no good result could be obtained by demanding a maximum of effort from the muscle at the outset, for this demand, he said, would be very likely to bring about muscular atrophy.

Jubilee of Dr. Magnan.

Quite recently the pupils and friends of Dr. Magnan, operative surgery, practical chemistry, public health and forensic medicine, materia medica, histology, biology, and dissections.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Mr. Winfrey's Pharmacy Bill.

THIS Bill has been printed. In a memorandum explaining its objects it is stated that it differs from the measure introduced last session by Mr. WINFREY in that the cumbersome expedient of the registration of shops has been superseded. The clause requiring a company to have a qualified chemist as one of the directors has also been omitted. The objects of this Bill are to check (*a*) the evils arising from unqualified management of shops in which medicines are dispensed and poisons are retailed; and (*b*) the assumption of the statutory title of "chemist" by unregistered persons. The Bill would insure that in every place where poisons are retailed there shall be a qualified person in *bonâ-fide* control, and his name shall be exhibited to the public whether the owner of the business happens to be a natural person or a corporate body. The measure further seeks to enforce the intention of the Pharmacy Acts of 1852 and 1868 by prohibiting the use of the title of qualification by any person or combination of persons other than the actual living holders of the diploma of qualification. The Bill substitutes for the existing list of poisons another schedule of substances of a dangerous nature in the sale of which the public requires to be protected. A clause is also added permitting the establishment of reciprocal relations with the colonies in the acceptance of certificates of pharmaceutical qualification.

Housing and Town Planning Legislation.

Mr. BURNS, the President of the Local Government Board, has introduced into the House of Commons a Bill "to amend the law relating to the housing of the working classes, to provide for the making of town planning schemes, and to make further provision with respect to the appointment and duties of county medical officers of health." It has been read a first time. The Bill proposes great facilities for acquiring lands on the part of local authorities and for taking advantage of the Housing Acts. The procedure for making closing and demolition orders is amended. A town-planning scheme may be made with the authorisation of the Local Government Board by a local authority "as respects any land which appears likely to be used for building purposes with the general object of securing proper sanitary conditions, amenity, and convenience in connexion with the laying out and use of the land." Elaborate conditions with regard to this provision are embodied in the Bill. A clause in the Bill relates to county medical officers. It runs thus: "(1) Every county council shall appoint a medical officer of health under Section 17 of the Local Government Act, 1888; (2) the Local Government Board may by order prescribe the duties of medical officers of health appointed by a county council under Section 17 of the Local Government Act, 1888, whether before or after the passing of this Act; (3) the power of county councils and district councils under the said section to make arrangements with respect to medical officers of health shall cease without prejudice to any arrangement made previously to the date of the passing of this Act." Another clause makes it the duty of the clerk and the medical officers of health of a district council to furnish information to the medical officer of health of the county council. The question of the tenure of medical officers of health of their appointments will lead to debate.

Infant Life Protection.

The Select Committee of the House of Commons presided over by Mr. JOHN ELLIS has recommended in its report that the inspection provided under the Infant Life Protection Act of 1897 should be extended to homes in which not more than one infant is kept in consideration of periodical payment, and also that the age of inspected children should be raised to seven years. The illustrative cases which were given of carelessness, neglect, bad treatment, and cruelty in "one-child homes" have induced the committee to make these recommendations. However, the members of the committee have, to some extent at least, recognised some of the objections urged against the extension of the Act as deserving of serious consideration. It was stated by one category of witnesses that the inspection of "one-child homes" would arouse great repugnance on the part of those who provide the best kind of homes to continue to take in children and that the difficulty of finding such homes would therefore become very great. The members of the committee place on record their belief that there are a large number of these one-child cases where the infant is received from motives of a real affection for children in general or for some child, or parent, in particular. Where this element of a home atmosphere exists it is of vital importance that nothing should be done by Act of Parliament, or what would flow therefrom, to chill or to impair it. On a careful review of this aspect of the case, they come to the conclusion that some power should be given to the local authority to exempt, on such terms and conditions as it may think fit, any particular home in its district from inspection, or to make arrangements for any such inspection to be made by a properly constituted benevolent society if the local authority is satisfied that the interest of the child will be safeguarded. Another recommendation of the committee is to the effect that the inspection under the Infant Life Protection Act, especially if extended in the manner which the report suggests, should as far as possible be deprived of any rigid or formal official character, and should certainly be carried out by women possessing special qualifications for the work. When the committee was appointed it was intended that its recommendations should guide Parliament in shaping the clauses of the Children's Bill relating to infant life protection.

Public Health Bill.

Mr. COOPER's Bill to amend the Public Health Act, 1875, and the Local Government Act, 1888, has been published. A memorandum is attached to it to explain its provisions. It states that "the object of the Bill is to make the council of an administrative county as defined by the Local Government Act, 1888, the predominant sanitary authority of such county and to give it power to supersede any local authority in the county which may neglect or refuse to carry out any of its statutory duties. It is proposed to require every county council to appoint at least one whole-time medical officer of health holding a diploma of public health. Every medical officer of health of a local authority appointed after the Bill comes into operation must hold a diploma of public health. Every local authority will be empowered to appoint as many sanitary inspectors as may be necessary to efficiently inspect its area, and such authorities will be empowered to appoint health visitors. The appointment by a local authority of a medical officer of health or sanitary inspector or health visitor will be subject to the approval of the county council, and every such officer on dismissal may appeal to the county council who may reinstate such officer if they think fit."

University Bill for Ireland.

Mr. BIRRELL's University Bill for Ireland, which was introduced on Tuesday, March 31st, has been received very favourably.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 25TH.

The Medical Officer for the Witwatersrand Mines.

Mr. STAVELEY-HILL asked the Under Secretary of State for the Colonies whether the post of district medical officer for the Witwatersrand mines had yet been filled; and, if not, whether he would suggest to the Transvaal Government the urgent importance of filling the vacancy with a highly qualified man in view of the heavy mortality among the natives working in the mines.—Mr. CHURCHILL replied: I regret that I cannot add anything to my previous replies to questions on this subject.

THURSDAY, MARCH 26TH.

Tuberculosis in the Army.

Colonel LOCKWOOD asked the Secretary of State for War what steps (if any) were, or would be, taken to carry out the recommendations of the special War Office committee with regard to soldiers suffering from tuberculosis and making provision for their reception into suitable sanatoriums and thus preventing the spread amongst the civilian population in their own homes of a disease which was killing off some 40,000 of our population annually.—Mr. HALDANE replied: Will the honourable and gallant Member kindly refer to my replies to previous questions put to me on this subject by the honourable Member for Sunderland on Feb. 18th and the honourable Member for the Abercromby Division of Liverpool on March 2nd, to which I have nothing to add?

The Importation of Foreign Meat.

Answering Mr. BOLAND,

Dr. MACNAMARA (Parliamentary Secretary to the Local Government Board) said: I do not think that any special action is necessary at the present time as regards the importation of bacon and meat from Denmark, but I have in preparation regulations dealing generally with the measures to be taken for the prevention of danger to health from the importation of foreign meat.

The Prevalence of Scarlet Fever.

Mr. REMNANT asked the President of the Local Government Board what action he proposed to take relative to the resolution unanimously passed by the managers of the Metropolitan Asylum District on Dec. 7th, 1907, and supported by the corporation of the City of London and generally by the borough councils and boards of guardians of the metropolis, asking the Local Government Board, in view of the continued prevalence of scarlet fever, notwithstanding the extensive isolation accommodation which had been provided, to cause an inquiry to be instituted into the cause of the disease; and whether any, and, if so, what, further means could be adopted for its prevention.—Dr. MACNAMARA (on behalf of Mr. BURNS) answered: I have received the resolution referred to which has been supported by various borough councils and boards of guardians. I am giving consideration to the subject but have not yet arrived at a decision with regard to it.

The Medical Needs of St. Helena.

Major ANSTRUTHER-GRAY asked the Under Secretary of State for the Colonies whether, in view of the fact that the inhabitants of St Helena, numbering about 5000, had only one medical man to attend to their needs, he would consider the advisability of appointing an assistant colonial surgeon.—Mr. CHURCHILL answered: The number of inhabitants of St. Helena at the last census in May, 1901, was 3342, not 5000, and there is reason to believe that the number has been reduced since that date. The question of appointing an assistant colonial surgeon has been considered on several occasions but it has not been found advisable to do so. There is an efficient hospital with a staff of trained nurses to supplement the services of the colonial surgeon.

Disease in the Transvaal Mines.

Mr. MACKARNESS asked the Under Secretary of State for the Colonies whether he could say how many Chinese labourers had been deported loosened, and after ligature of the occipital artery the bone covering the sinus and bulb was removed with the chisel, the anterior margin of the field of operation being marked by the facial nerve. In this way the whole vessel, consisting of the sinus, the bulb, and the internal jugular vein, was exposed and opened, whereupon the remainder of the thrombus was removed. It consisted of a yellow thick mass full of streptococci. The patient made an uneventful recovery except for a slight paresis of the facial nerve, probably caused by dragging on the nerve during the operation. The main advantage of this method as compared with the older operation of Grunert was the fact that the accessory nerve was not injured.

Ultra-Violet Rays in the Treatment of Syphilis.

In a series of experiments, the results of which have been communicated to the Gesellschaft der Aerzte, Professor Ehrmann has studied the effects of ultra-violet light (uviol light) on the pigment anomalies of the skin, and in the course of the investigations he noticed that syphilides of the skin, especially on the parts generally covered by the clothing, responded very quickly to the rays. The exposure lasted only for a short time so that there was merely a slight reaction unattended with erythema. The effect was decrease of the swelling and pigmentation on the second day, while the efflorescences dried up on the next day and eventually disappeared. A gumma of the skin was exposed to the rays three times; four days later it was covered by healthy epidermis and became almost entirely absorbed. The method would therefore, he considered, be valuable for the local treatment of refractory syphilitic lesions of the integument. Control experiments showed that the action of the rays was confined to the exposed space. For instance, the left arm could be made to appear healthy whilst the right arm which was treated by means of mercury without exposure to the rays still showed the exanthem.

Problems of Growing and Living.

By invitation of the Vienna Society for Internal Medicine and Pædiatrics Professor Rubner of Berlin, who has made a special study of questions relating to development and growth, delivered a lecture on this important subject at a recent meeting of the society. He said that the main factor influencing the growth of the child was the inherited rate of cell proliferation and cell division, and that it was not entirely dependent on the quantity of calories contained in the food ingested. The weight of the newly born creature was doubled by growth in very different intervals in different animals. For instance, to double its weight the newly born progeny of the cat required nine days, that of the rabbit six days, that of the dog nine days, that of the pig 14 days, that of the sheep 15 days, that of the cow 47 days, and that of the mare 60 days, while the human infant required 180 days. Intensity of growth was therefore very variable, but the quantity of energy required to bring about this doubling was remarkably equal in all these animals, being about 4000 calories per kilogramme of the body-weight, whilst in man it was 29,000 calories. Of the entire quantity of energy represented by the food ingested, the lower animals required about 34 per cent. for growing, whereas man required only 5 per cent. The milk of the different species therefore showed in its percentage composition the same variety in regard to quantity as was shown by the energy required for the process of growth. The only function of the sugar and fat in milk was to reduce as much as possible the metabolism of albumin in the body, so that the largest possible quantity of albumin might be free to serve the purpose of growth. The slow growth of the human body was perhaps compensated by the greater development of the brain. Man had, moreover, an exceptional position in regard to the duration of life and its relation to the duration of the period of growth. Whilst the horse lived 35 years, the cow 30 years, and the dog 11 years, the period of growth of these animals was respectively five, four, and two years —i.e., from one-sixth to one-seventh of the total duration of life. In man, on the other hand, a total duration of life varying from 70 to 80 years was associated with a period of growth from 20 to 24 years—i.e., from one-third to one-fourth of the whole duration of life was spent in the development of the body. After the completion of growth the above-mentioned animals required in their food approximately 190,000 calories per kilogramme of body-weight on an average, whilst man required 725,000 calories per kilogramme of body-weight. The living substance of man was therefore far more active in metabolism than the living substance of other warm-blooded animals; the older opinion that the contrary was the case was erroneous. The termination of life was perhaps best explained by the hypothesis that the dissociative quality of the protoplasm was exhausted when it had accomplished a certain amount of work which was equal in every species.

March 30th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Physicians as Witnesses.

THE medical profession has become sensitive as to the reputation which medical expert witnesses have acquired in the courts and various efforts are being made in different States to improve the situation. The public have come to believe that the medical expert occupies the same relation to the parties in whose behalf he testifies as does the legal counsellor—viz., a paid and therefore a partisan witness. The remedy most popular with the profession is such legislation as will authorise the courts to appoint official experts who shall be delivered from temptation by having their compensation fixed by the courts and paid by the county. This plan is opposed by the legal fraternity on the ground that it does not take into consideration the rights of the individual whose life, liberty, and property may depend upon some fact which can be ascertained only by the aid of the testimony of medical experts. A leading authority holds that the proposed legislation would infringe one of the most important of the rights of persons accused of crime—viz., the right of impartial trial and of having compulsory process for the attendance of witnesses. If opinion evidence is to be received at all it would be manifestly unjust for the law to say that the court should receive the opinion of particular individuals only, and that all others should be excluded, however eminent they might be in their special department of science.

First Naval Hospital Ship.

The United States naval hospital ship *Relief* at Mars Island, San Francisco, under the command of a surgeon, has been commissioned in accordance with the recent order of the Secretary of the Navy. This order has created much criticism and led to the resignation of the head of the Bureau of Navigation. It grew out of a decision of the Surgeon-General of the Navy that hospital ships should be under the sole control of the surgeon. This innovation was resented and violently opposed by officers of the line as destructive of discipline and efficiency but the Surgeon-General was sustained by the President and the outcome of the controversy is the fully equipped hospital ship *Relief*, with Surgeon C. F. Stokes, U.S.N., in command and Captain Le Cain of the auxiliary service as navigator. The *Relief* has accommodation for 200 patients and is as well arranged for hospital service as the best hospital on land. There are two general wards and a ward for commissioned officers. The operating room is as perfect in all its details as art and science can make it. Adjoining it is an x ray outfit, with photographic plant and dark room. There are laboratories for bacteriological and pathological research, with culture media of the most approved kind. There is a powerful refrigerating plant with facilities for cold-storing a large supply of fresh provisions and a disinfecting apparatus and an embalming department are provided. A dental office in charge of a graduate dentist is an important part of the outfit. The success of the hospital ship under the control of a surgeon will be awaited with great interest by the parties to the controversy.

The Sanitary Responsibility of Public Carriers.

The Buffalo Academy of Medicine has petitioned the Surgeon-General of the United States Public Health Service to investigate the source of enteric fever occurring among the passengers on the steamers on the Upper Lakes. This action grew out of an outbreak which occurred on a steamer plying on the lakes and which continued for three weeks, during which the sick in different stages of the fever were landed at several cities *en route*. Many passengers were taken sick after leaving the ship and on arriving at their homes. On investigation it was found that the milk was foul, the drinking water contained the colon bacillus, and the vessel was in an unsanitary condition. The water-supply

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The Medical Register: printed and published under the Direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the Year XXI. and XXII. Victoriæ, Cap. XC., entitled An Act to Regulate the Qualifications of Practitioners in Medicine and Surgery. 1908. Price 10*s.* 6*d.*

The Dentists Register: printed and published under the Direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the Year XLI. and XLII. Victoriæ, Cap. XXXIII., entitled An Act to Amend the Law relating to Dental Practitioners. 1908. Price 3*s.* 4*d.*

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The Medical Annual: A Year-book of Treatment and Practitioner's Index. 1908. Twenty-sixth year. Price 8*s.* 6*d.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ANDERTON, E. W., M.B., B.S. Vict., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Hawes District of the county of York.

BARRIS, J. D., M.R.C.S., L.R.C.P. Lond., has been appointed Resident Medical Officer at the City of London Lying-in Hospital.

COOPER, H. G., M.B., B.C. Cantab., has been appointed Public Vaccinator for the Altrincham District of Cheshire.

ELDER, ELIZABETH F., M.B., Ch.B. St. And., has been appointed Assistant Medical Inspector of School Children by the Cardiff Education Committee.

FEDDEN, W. FEDDE, M.S., M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

HAWTHORNE, C. O., M.D. Glasg., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

HERAPATH, CHARLES EDWARD KYNASTON, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon at the Bristol Royal Infirmary.

KEMP, CHARLES GORDON, M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Casualty Officer at the Bristol Royal Infirmary.

O'KEEFFE, MARTIN, L.R.C.P. Irel., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ovoca District of the county of Wicklow.

PARKER, WILLIAM GIBSON, M.B. Lond., D.P.H. Cantab., has been appointed Assistant Medical Inspector of Schools by the Somerset Education Committee.

PIRIE, W. RATTRAY, M.B., C.M. Aberd., has been appointed Assistant Physician at the Aberdeen Royal Infirmary.

PRICE, F. W., M.B., C.M. Edin., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

RIDOUT, C. A. SCOTT, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal Portsmouth Hospital.

RUNDLE, HENRY, F.R.C.S. Eng., has been appointed Consulting Surgeon to the Royal Portsmouth Hospital.

SAVEGE, JAMES, C.M., M.D. Aberd., has been appointed a District Medical Officer and Public Vaccinator to the Sculcoates (Hull) Board of Guardians.

SMITH, G. F. DARWALL, M.B., B.Ch. Oxon., F.R.C.S. Eng., has been appointed Physician to Out-patients at the British Lying-in Hospital, Endell-street, London.

THOMAS, EDMUND FAIRFIELD, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Assistant Medical Inspector of School Children by the Cardiff Education Committee.

TROUP, ARTHUR G., M.B., Ch.B., D.P.H. Aberd., has been appointed Assistant Pathologist at the Sussex County Hospital, Brighton.

WALKER, J. W. THOMSON, M.B., C.M. Edin., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Surgeon to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

WHITEHEAD, A. E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bridlington District of the county of York.

WRIGHT, ANDREW J. M., M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Obstetric Officer at the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

BIRMINGHAM INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BRISTOL ROYAL INFIRMARY.—House Physician. Salary £100 per annum, with apartments, board, and laundry.

CAMBRIDGE, BOROUGH OF.—Medical Officer of Health. Salary £500 per annum.

CAMBRIDGESHIRE, &C., ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—Honorary Physician. Also Dental Surgeon.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

CHESHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Two Assistants to the Medical Officer of Health. Salary in each case £350 per annum and travelling expenses.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Physician to Out-patients.

CUMBERLAND, COUNTY COUNCIL OF.—Medical Officer of Health. Salary £700 per annum.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon, also Assistant House Surgeon. Salaries £80 and £40 respectively, with board and lodging.

EDINBURGH DISTRICT ASYLUM, Bangour Village.—Second Assistant Physician, unmarried. Salary £120, with board, apartments, and laundry.

EGYPTIAN GOVERNMENT, KASR EL AINY HOSPITAL.—Resident Surgical Officer. Salary £250 per annum, with quarters, servants, washing, coal, and light.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Surgeon for six months. Also House Physician for nine months.

EXETER, CITY AND COUNTY OF THE CITY OF.—School Medical Officer. Salary £250 per annum, rising to £300.

GLASGOW, ROYAL SAMARITAN HOSPITAL FOR WOMEN.—Visiting Surgeon.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer. Salary £50 per annum, with board and lodging. Also Third Physician to Out-patients.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

INFANTS HOSPITAL, Vincent-square, Westminster.—Assistant Physician.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board and residence, &c.

LANARK, MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £150 per annum, with board, &c.

LEEDS, HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board, &c.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON FEVER HOSPITAL, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing allowance.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Manchester.—Assistant Medical Officer. Salary £100 per annum.

MANCHESTER ROYAL INFIRMARY CONVALESCENT HOSPITAL, Cheadle.—Resident Medical Officer, unmarried. Salary £150, per annum, with board and residence.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

NEWCASTLE-ON-TYNE, HOSPITAL FOR SICK CHILDREN.—Honorary Surgeon.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—School Medical Officer. Salary £300 per annum and travelling expenses.

FINAL EXAMINATION IN MEDICINE.

Part II., Midwifery.—James P. S. Dunn, Charles W. Laird, David J. Miller, David G. Madill, Arthur H. Laird, Alexander K. Cosgrave, James F. Clarke, Norman P. Jewell, Edward J. H. Garstin, Richard J. Attridge, Frederick R. Sayers, John C. Baker, William H. L. M'Carthy, and Alexander S. M. Winder.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry.—Robert G Ball, Elias H. Hughes, Antonio C. Rodellnghuys, and Robert A. G. Elliott.
Botany and Zoology—Ralph J. R. Mecredy, Francis Healy, George B. Hadden, Geoffrey A. Hoffman, Francis V. Agnew, Edgar Ll. F. Nash, and Robert Tivy.

PREVIOUS DENTAL EXAMINATION.

Materia Medica.—George Elliott.
Anatomy and Institutes of Medicine.—Arthur A. Smith.
Physics and Chemistry.—Maurice Horan.

Medical Magistrates.—The names of Mr. Eleazar Davies, L.R.C.P., L.R.C.S. Edin., of Fochriw, and of Mr. Ivor Henry Davies, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., have been placed on the commission of the peace for the county of Glamorgan.

Medical Inspection of School Children.—At a meeting of the Exeter city council held on March 25th it was decided to appoint for the inspection of the school children a medical officer who should devote his whole time to the duties, the salary to be £250 per annum, increasing to £300. A proposal that three local medical men should be appointed at a salary of £60 per annum each was defeated.

Longevity.—Mrs. M. Honychurch of Anerley, London, has recently celebrated the hundredth anniversary of her birthday. She was born in Bristol on March 7th, 1808, and her birth is entered in the register at St. Thomas's Church in that city.—It is announced that Mr. Jeremiah Simmons of 25, Roundhill-crescent, Brighton, attained his hundredth year on March 21st. The Rev. J. P. Bacon-Phillips of Crowhurst Rectory, Sussex, has given some details of his life in a letter to the *Times* of March 18th. Mr. Simmons, who has been a gardener, was born at Lewes and was baptised at Fletching.—Mrs. Jane Howes Smith of Walsall, who was born on March 29th, 1806, died on March 16th. The *Times* of March 23rd mentions that she was the mother of the Rev. F. Smith, the present rector of Church Lench, Evesham.

Literary Intelligence.—The editors of the *Journal of Hygiene* have announced the publication of a supplementary journal under the title of *Parasitology*, which will be issued at intervals determined by the material received by the editors and which will form a volume of from 400 to 500 pages with plates and figures, to be issued annually. This step has been necessitated by the remarkable development of parasitology in recent years and the journal will provide a means for the publication of papers relating to all pathogenic and disease-producing parasites. The first number will contain a paper by Dr. K. Jordan and the Hon. N. C. Rothschild, entitled "Revision of the Non-combed Eyed Siphonaptera." The editors of the journal will be Professor G. H. F. Nuttall, F.R.S., and Professor A. E. Shipley, F.R.S. Papers for publication should be sent to the former at 3, Cranmer-road, Cambridge; other communications to the University Press, Cambridge. The subscription will be £1 1*s.* per volume, or 15*s.* to subscribers to the *Journal of Hygiene.*

Leicester Infirmary.—The 135th annual report of the Leicester Infirmary shows that there has been a pressure on its beds during 1907 which it is hoped has been relieved materially by the opening of the new wing in November last. The report states—

> With 171 beds available during the year, the daily number of beds occupied has been 178·5, figures which will more than all else show to what straits the honorary medical staff were put to provide for really serious cases. The number of patients passing through each bed was 18, a record which no hospital in the kingdom would wish to emulate.

In all 3014 patients have been admitted. The average cost per occupied bed was £75 5*s.* 4*d.*, the average cost per patient £4 8*s.* 2*d.*, and the average cost per patient per week £1 9*s.* 9*d.* The out-patients' department has dealt with 10,947 new patients and 29,076 old patients, making a total of 40,023 attendances. The system of inquiry into the means of applicants has been continued throughout the year and several cases have, on financial grounds, been deemed unsuitable for treatment. In the casualty department 13,619 new cases have received treatment, and the total number of attendances has been 46,697. In several cases patients who admittedly only attended for prompt treatment or were taken to the infirmary as the most accessible place for treatment were referred for subsequent care to their medical advisers. The ordinary income for the year was £16,776 and the extraordinary income £2070, a total income of £18,846. The expenditure was £16,172.

Donations and Bequests.—Mr. George Prentiss Shepherd of Keymer, Sussex, a former resident of Guildford, has offered £10,000 to build and endow a convalescent home in connexion with the Royal Surrey County Hospital.—By the will of Mr. John Waite the following hospitals will each receive £500—viz., the Hospital for Women, Shaw-street, Liverpool; the Royal Infirmary, Liverpool; the Northern Hospital, Liverpool; the Southern Hospital, Liverpool; the Consumption Hospital, Liverpool; the Children's Infirmary, Liverpool; and the Eye and Ear Infirmary, Liverpool.

British Lying-in Hospital.—The annual general meeting of the supporters of the British Lying-in Hospital, Endell-street, London, W.C., was held on March 24th, Mr. C. E. Farmer, chairman of the hospital, presiding. In moving the adoption of the report the chairman said that the in-patients had amounted to no less than 602, an increase of 87 on 1906 and far and away the largest number ever cared for in the hospital in one year. The number of out-patients had also increased from 802 to 928. Two deaths only had occurred in the hospital during the year. He added that the hospital had had the misfortune to lose during the year the services of the matron and the assistant matron, Miss Knott and Miss Sanderson, but that their successors were giving every satisfaction. The appointment of a resident medical officer had also proved a useful innovation. The income and expenditure account showed that the hospital was worked at a loss of over £500, though the deficit was made good by the receipts of a bazaar.

Medical Sickness and Accident Society.—The usual monthly meeting of the executive committee of this society was held at 6, Catherine-street, Strand, London, W.C., on March 20th. There were present Dr. F. de Havilland-Hall (in the chair), Mr. J. Brindley James, Mr. F. S. Edwards, Mr. W. Thomas (Birmingham), Dr. F. J. Allan, Dr. M. Greenwood, Dr. J. W. Hunt, Mr. J. F. Colyer, Dr. F. S. Palmer, Dr. W. Knowsley Sibley, Dr. St. Clair B. Shadwell, and Dr. J. B. Ball. The committee examined a long list of sickness claims, the majority of which have been caused by the epidemic of influenza. These claims are, for the most part, of short duration, and as there is reason to hope that the epidemic is subsiding the amount disbursed in sickness pay will have no appreciable effect on the ample reserves of the society. The number of new members joining is very satisfactory; the new entrants of this year exceed the number obtained in any previous two months of the society's working. Prospectuses and all further particulars can be obtained on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery-lane, W.C.

Royal College of Surgeons in Ireland.—The following is the list of prizes awarded for the winter session, 1907–08:—Descriptive anatomy: Junior: J. Prendiville, first prize (£2) and medal; and A. G. Mosbery, second prize (£1) and certificate. Senior: J. T. Duncan, first prize (£2) and medal; and P. J. Wigoder, second prize (£1) and certificate. Practical anatomy: *First year:* V. J. White, first prize (£2) and medal; and I. M. Swanepoel, second prize (£1) and certificate. *Second year:* T. M. Thomson, first prize (£2) and medal; and F. W. Warren, second prize (£1) and certificate. *Practice of medicine:* R. Adams, first prize (£2) and medal; and J. Meuton and Miss C. F. Williamson (equal), *second prize* (£1) and certificate. Surgery: R. Adams, first prize (£2) and medal; and G. O. Sneyd, second prize (£1) and certificate. Midwifery: J. Meuton, first prize (£2) and medal; and Miss I. M. Clarke and Miss C. F. Williamson (equal), second prize (£1) and certificate. Physiology: J. T. Duncan, first prize (£2) and medal; and F. W. Warren, second prize (£1) and certificate. Chemistry: T. P. Roberts, first prize (£2) and medal; and M. J. Hillery, second prize (£1) and certificate. Pathology: J. S. Pegum, first prize (£2) and medal; and H. R. Tighe, second prize (£1) and certificate. Physics: M. J. Hillery, first prize (£2) and medal; and T. D. Condell, second prize (£1) and certificate. The summer session commenced on April 1st, with the following lectures and practical courses:

Macmillan Company, The, New York. (Macmillan and Co., Limited, London.)

Biological Studies and Addresses. Vol. I., Evolution of Mammalian Molar Teeth to and from the Triangular Type, including Collected and Revised Researches on Trituberculy and New Sections on the Forms and Homologies of the Molar Teeth in the Different Orders of Mammals. By Henry Fairfield Osborn, Sc.D., LL.D., D.Sc., Dacosta Professor of Zoology in Columbia University; Curator of Vertebrate Palæontology in the American Museum of Natural History. Edited by W. K. Gregory, M.A., Lecturer in Zoology in Columbia University. Price 8*s.* 6*d.* net.

The Animal Behaviour Series. Volume II., The Animal Mind. A Text-book of Comparative Psychology. By Margaret Floy Washburn, Ph.D., Associate Professor of Philosophy in Vassar College. Price 7*s.* net.

Renshaw, Henry, 356, Strand, London.

A Manual of the Practice and Theory of Medicine. By Sir William Whitla, M.A., M.D., LL.D., Senior Physician to and Lecturer on Clinical Medicine, Royal Victoria Hospital; Professor of Materia Medica and Therapeutics in Queen's College, Belfast. In two Volumes. Price not stated.

Richards, Grant, 7, Carlton-street, London.

The Birds of the British Islands. By Charles Stonham, C.M.G., F.R.C.S., F.Z.S. With Illustrations by Lilian M. Medland. In Twenty Parts. Part IX. Price 7*s.* 6*d.* net.

Sands and Co., London and Edinburgh. (Herder, B., 17, South Broadway, St. Louis, Missouri, U.S.A.)

Expository Essays in Christian Philosophy. Edited by the Rev. Francis Aveling, D.D. What is Life? A Study of Vitalism and Neo-Vitalism. By Bertram C. A. Windle, M.A., M.D., Sc.D., LL.D., F.R.S., F.S.A., President of Queen's College, Cork. Price 3*s.* 6*d.* net.

Spottiswoode and Co., Limited, New Street-square, London, E.C.

The Medical Register: printed and published under the Direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the Year XXI. and XXII. Victoriæ, Cap. XC., entitled An Act to Regulate the Qualifications of Practitioners in Medicine and Surgery. 1908. Price 10*s.* 6*d.*

The Dentists Register: printed and published under the Direction of the General Council of Medical Education and Registration of the United Kingdom, pursuant to an Act passed in the Year XLI. and XLII. Victoriæ, Cap. XXXIII., entitled An Act to Amend the Law relating to Dental Practitioners. 1908. Price 3*s.* 4*d.*

Wright, John, and Co., Bristol. (Simpkin, Marshall, Hamilton, Kent, and Co., Limited, London.)

The Medical Annual: A Year-book of Treatment and Practitioner's Index. 1908. Twenty-sixth year. Price 8*s.* 6*d.* net.

Appointments.

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Cooper, H. G., M.B., B.C. Cantab., has been appointed Public Vaccinator for the Altrincham District of Cheshire.

Elder, Elizabeth F., M.B., Ch.B. St. And., has been appointed Assistant Medical Inspector of School Children by the Cardiff Education Committee.

Fedden, W. Fedde, M.S., M.B. Lond., F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

Hawthorne, C. O., M.D. Glasg., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

Herapath, Charles Edward Kynaston, L.R.C.P. Lond., M.R.C.S., has been appointed Junior House Surgeon at the Bristol Royal Infirmary.

Kemp, Charles Gordon, M.B., B.S. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Casualty Officer at the Bristol Royal Infirmary.

O'Keeffe, Martin, L.R.C.P. Irel., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ovoca District of the county of Wicklow.

Parker, William Gibson, M.B. Lond., D.P.H. Cantab., has been appointed Assistant Medical Inspector of Schools by the Somerset Education Committee.

Pirie, W. Rattray, M.B., C.M. Aberd., has been appointed Assistant Physician at the Aberdeen Royal Infirmary.

Price, F. W., M.B., C.M. Edin., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

Ridout, C. A. Scott, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal Portsmouth Hospital.

Rundle, Henry, F.R.C.S. Eng., has been appointed Consulting Surgeon to the Royal Portsmouth Hospital.

Savege James, C.M., M.D. Aberd., has been appointed a District Medical Officer and Public Vaccinator to the Sculcoates (Hull) Board of Guardians.

Smith, G. F. Darwall, M.B., B.Ch. Oxon., F.R.C.S. Eng., has been appointed Physician to Out-patients at the British Lying-in Hospital, Endell-street, London.

Thomas, Edmund Fairfield, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Assistant Medical Inspector of School Children by the Cardiff Education Committee.

Troup, Arthur G., M.B., Ch.B., D.P.H. Aberd., has been appointed Assistant Pathologist at the Sussex County Hospital, Brighton.

Walker, J. W. Thomson, M.B., C.M. Edin., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Surgeon to Out-patients at the Kentish Town Department of the Hampstead General and North-West London Hospitals.

Whitehead, A. E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bridlington District of the county of York.

Wright, Andrew J. M., M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Obstetric Officer at the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ayr District Asylum.—Junior Assistant Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

Birmingham Infirmary.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

Bristol Royal Infirmary.—House Physician. Salary £100 per annum, with apartments, board, and laundry.

Cambridge, Borough of.—Medical Officer of Health. Salary £500 per annum.

Cambridgeshire, &c., Asylum, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

Cancer Hospital (Free), Fulham-road, London, S.W.—Honorary Physician. Also Dental Surgeon.

Carmarthen, Joint Counties Lunatic Asylum.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

Cheltenham General Hospital.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

Cheshire County Council Education Committee.—Two Assistants to the Medical Officer of Health. Salary in each case £350 per annum and travelling expenses.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Physician to Out-patients.

Cumberland, County Council of.—Medical Officer of Health. Salary £700 per annum.

Dumfries and Galloway Royal Infirmary.—House Surgeon, also Assistant House Surgeon. Salaries £80 and £40 respectively, with board and lodging.

Edinburgh District Asylum, Bangour Village.—Second Assistant Physician, unmarried. Salary £120, with board, apartments, and laundry.

Egyptian Government, Kasr El Ainy Hospital.—Resident Surgical Officer. Salary £250 per annum, with quarters, servants, washing, coal, and light.

Evelina Hospital for Sick Children, Southwark Bridge road, London, S.E.—House Surgeon for six months. Also House Physician for nine months.

Exeter, City and County of the City of.—School Medical Officer. Salary £250 per annum, rising to £300.

Glasgow, Royal Samaritan Hospital for Women.—Visiting Surgeon.

Hôpital Français, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer. Salary £50 per annum, with board and lodging. Also Third Physician to Out-patients.

Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Maida Vale, W.—Resident Medical Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

Infants Hospital, Vincent-square, Westminster.—Assistant Physician.

Kettering and District General Hospital.—Resident Medical Officer, unmarried. Salary £80 per annum, with board and residence, &c.

Lanark, Middle Ward Isolation Hospital.—Resident Physician. Salary £150 per annum, with board, &c.

Leeds, Hospital for Women and Children.—House Surgeon for six months. Salary at rate of £50 per annum, with board, &c.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

London Fever Hospital, Liverpool-road, N.—Assistant Resident Medical Officer. Salary £150 per annum, with residence and board.

Lowestoft Hospital.—House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

Maidstone, West Kent General Hospital.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing allowance.

Manchester and Salford Hospital for Skin Diseases, Manchester.—Assistant Medical Officer. Salary £100 per annum.

Manchester Royal Infirmary Convalescent Hospital, Cheadle.—Resident Medical Officer, unmarried. Salary £150, per annum, with board and residence.

Manchester, University of.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

Newcastle-on-Tyne, Hospital for Sick Children.—Honorary Surgeon.

Northamptonshire County Council Education Committee.—School Medical Officer. Salary £300 per annum and travelling expenses.

to China, under Section 26 of the Transvaal Ordinance, 1904, on account of disease and physical infirmity; and how far the effect of this section had been taken into account in arriving at the comparative rates of mortality of the Chinese and Kaffirs working in the gold mines.—Mr. CHURCHILL said in reply: I understand that the total number of Chinese repatriated up to date as physically unfit is 4783. The figures of mortality show only deaths on the Rand, and deaths either of Chinese or Kaffirs who have left the Rand are not included.

Sanitary Administration in Seaside Resorts.

Mr. COURTHOPE asked the President of the Local Government Board whether, in the case of the sanitary authorities of popular seaside and health resorts who have applied for orders under the Public Health Act, 1907, he would issue such orders without delay, in order that the sanitary authorities in question might secure the advantages of the Act before the summer season commenced.—Mr. BURNS (by written answer) replied: I am desirous that the several cases should be dealt with as early as practicable and I will bear in mind the point to which the honourable Member refers; but the preliminary investigations necessary in each individual case, as well as the statutory requirements which have to be complied with, make it impossible to issue the orders with great rapidity.

MONDAY, MARCH 30TH.

Anthrax and Glanders in Human Beings.

Mr. LAURENCE HARDY asked the President of the Local Government Board whether his attention had been called to the report of the inquest on James Shaw in the City Coroner's Court on Feb. 6th; and whether he would take steps to extend the provisions with regard to the compulsory notification of disease to all cases of anthrax in human beings arising from any cause and to all case of glanders in human beings, or of suspected glanders.—Mr. BURNS answered: My attention has been called to the report of the inquest referred to. It is competent for a sanitary authority, with the consent of the Local Government Board, to make cases of anthrax and glanders in man compulsorily notifiable in their district. I may, however, state that glanders is a rare disease as regards human beings. Cases of anthrax in man chiefly occur in factories and workshops, and as regards these cases arrangements are made by the Secretary of State for information of them being given to the local medical officer of health.

The Notification of Births Act.

Mr. ALDEN asked the President of the Local Government Board whether he could state the number of county boroughs, urban district councils, and other local authorities which had adopted the Notification of Births Act; and whether he could make any statement as to the measures that had already been taken by the large industrial centres of population.—Mr. BURNS answered: The Act has been adopted by 132 local authorities. In most of the districts in which it has been adopted there is one or more female health visitors, whose duty it is in appropriate cases to visit and advise the mothers of newly born infants, and in some instances the local authority avails itself of the coöperation of local voluntary associations. In all cases the health visitors act under the supervision of the medical officer of health.

TUESDAY, MARCH 31ST.

A Case of Anthrax.

Mr. JOWETT asked the Secretary of State for the Home Department whether his attention had been called to the death, on March 8th, of a man named Michael Quigley of Bradford from anthrax, contracted whilst handling dirty cheap foreign wool for Messrs. Campbell and Harrison, woolcombers, of Shipley; if he was aware that the wool in its dusty state was thrown down to Quigley from the room above through a trap-door; and what steps he was taking to protect working people whose anxiety to earn a livelihood forced them to work under such dangerous conditions.—Mr. GLADSTONE replied: I have received a report of this case, from which it appears that the wool after opening was sent down a shoot for blending purposes in the room below, but that the whole of it had been opened over a fan in order to remove dust and dirt, and that in order still further to reduce the risk from dust the shoot is provided with swing-doors half way down which break the fall of the material. I am informed that the regulations are fully observed at the factory and that the firm are voluntarily observing additional precautions, including the provision of respirators, the opening of all material over the opening boards, and the washing of all material in a disinfectant liquid. I am causing further inquiry to be made as to whether any additional measures can be taken to reduce the danger at the blending heap.

Opium and Fever in India.

Mr. REES asked the Secretary of State for India whether, in view of the fact that the mortality from fever in India was so greatly in excess of that occasioned by other diseases, and of the fact that opium was a recognised specific, and an absolute necessity to certain races and tribes of Indians, for the treatment of this disease, he would in arrangements that were made for reducing the cultivation of opium, safeguard the supply of sufficient quantities for use for medicinal purposes.—Mr. MORLEY replied (by written answer): I have no doubt that in any further regulations which the Government of India may make for the restriction of the opium habit in India the special circumstances of particular tribes or races, necessitating a supply of the drug for medicinal purposes, will receive due consideration.

The Administration of Anæsthetics.

Mr. BRAMSDON asked the Secretary of State for the Home Department to state how many deaths occurred during the year 1907 in the metropolitan area and in the other parts of England and Wales respectively from the effects of the administration of anæsthetics.—Mr. GLADSTONE replied (in a written answer): The figures for the year 1907 are not yet available. According to the verdicts of coroners' juries and the certificates of medical practitioners, there were in the year 1906 64 deaths in London and 119 in the remainder of England and Wales caused by anæsthetics administered for operations. There appears to be some reason to doubt whether the certificates on which these returns are based are in all cases complete, and there must necessarily sometimes be difficulty in determining if death under an anæsthetic is caused by the anæsthetic. I propose therefore to make further inquiry into the matter.

BOOKS, ETC., RECEIVED.

AMBROSE COMPANY, LIMITED, THE, 57, Wigmore-street, Cavendish-square, London, W.

Insanity: Its Causes and Prevention. A Popular Treatise. By Charles Williams, L.R.C.P., L.R.C.S., L.S.A. Price 2*s.* 6*d.* net.

ARNOLD, EDWARD, 41 and 43, Maddox-street, London, W.

The Influence of Alcohol and Other Drugs on Fatigue. The Croonian Lectures Delivered at the Royal College of Physicians in 1906. By W. H. R. Rivers, M.D., F.R.C.P., Fellow of St. John's College, Cambridge. Price 6*s.* net.

BAILLIÈRE, TINDALL, AND COX, London, W.C.

The Diagnosis and Treatment of Pulmonary Tuberculosis. By Francis M. Pottenger, A.M., M.D., Monrovia, California, Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal., Professor of Clinical Medicine, Medical Department, University of Southern California; Chief of Medical Staff of the Helping Station of the Southern California Anti-Tuberculosis League, Los Angeles, Cal. Price 15*s.* net.

BLACKWOOD, WILLIAM, AND SONS, Edinburgh and London.

Garcia the Centenarian and His Times. Being a Memoir of Manuel Garcia's Life and Labours for the Advancement of Music and Science. By M. Sterling Mackinlay, M.A. Oxon., Author of "Antoinette Sterling and Other Celebrities." Price 15*s.* net.

DUNOD, H., ET PINAT, E., 49, Quai des Grands-Augustins, Paris.

Le Catalogue International des Principales Publications Périodiques du Monde. Par le Prof. Emile Guarini, Professeur à l'École d'Arts et Métiers de Lima, Pérou. Price Fr.3.

ENGADIN PRESS CO. (VORM. SIMON TANNER), Samaden.

Über die Klinische Bedeutung der Opsonine. Inaugural-Dissertation zur Erlangung der Doktorwürde vorgelegt der hohen Medizinischen Fakultät der Universität Bern. Von Egbert Coleby Morland, M.B., B.Sc. Lond. Price not stated.

FISCHER, GUSTAV, Jena.

Die Funktionen der Nervencentra. Von Dr. W. v. Bechterew, O. Akademiker, Direktor der Psychiatrischen und Nervenklinik der Medizinischen Akademie, Präsident des Psychoneurologischen Institutes in St. Petersburg. Deutsche Ausgabe, in Verbindung mit dem Verfasser redigiert durch Dr. Richard Weinberg, Professor der Anatomie in St. Petersburg. Erstes Heft: Einleitung, Untersuchungsmethoden, Rückenmark und Verlängertes Mark. Price M.16; geb., M.17.50.

Nerven und Seele. Von Dr. Paul Kronthal. Price M.10.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Von Bergmann und Rochs' Anleitende Vorlesungen für den Operations-Kursus an der Leiche. Bearbeitet von Dr. A. Bier, ord. Professor, Geh. Med.-Rat und Generalarzt à la suite des Marine-Sanitätskorps, und Dr. H. Rochs, Generalarzt und Sanitäts-Inspekteur. Fünfte Auflage. Price M.8.

HODGE, WILLIAM, AND CO., 34–36, North Frederick-street, Glasgow; and Edinburgh.

How to Nurse the Patient. Edited by J. Cowan Wilson, M.B., C.M. Glasg., D.P.H. Camb., late Assistant House Surgeon and House Physician, Greenock Infirmary and Fever Hospital; Fellow of the Royal Institute of Public Health, and Member of the Incorporated Society of Medical Officers of Health, London. Price 3*s.* 6*d.* net.

HODGE, WILLIAM, AND CO., Glasgow and Edinburgh. (SWEET AND MAXWELL, LIMITED, London.)

Trial of A. J. Monson. Edited by John W. Moore, B.A. Oxon., Advocate. Price 5*s.* net. (Notable Scottish Trials Series.)

HOGG, JOHN, 13, Paternoster-row, London.

Knaves or Fools? By Charles E. Wheeler, M.D., B.S., B.Sc. Price 2*s.* 6*d.* net.

KARGER, S., Karlstrasse, 15, Berlin. (WILLIAMS AND NORGATE, 14, Henrietta-street, Covent-garden, London, W.C.)

Vorlesungen über Diätbehandlung innerer Krankheiten vor reiferen Studierenden und Aerzten. Von Professor Dr. H. Strauss, in Berlin. Mit einem Anhang "Winke für die diätetische Küche." Von Elise Hannemann. Price M. 7.80; geb., M. 9.

KLINKHARDT, DR. WERNER (Verlag von); Leipzig.

Hermaphroditismus beim Menschen. Von Franz Ludwig von Neugebauer, Vorstand der Gynækologischen Abteilung des Evangelischen Hospitals in Warschau. Price M.40; geb., M.43.

LEHMANN, J. F., Heustrasse, 20, München.

Lehmann's Medizinische Atlanten. Band VI. Atlas Chirurgisch-pathologischer Röntgenbilder. Von Privatdozent Dr. Rudolf Grashey, Assistenzarzt der k. chirurgischen Klinik zu München. Price M.22.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

A Mind that Found Itself. An Autobiography. By Clifford Whittingham Beers. Price 7*s.* 6*d.* net.

MACMILLAN AND CO., LIMITED, St. Martin's-street, London.

An Elementary Course of Practical Zoology. By the late T. Jeffery Parker, D.Sc., F.R.S., Professor of Biology in the University of Otago, Dunedin, New Zealand, and W. N. Parker, Ph.D., Professor of Zoology at the University College of South Wales and Monmouthshire, in the University of Wales. Second edition. Price 10*s.* 6*d.*

BRAITHWAITE'S RETROSPECT.

To the Editor of THE LANCET.

SIR,—I have four volumes of "Braithwaite's Retrospect," July to December, 1850; January to June, 1851; July to December, 1851; January to June, 1853. They are almost perfect, many leaves being uncut. Can any of your readers tell me if these books are of any value?

I am, Sir, yours faithfully,
March 27th, 1908. A. B. C.

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Consistency.—The warning notice does not, and is not intended to, constitute an injunction to our readers to boycott the appointment. The notice means, as we have explained previously, that intending applicants should make certain inquiries. There are some appointments which we do not allow to be advertised; there are others where, the apparent difficulty having been explained to us, we permit the advertisement to appear—usually in discharge of what we conceive to be a public duty; there is a third class where we think that intending applicants ought to hear of circumstances that may induce them not to apply. The appointment in question belongs to the third class. We wish in dealing with this difficult subject that it was as easy to act always, and regardless of circumstances, upon one plan as it is to assume the title of "Consistency." But we think our reader's criticism a very just one.

Higher Standard.—We have seen the paragraph in question and we agree with our correspondent that such publicity is unfortunate.

J. O. D.—We propose to publish in an early issue of THE LANCET a little summary of what is known on the subject.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.)

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (11th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), University College (9.15 A.M.), St. Thomas's (2 P.M.), St. Mary's (10 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum) at the Laboratories of the National Hospital for the Paralysed and Epileptic, Queen-square, W.C.: at 8.30 P.M.

Meeting.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, W. J. Gow): at 7.45 P.M.

Specimens:
- Dr. Herbert Spencer: An Ovarian Tumour with Adherent Intestine necessitating Enterectomy.
- Mr. Alban Doran: A Specimen of Hæmatosalpinx which had caused Acute Symptoms, following Retroversion of the Fibroid Uterus.

Short Communications:
- Dr. Macnaughton-Jones: A Case of Salpingo-ovaritis following Labour in a Patient previously operated upon for Tuberculous Pyosalpinx (with specimen).
- Dr. Kedarnath Das: Three Cases of Cæsarean Hysterectomy for Atresia of the Vagina, Two of them Complicated with Irreparable Vesico-vaginal Fistulæ.
- Dr. Nepean Longridge: On Creatinin Excretion in Lying-in Women.

Paper:
- Dr. Herbert Williamson and Dr. Eardley Holland: A Case of Intra-Uterine Death of the Fœtus occurring in Six Consecutive Pregnancies, with Observations upon the Importance of the Examination of the Fœtal Tissues for the Presence of the Spirochæta Pallida.

FRIDAY.

At 4.45 P.M.:

GENERAL MEETING OF FELLOWS OF THE SOCIETY.

Ballot for New Fellows.

CLINICAL SECTION (Hon. Secretaries—A. E. Garrod, Raymond Johnson): at 8.30 P.M.

Cases:
- Dr. L. Guthrie and Mr. M. S. Mayou: Right Hemiplegia with Optic Atrophy.
- Mr. Charters Symonds: A Patient Three Years after Complete Extirpation of the Larynx, showing an Improved Method of Speaking.
- Mr. W. S. Handley: Lymphangioplasty for the Brawny Arm of Cancer.
- Dr. Francis Hawkins: Ascites Treated by Paracentesis performed 25 times in 15 Months, Patient well Seven Years Later.
- Dr. F. Parkes Weber: Hæmangiectatic Hypertrophy of the Foot, possibly of Spinal Origin.
- Mr. C. H. Fagge: Rupture of External Popliteal Nerve.
- Dr. Norman Moore: Myxœdema with Optic Atrophy.
- Dr. David Walsh: Pseudo-acromegaly.
- Dr. J. Barnes Burt: Three Cases of Gout showing Destructive Changes in Bone.
- Dr. F. Parkes Weber: Acute Œdema of Hands and Feet with Pulmonary Affection.

The Cases will be in attendance at 8 p.m.

Report of Committee:
- On Dr. W. Essex Wynter's case of Methæmoglobinæmia.

Short Papers:
- Dr. J. Graham Forbes and Dr. F. Langmead: Fatal Lymphocythæmia in Early Life.
- Dr. Francis Hawkins: A Case of Multiple Rheumatic Nodules in an Adult.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Capt. W. Salisbury-Sharpe, R.A.M.C.(V.): Diseases likely to occur on Mobilization of a Territorial Army.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague-Street, Russell-square, W.C.

FRIDAY.—7.30 P.M., Dr. F. E. Fremantle: The Garden City, Rural Housing, and the Government.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—8.30 P.M., Annual Discussion on Rheumatism (opened by Dr. F. Taylor). Dr. Poynton and Dr. Horder will speak on the Bacteriological Aspects of Rheumatism and Mr. Luff on the Irregular Manifestations of Rheumatism and their Treatment.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Mr. L. B. Rawling: The Surgical Treatment of the Incompletely Descended Testis. Clinical Cases will also be shown.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, 11, Chandos street, Cavendish-square, W.

FRIDAY.—5 P.M., Mr. H. Lett: Intussusception associated with Severe Purpura. Mr. J. P. Parkinson: Tetanus Neonatorum. Mr. G. Pernet, Mr. L. Guthrie, Dr. G. Carpenter, Mr. P. Parkinson, and others: Cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M. Lecture:—Dr. H. Walsham: The X Rays in the Diagnosis of Diseases of the Chest.

TUESDAY.—4 P.M., Dr. W. Carr: Clinique (Medical). 5.15 P.M. Lecture:—Dr. C. O. Hawthorne: The Clinical Anatomy and Physiology of the Nervous System.

WEDNESDAY.—4 P.M., Mr. J. Cantlie: Clinique (Surgical). 5.15 P.M. Lecture:—Dr. C. O. Hawthorne: The Clinical Anatomy and Physiology of the Nervous System.

THURSDAY.—4 P.M., Mr. Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. Oliver (Harrogate): Recent Studies in Arterio-sclerosis.

FRIDAY.—4 P.M., Mr. R. F. Pickerton: Clinique (Eye).

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon, also Assistant House Physician. Salary in each case £60 per annum, with board, lodging, and washing.

PRESTON, LANCASHIRE EDUCATION COMMITTEE.—School Medical Superintendent. Salary £500 per annum, rising to £650, with expenses.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, London, N.—House Surgeon and House Physician; also Junior House Surgeon and Junior House Physician. All for six months. Salary of two former at rate of £75 per annum, and of two latter at rate of £40 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Resident House Physician and Resident House Surgeon. Board, &c., provided.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination for not less than 15 Commissions.

SALFORD ROYAL HOSPITAL.—Honorary Surgeon for the Pendleton Branch Dispensary.

SHEFFIELD EDUCATION COMMITTEE.—Assistant Medical Officer. Salary £250 per annum, rising to £300.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

SINGAPORE, STRAITS SETTLEMENTS, MUNICIPAL HEALTH DEPARTMENT.—Assistant Municipal Health Officer, unmarried. Salary $4200, rising to $4300.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Honorary Assistant Physician.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

SOUTH UIST (Southern Division).—Medical Officer. Salary £77 10s.

STIRLING DISTRICT ASYLUM, near Larbert.—Medical Superintendent. Salary £700 per annum, with house, &c.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £40 per annum, with board, washing, and residence.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TOXTETH PARK WORKHOUSE AND INFIRMARY.—Assistant Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea.—House Surgeon for six months. Salary £50, with board, lodging, and laundry.

WALSALL EDUCATION COMMITTEE FOR THE COUNTY BOROUGH.—School Medical Officer. Salary £200 per annum.

WARRINGTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £125 per annum, with board and residence.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Honorary Registrar and Pathologist.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

WORCESTER GENERAL INFIRMARY.—House Surgeon. Salary £80 per annum, with board, *residence*, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of a vacancy as Certifying Surgeon under the Factory and Workshop Act at Manchester (East), in the county of Lancaster.

Births, Marriages, and Deaths.

BIRTHS.

BEST.—On March 30th, at Ilford, Essex, the wife of W. Harris Best L.R.C.P. Lond., of a son.

BROWN.—On March 25th, at Bartholomew-road, N.W., the wife of Alexander Brown, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

GREGORY.—On March 31st, at Apiti, New Zealand, the wife of Charles H. Gregory, M.A., M.B., B.C., M.R.C.S., L.R.C.P., of a daughter.

MENDES.—On March 27th, at the County Asylum, Cheddleton, Staffordshire, the wife of William Francis Mendes, M.D., M.R.C.P., of a daughter.

WALKER.—On March 27th, at Oakfield-road, Clifton, Bristol, the wife of Cyril H. Walker, M.B., of twins (boy and girl).

MARRIAGES.

BEADNELL—SHELDON.—On March 28th, at St. Andrew's Church, Worthing, Captain Herbert Owen Marsh Beadnell, R.A.M.C., to Mabel, only daughter of John Sheldon, Esq., of Tilehurst, Reading.

THOMSON—FRIPP.—On March 28th, at St. George's, Hanover-square, J. Marshall Thomson, L.D.S. R.C.S. Edin., to Alice Edith, daughter of John Trude Fripp, L.D.S. R.C.S.

DEATH.

WOOD.—On March 13th, at Middleton, Driffield, East Yorkshire, William Wood, M.R.C.S. Eng., L.S.A. Lond.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BONESETTER IN THE SEVENTEENTH CENTURY.

THE bonesetter is not an invention of to-day: he seems to have flourished at a time when there was no course of medical studies made imperative upon the medical man. A correspondent has pointed out to us that Sir John Bramston in his autobiography tells how his boy Anthony rode out setting with a dog at Skreens in Essex in 1687 and was thrown so that he put his right shoulder out of joint, when a bonesetter, one Mr. Strut of Chelmsford, "tryed it with a coole-staff," which put Anthony to extreme torture. It seems that the men who were holding the patient let go. Strut tried again with his foot but the kicks of Anthony injured the operator, and "after being four times tormented" Anthony's bone was still out. One Pesgrave of London was then accounted the best bonesetter of England, but to him a local man, Mr. Hastler of Bishop's Stortford, was preferred. "Can you doe it at once," said the poor boy, who, says our correspondent, preferred being a cripple for life to being so much tortured again. Hastler said, "Yes, or never." Anthony was laid on his back and what happened is thus described: "A towel was put under his arm-hole but upon a bolster, and round the neck of the operator: three men held the lad by his other arm and his leggs, and all pulling hard at once Strut with his foot put the bone in its place, which gave a snap that all heard it;" ...... "for which God be praised," says Sir John Bramston.

LIFE INSURANCE COMPANIES MEDICAL FEES.

To the Editor of THE LANCET.

SIR,—I have felt for a long time that the various life insurance companies pay their medical examiners very inadequate fees. These companies are wealthy and their directors are handsomely paid, yet they expect a medical man to most carefully examine the life to be insured and in addition to make a very critical analysis for the absurd remuneration of 10s. 6d., and if the person insures for a large sum then a guinea is paid. It is quite time the medical profession bestirred itself and refused to continue on these terms. A guinea is the lowest fee that ought to be offered, rising to 3 guineas according to the sum insured.

I am, Sir, yours faithfully,

Windsor, March 22nd, 1908. WILLIAM FAIRBANK.

*** A great many medical men refuse to take less than a guinea and we think their action very reasonable.—ED. L.

A MEDICAL WOMAN AS A SUFFRAGIST.

WHATEVER views may be held with regard to the desire of some women to obtain the suffrage it is difficult to sympathise with the tactics of the passive resister as exemplified by Miss O. M. S. Lewin, M.B., B.S., who recently refused to pay a guinea for a licence to use armorial bearings. Still, it was unkind of Mr. Plowden, in fining Miss Lewin £10, to say to her, "Consider your crest lowered"—joking against any individual who cannot joke back is to be deprecated. By the way, heraldic experts are probably rather amused at this case. Miss Lewin supplied evidence with regard to the possession of a crest so that it should be clear that she was breaking the law. As a matter of fact, a woman has no crest—armorial bearings seem to have been in question but what Miss Lewin pleaded guilty to using was "her crest." A woman in certain circumstances has an armorial coat but she has no crest. So the law is making Miss Lewin pay for the privilege of using what she has not got, except in the general sense that all armorial devices are taxable, and Miss Lewin, to make sure that it should be quite clear that she is a passive resister, supplies evidence to prove her possession of what she cannot have.

A BAD STARTER.

To the Editor of THE LANCET.

SIR,—A lad of 18, of steady habits and of good general knowledge, with a public school education, has been up three times at the College of Preceptors for the entrance medical examination. He gets excellent marks for classics, history, and geography, but fails each time in mathematics. For this subject he has no capacity. Can you advise me in the matter? Is there an examining body less exacting in this subject, or do you recommend the abandonment of the profession for a boy who cannot do geometry.

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*** We should certainly encourage the lad to persist as he has been invariably successful in the other subjects. He has probably been taught mathematics badly and does not approach mathematical questions in any right method. We recommend a "coach." There is no way into the medical profession which does not require the acquisition of elementary mathematics, but the amount is small, and a properly taught lad should be able to master it easily if he shows intelligence in other directions.—ED. L.

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Z.—Messrs. A. and M. Zimmerman, Lond.

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Q.—Q. E. D., Lond.

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V.—Messrs. G. Van Abbott and Son, Lond.

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Nottingham General Hospital.—Assistant House Surgeon, also Assistant House Physician. Salary in each case £60 per annum, with board, lodging, and washing.

Preston, Lancashire Education Committee.—School Medical Superintendent. Salary £500 per annum, rising to £650, with expenses.

Prince of Wales's General Hospital, Tottenham, London, W.—House Surgeon and House Physician; also Junior House Surgeon and Junior House Physician. All for six months. Salary of two former at rate of £75 per annum, and of two latter at rate of £40 per annum, with board, residence, and laundry.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

Royal Free Hospital, Gray's Inn-road, W.C.—Resident House Physician and Resident House Surgeon. Board, &c., provided.

Royal Navy, Medical Department.—Examination for not less than 15 Commissions.

Salford Royal Hospital.—Honorary Surgeon for the Pendleton Branch Dispensary.

Sheffield Education Committee.—Assistant Medical Officer. Salary £250 per annum, rising to £300.

Shrewsbury, Salop Infirmary.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

Singapore, Straits Settlements, Municipal Health Department.—Assistant Municipal Health Officer, unmarried. Salary $4200, rising to $4800.

Southampton, Royal South Hants and Southampton Hospital.—Honorary Assistant Physician.

Southport Infirmary.—Resident Junior House and Visiting Surgeon, unmarried, for six months, *renewable*. Salary at rate of £70 per annum, with residence, board, and washing.

South Uist (Southern Division).—Medical Officer. Salary £77 10*s*.

Stirling District Asylum, near Larbert.—Medical Superintendent. Salary £700 per annum, with house, &c.

Stockport Infirmary.—Junior Assistant House Surgeon for six *months*. Salary £40 per annum, with board, washing, and residence.

Stoke-on-Trent, North Staffordshire Infirmary and Eye Hospital, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

Taunton and Somerset Hospital, *Taunton.—Resident Assistant* House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

Toxteth Park Workhouse and Infirmary.—Assistant Resident Medical Officer. Salary £100 per annum, with board, washing, and apartments.

Victoria Hospital for Children, Tite-street, Chelsea.—House Surgeon for six months. Salary £30, with board, lodging, and laundry.

Walsall, Education Committee for the County Borough.—School Medical Officer. Salary £200 per annum.

Warrington, County Borough of.—Assistant Medical Officer of Health. Salary £125 per annum, with board and residence.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Honorary Registrar and Pathologist.

Wolverhampton and Staffordshire General Hospital.—Senior House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Worcester General Infirmary.—House Surgeon. Salary £80 *per annum*, with board, residence, and washing.

York Dispensary.—Resident Medical Officer, unmarried. Salary £120 a year, with board, lodging, and attendance.

The Chief Inspector of Factories, Home Office, S.W., *gives notice of* a vacancy as *Certifying* Surgeon under the Factory and Workshop Act at Manchester (East), in the county of Lancaster.

Births, Marriages, and Deaths.

BIRTHS.

Best.—On March 30th, at Ilford, Essex, the wife of W. Harris Best L.R.C.P. Lond., of a son.

Brown.—On March 25th, at Bartholomew-road, N.W., the wife of Alexander Brown, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Gregory.—On March 31st, at Apiti, New Zealand, the wife of Charles H. Gregory, M.A., M.B., B.C., M.R.C.S., L.R.C.P., of a daughter.

Menzies.—On March 27th, at the County Asylum, Cheddleton, Staffordshire, the wife of William Francis Menzies, M.D., M.R.C.P., of a daughter.

Walker.—On March 27th, at Oakfield-road, Clifton, Bristol, the wife of Cyril H. Walker, M.B., of twins (boy and girl).

MARRIAGES.

Beadnell—Sheldon.—On March 25th, at St. Andrew's Church, Worthing, Captain Herbert Owen Marsh Beadnell, R.A.M.C., to Mabel, only daughter of John Sheldon, Esq., of Tilehurst, Reading.

Thomson—Fripp.—On March 23th, at St. George's, Hanover-square, J. Marshall Thomson, L.D.S. R.C.S. Edin., to Alice Edith, daughter of John Trude Fripp, L.D.S. R.C.S.

DEATH.

Wood.—On March 13th, at Middleton, Driffield, East Yorkshire, William Wood, M.R.C.S. Eng., L.S.A. Lond.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BONESETTER IN THE SEVENTEENTH CENTURY.

The bonesetter is not an invention of to-day; he seems to have flourished at a time when there was *no* course of medical studies made imperative upon the medical man. A correspondent has pointed out to us that Sir John Bramston in his autobiography tells how his boy Anthony rode out setting with a dog at Skreens in Essex in 1657 and was thrown so that he put his right shoulder out of joint, when a bonesetter, one Mr. Strut of Chelmsford, "tryed it with a coole-staff," which put Anthony to extreme torture. It seems that the men who were holding the patient let go. Strut tried again with his foot but the kicks of Anthony injured the operator, and "after being *four times tormented*" Anthony's bone was still out. One Pesgrave of London was then accounted the best bonesettor of England, but to him a *local* man, Mr. Hastler of Bishop's Stortford, was preferred. "Can you doo it at once," said the poor boy, who, says our correspondent, preferred being a cripple for life to being so much tortured again. Hastler said, "Yes, or never." Anthony was laid on his back and what happened is thus described: "A towel was put under his arm-hole but upon a bolster, and round the neck of the operator: three men held the lad by his other arm and his leggs, and all pulling hard at once Strut with *his foot* put the *bone in its place*, which gave a snap that all heard it;" ...... "for which God be praised," says Sir John Bramston.

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To the Editor of The Lancet.

Sir,—I have felt for a long time that the *various* life insurance companies pay their medical examiners very inadequate fees. These companies are wealthy and their directors are handsomely paid, yet they expect a medical man to most carefully examine the life to be insured and in addition to make a very critical analysis for the absurd remuneration of 10*s*. 6*d*., and if the person insures for a large sum then a guinea is paid. It is quite time the medical profession bestirred itself and refused to continue on these terms. A guinea is the lowest fee that ought to be offered, rising to 3 guineas according to the sum insured.

I am, Sir, yours faithfully,

Windsor, March 22nd, 1908. William Fairbank.

⁂ A great many medical men refuse to take less than a guinea and we think their action very reasonable.—Ed. L.

A MEDICAL WOMAN AS A SUFFRAGIST.

Whatever views may be held with regard to the desire of some women to obtain the suffrage it is difficult to sympathise with the tactics of the passive resister as exemplified by Miss O. M. S. Lewin, M.B., B.S., who recently refused to pay a guinea for a licence to use armorial bearings. Still, it was unkind of Mr. Plowden, in fining Miss Lewin £10, to *say to her*, "*Consider* your crest lowered"—joking against any individual who cannot joke back is to be deprecated. By the way, heraldic experts are probably rather amused at this case. Miss Lewin supplied evidence with regard to the possession of a crest so that it should be clear that she was breaking the law. As a matter of fact, a woman has no crest—armorial bearings seem to have been in question but what Miss Lewin pleaded guilty to using was "her crest." A woman in certain circumstances has an armorial coat but she has no crest. So the law is making Miss Lewin pay *for the privilege of* using what she has not got, except in the general sense that all armorial devices are taxable, and Miss Lewin, to make sure that it should be quite clear that she is a passive resister, supplies evidence to prove her possession of what she cannot have.

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To the Editor of The Lancet.

Sir,—A lad of 18, of steady habits and of good general knowledge, with a public school education, has been up three times at the College of Preceptors for the entrance medical examination. He gets excellent marks for classics, history, and geography, but fails each time in mathematics. For this subject he has no capacity. Can you advise me in the matter? Is there an examining body less exacting in this subject, or do you recommend the abandonment of the profession for a boy who cannot do geometry.

I am, Sir, yours faithfully,

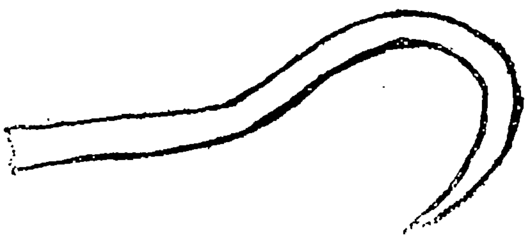
March 30th, 1908. Anxious Guardian.

⁂ We should certainly encourage the lad to persist as he has been invariably successful in the *other* subjects. He has probably been taught mathematics badly and does not approach mathematical questions in any right method. We recommend a "coach." There is no way into the medical *profession* which does not require the acquisition of elementary mathematics, but the amount is small, and a properly taught lad should be able to master it easily if he shows intelligence in other directions.—Ed. L.

having healed (I need hardly say without suppuration) the patient was allowed to leave her bed and left the hospital soon after to practise using the limb.

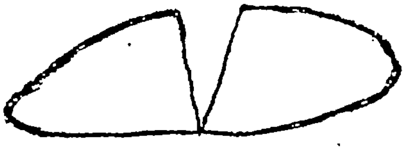
Before long she was readmitted and the second operation was performed. The lower cicatrix was opened and the wire removed and two interrupted wire sutures placed in the tracks of the previous continued one, the fragments, of course, being this time pared to clear them of fibrous tissue of new formation and produce smooth surfaces for coaptation. This was all satisfactorily effected, though not without the use of the powerful hook and the vertical position of the limb. The result was restoration of the use of the joint in a manner so satisfactory that I determined to try the same procedure in the other limb. The only difference which I made in this case was that, as the upper fragment was too small to bear drilling, I passed the ends of the wire, in dealing with that fragment, through the tendon of the quadriceps just above the upper border of the bone, the lower fragment, which was, of course, very substantial, being drilled as in the other limb. By this means, aided by the vertical position of the limb and the hook, I was able to bring down the upper fragment very satisfactorily, so much so that I did not feel it needful to have the patient use the limb in walking before proceeding to the second operation, but did this before she left her bed, soon after the wound had healed. In the second operation I applied two interrupted sutures, passing them, as in the first operation, through the track in tendon and bone which the first wire had occupied.

Fig. 4.



The continued wire suture, which was first used by Dr. Hector C. Cameron of Glasgow, has the great advantage, where much traction has to be made upon the fragments, that the pressure of the wire is distributed over the anterior surface of the bone instead of being concentrated upon the limited portion of tissue included in an interrupted stitch. And this is peculiarly valuable in old cases of fracture, in which, as a result of long disuse, the bone undergoes interstitial atrophy, that sometimes makes it very soft. But this suture has the disadvantage that it may tilt the fragments so that their anterior edges do not come well into contact with each other, as indicated in Fig .5.

Fig. 5.



This was my reason for preferring the interrupted suture in the second stage of the proceeding. In the first stage in which the principal dragging probably takes place this circumstance is a matter of no consequence, as accurate position of the fragments is not then aimed at; and in any case admitting of being dealt with by a single operation, though not without much traction, this defect of the continued suture might be readily got over by introducing a superficial central stitch of comparatively thin wire to insure coaptation of the anterior margins of the fragments.

The effect of the second operation in the above case was such as would have surprised me if I had not seen in other cases how substantial and strong a patella may result from wiring after thorough paring of the surfaces, even when one of the fragments is of quite insignificant size. Without my notes I cannot say how long it is since the case was treated, but I think it must be about four years. And I lately had the satisfaction of hearing from the patient that she could walk well, with strong and supple knee-joints.

In Miss ——'s case I would suggest that you should, in the first instance, before making any incision, but after she has been placed under an anæsthetic, apply the strong sharp hook to the border of the upper fragment through the skin, and, with the limb vertical, ascertain to what extent the quadriceps will yield immediately. If the upper fragment came pretty well down you would proceed to do all by one operation, but if there were the slightest doubt as to the feasibility of this you would adopt the preliminary procedure as in the above case.

Supposing you to be doing all by one operation and that it seems desirable to employ Cameron's continued suture, as the wire will be left in permanently, it would be better to introduce its ends first into the lower fragment and fix them over the upper one, where the fixed ends could not cause inconvenience in kneeling. The strong hook would keep the upper fragment well down during the fixing process. If I had published this case, as I ought perhaps to have done, I should not have had to inflict upon you so large an amount of manuscript. I remain,

Ever truly yours,
(Signed) Joseph Lister.

The Hunterian Lectures
ON
THE PYGMY AND NEGRO RACES OF AFRICA.

Delivered before the Royal College of Surgeons of England on March 2nd, 4th, and 6th, 1908,

By F. C. SHRUBSALL, M.A., M.D. Cantab., M.R.C.P. Lond., M.R.C.S. Eng.,
RESIDENT OFFICER OF THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON, LONDON, S.W.

LECTURE II.[1]

Delivered on March 4th.

Mr. President and Gentlemen,—The greater part of Central and Southern Africa is inhabited by the negro peoples who present a greater uniformity of features than is to be found in any other area of equal size. The characters are such as to clearly distinguish them from the rest of mankind. Their skin is dark, the shade varying from a deep golden brown to an intense slate which is almost black. Their hair is black, short, and crisp, usually arranged in tight ringlets, especially at the side of the head, but it never quite forms the peppercorn clusters so characteristic of the Bushmen. Among some of the tribes of the North-Western coast it grows to a greater length and is decidedly frizzly. Their eyes are dark-brown or at the lightest yellowish. The stature presents considerable individual variations, 5 feet 8 inches being the general average. On the whole, the northern negro is taller than the southern. The upper limbs are proportionally longer than in the white races, the second finger reaching nearly to the knee when the arms are hung straight down by the side. As a result their span is also greater. The proportional length of the upper limb is from 47·5 to 48·5 per cent. of the stature of the negro, as compared with 45 per cent. in the European canon. A great part of this difference depends on the forearm, which averages from 17 to 18 per cent. in the negro as against 14 per cent. in the European. The negro also exceeds the white in the length of the lower limb but the proportion which this bears to the stature presents considerable individual and tribal variations. Sir H. H. Johnston has stated that the "mass of black negroes may be divided into the short-legged and the long-legged." Good examples of the long-legged class are the Nilotic tribes of the White Nile and the north-east coast of the Victoria Nyanza but the type appears throughout Southern Africa. "The short-legged type appears among the Lendu, the Jur of the Bahr el Ghazal, the tribes on the fringes of the Congo forest, and in West Africa among the Kru and others." In a series of measurements made in Uganda this character served to distinguish the tribes of Bantu speech from the others and the results obtained were subsequently found to coincide with other lines of evidence.

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[1] Lecture I. was published in The Lancet of April 4th, 1908, p. 983.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. D. Robinson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

SATURDAY.—2 P.M., Medical and Surgical Clinics X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. D. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 3 P.M., Demonstration on Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.): Dr. F. Thomson.

WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks). 3 P.M., Demonstration of Cases of Cancer of the Breast, Clinical and Pathological (at the Cancer Hospital, Brompton, S.W.): Mr. H. Evans.

THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). Demonstration of Cases of Fever (at the North-Eastern Fever Hospital, St. Ann's road, N.): Dr. F. Thomson. 4.30 P.M., Throat Operations (Mr. H. W. Carson).

FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical, 11 A.M., Eye.

THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat.

FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 2nd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 27	30·15	S.W.	...	82	53	42	43	44	Overcast
" 28	29·93	N.W.	0·09	83	50	43	42	43	Raining
" 29	30·14	W.	...	83	53	39	45	47	Fine
" 30	29·97	W.	0·09	102	56	44	42	44	Fine
" 31	29·67	W.	0·18	99	50	43	41	45	Cloudy
April 1	29·69	W.	...	97	52	39	41	44	Fine
" 2	30·03	W.	...	76	67	44	49	50	Overcast

During the week marked copies of the following newspapers have been received:—*Evening News and Southern Daily Mail, Westminster Gazette, The Hour Glass, Glasgow Evening Times, Aberdeen Evening Express, Bristol Mercury, South Wales Echo, East Anglian Times, Manchester Chronicle, Aberdeen Journal, Lincolnshire Echo, Sunderland Echo, Glasgow Evening Citizen, South Wales Daily News, Midland Weekly News, Law Times, Yorkshire Telegraph Yorkshire Post, South Leeds Daily News, Somerset Weekly Gazette, Cheltenham Examiner, Indian Daily News, Pall Mall Gazette, Bakers' Record, &c.*

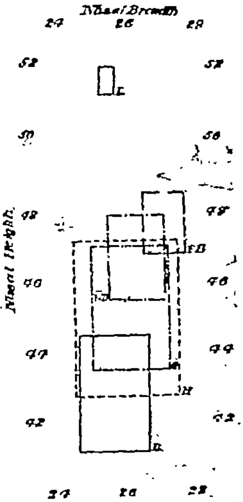
Zeriba country. These tribes appear to be of a pure negro stock. With these perhaps should be grouped the more mixed Suk-Turkana, Elgumi, Nandi, and possibly even the Masai and the Anderobo.

Central group.—The Baghirmi, Kanuri, Sonhray, and Hausa. These tribes are largely of mixed blood.

Western group.—The Fulah and Wolof, of mixed origin; the Mandingo, many of whom are of mixed ancestry; the Kru and Vai, among whom individuals show traces of a distant racial intermixture; and the Tshi (Ashanti), Ewe (Dahomey), Yoruba (Benin), Mossi, and others who are the best representatives of the true negro.

The Bantu peoples do not so readily permit of classification other than by their geographical distribution. For the comparison of skulls I have adopted a provisional division into eastern and western. Observations on the living are available from German East Africa, the Middle Congo, and Uganda, which will be referred to by name. The main division is between the Bantu and the Soudanese who offer contrasts not only in language but in many features of culture. The distinctions drawn by Haddon, Keane, and others apply more to the Western Soudanese and the Southern Bantu than in general; moreover, some degree of overlap occurs along the boundaries. Broadly, the negro culture may be described as agricultural though in places stock raising is also carried on, especially in the Central Soudan and among the Bantu of the south and east. It has been suggested that this is due to Hamitic influence, but it seems also to depend in large measure on the suitability of the country for pasturage and on the occurrence or otherwise of raiders. The manufacture of pottery, carving, and metallurgy are common arts, though certain tribes exhibit special skill.

FIG. 4.



Areas showing relation as to nasal height and breadth.

Soudanese.		*Bantu.*
Huts.—Gable roofed.	...	Rounded with pointed roofs.
Spears.—With socketed heads.	...	Fastened to shaft by a spike.
Bow-strings.—Vegetable fibre.	...	Animal fibre.
Weapons.—Swords, plaited shields; no clubs.	...	Clubs, skin or wooden shields.
Clothing and ornaments.—Of vegetable origin.	...	Of animal origin.

In the west fetishism is very highly developed, masks are common, and secret societies are frequent; in the south and east ancestor worship is prevalent, fetishism is undeveloped, and there are said to be no secret societies. These linguistic and cultural distinctions being established, it seemed important to endeavour to determine how far they were accompanied by differences in physique, also how far such differences if found are to be ascribed to racial intermixture. The materials available for this purpose consist of measurements of the living made by various observers and of the skulls and skeletons in European museums; and lastly, the comparison of typical photographs. These may be considered in order. The measurements of the living are unfortunately few in number and in most cases have included a very small selection of characters. The stature shows no very characteristic features.

Western Soudanese.	Mm.	ft. in.
Sierra Leone ...	1735	= 5 8½
Lagos	1800	= 5 10½
Old Calabar ...	1715	= 5 7½
Guinea Coast ...	1724	= 5 7¾
Eastern Soudanese.		
Nilotic Negroes	1800	= 5 10¾
Zandeh	1725	= 5 8

Central Soudanese.	Mm.	ft. in.
North Nigeria...	1697	= 5 6¾
M'Zab (slaves)...	1620	
Bantu.		
Uganda	1715	= 5 7½
Nyassaland... ...	1730	= 5 8
Congo...	1710	= 5 7¼
Bechuana	1685	= 5 6¼
Zulu	1710	= 5 7¼

The cephalic index yields similar insignificant results.

Western Soudanese.	
Sierra Leone	75·9
Lagos...	75·3
Old Calabar	73·3
Ashanti	75·0
Eastern Soudanese.	
Nilotic Negroes	77·7

Central Soudanese.	
North Nigeria	76·4
M'Zab (slaves)	74·2
Bantu.	
Uganda	75·6
Congo	75·4
Nyassa	75·0
South-East Africa	74·8

Better results follow the percentage classification of this index under three heads, representing long, medium, and broad skulls.

—	Dolicho-cephalic.	Mesati-cephalic.	Brachy-cephalic.
	Per cent.	Per cent.	Per cent.
Bantu—			
North Nyassaland	40·1	51·9	8·0
Unyamwesi, &c.	54·0	39·5	6·5
Uganda	60·8	35·8	3·5
Middle Congo	59·0	38·0	3·0
Western Soudanese	80·0	20·0	—

The table shows the greater frequency of broad heads among the southern people. The numbers in every case are so small as to render statistical treatment of little avail. It is particularly unfortunate that very few measurements have been made on the living Western and Central Soudanese. Further investigations have been made on the peoples of Uganda, of German East Africa, and of the Middle Congo by Sir H. H. Johnston, Count Schweinitz, and Mense, which I have summarised in an appendix to the former author's "Uganda Protectorate." From this it would appear that the nose is broad and flat among all the tribes of East Central Africa with the exception of the Bahima and the Masai, in whom it is more prominent and more arched. The nasal index, or the percentage relation of the breadth between the alæ to the height from the root of the nose to the septum, affords a rough basis for classification. The broadest noses occur among the pygmy tribes of the forest zone and those taller tribes in direct contact with them. The Nilotic negroes have lower indices and therefore narrower noses than the Bantu negroes, such as the Baganda, the Kavirondo, the Wanyamwesi, and other tribes between the Great Lakes and the Indian Ocean. There is, however, a band of tribes, among whom many individuals present narrow nasal orifices, stretching along the higher ground from the west of Lake Victoria and midway between Lake Tanganyika and the sea. These include the Bahima, Basoga, Watuta, Wagogo, and the Angoni, who link up with the Kaffir tribes of South Africa among whom these features also appear. The eastern group of tribes comprising the Suk-Turkana, Nandi, Andorobo, Masai, &c., also presents lower indices than does either the Nilotic negro or the first-mentioned group of Bantu. If it be remembered that the adjacent Hamitic peoples, whether Galla, Somali, or Abyssinian, have narrower noses, it will be seen that this affords some evidence of racial intermixture spreading from the north-east. The proportions of the various segments of the body afford similar evidence, the Bantu peoples of Uganda being characterised by relatively longer arms, shorter legs, and longer trunks than the Nilotic negroes or the tribes of the eastern plateau. In these characters they resemble the pygmies and to a less degree the Bushmen-Hottentots which might well be due to some mixed strain of blood if these Lake Bantu tribes represent the first invaders of the territory of the former groups. The type with the narrower nasal orifices is also characterised by

Remarks ON THE TREATMENT OF FRACTURES OF THE PATELLA OF LONG STANDING.

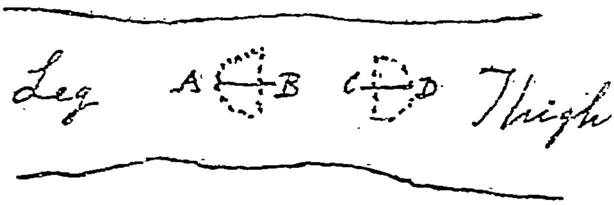
BY LORD LISTER, F.R.S.

SHORTLY before I retired from practice I devised a method of dealing with fractures of the patella of long standing which gave very satisfactory results. I failed to publish it at the time; but a surgical friend having asked my advice in a case of that kind, I wrote for him a detailed description of the procedure, preserving a copy of my letter which I venture, even at this late period, to reproduce.

Fisher's Hotel,
Pitlochry, Scotland.
September 15th, 1895.

MY DEAR DR. ——,—I should have written to you long ago regarding Miss ——'s case had I not known that you could not deal with it till you had returned home after your autumn holiday in Europe; Mr. —— having given me your address in London up to the 15th inst. The limb is no doubt useful as it is; but it is very far from being as strong as we should wish to see it; and assuming, as I do in your case, that the surgeon can look with confidence to an aseptic condition of the wound, I think an endeavour should be made to improve it. Indeed, there is good reason to believe that it will be made as serviceable as ever. I doubt, however, whether you will be able to bring the fragments together without some special mode of procedure. When you visited my wards in King's College Hospital, now several years ago, I showed you a young man on whom I had operated on account of a fracture of the patella of long standing with considerable separation of the fragments, where I had attained my object by means of free division of the quadriceps extensor muscle. This, however, is a pretty severe measure and involves, at the best, more or less weakening of the muscle and a long cicatrix.

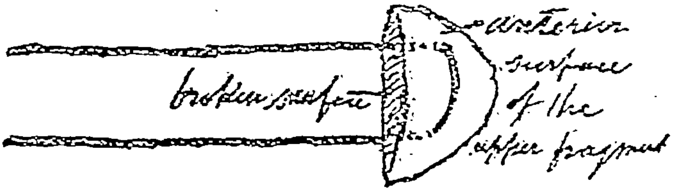
FIG. 1.



Since that time I have greatly improved on that practice and have succeeded without touching the quadriceps by proceeding in two stages. The idea was suggested to me by a case published by Dr. Lucas-Championnière of Paris who, being unable to get the fragments into apposition, wired them together nevertheless and left the wire in as an adjuvant connecting medium. It occurred to me that, although such a use of the wire did not seem likely to be very satisfactory as a permanent arrangement, yet it might probably be adopted with great advantage as a temporary expedient; and that after the quadriceps had been gradually stretched by the use of the limb in the position so produced the fragments might by a second operation be brought into contact and might then be wired in the way after paring the opposed surfaces. The first case in which I put this idea into practice was a sufficiently testing one. The patient was a young woman of very stout and heavy build who had fractured both patellæ, one of the four years and the other three years before she consulted me. The fragments were in both limbs considerably separated and in the left, where the bone had been injured four years previously, the separation was so great (about five inches) and the upper fragment at the same time so very small that I at first despaired of being able to do anything.

But on the right side, the upper fragment being of good size and the separation more moderate, I determined to give the plan a trial. I made two short longitudinal incisions (Fig. 1, A B and C D) over the two fragments (shown in dotted line), and having exposed them by a little dissection drilled two holes in the upper one, and passed through them, from without inwards, the ends of a piece of the usual stout silver wire, so that when the ends were pulled upon the middle of the loop of wire would press upon the surface of the fragment, as seen in Fig. 2. Next, passing into the lower incision a blunt instrument (a broad raspatory), I detached from the front of the femur the soft parts lying between the incisions, consisting, of course, only of skin and fat, as the muscle was absent at that part. Then passing a strong pair of forceps from the lower incision under the skin till their blades appeared in the upper incision, I seized the ends of the wire and drew them down into the lower incision. I then drilled two holes in the lower fragment and passed the ends of the wire through them from within outwards, and, after drawing the upper fragment well down, secured them in the usual way and cut the ends short. The immediate result, so far as the fragments were concerned, is indicated in Fig. 3. The incisions in the skin were then brought together by sutures and a dressing (the double cyanide gauze) applied.

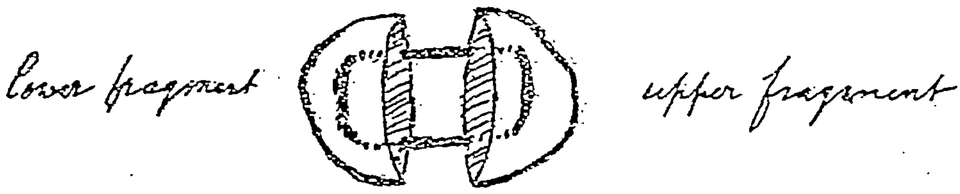
FIG. 2.



In drawing down the upper fragment I found a great advantage from the use of a very strong sharp hook (Fig. 4), the point of which was inserted in the tendon of the quadriceps at its attachment. By this means I was able to exert much greater traction upon the bone than can be done by simply pulling upon the wire, and in order to relax the quadriceps as much as possible the limb was placed in the vertical position before the fragment was pulled down. The dressing having been put on, a trough of Gooch's splint was applied to the limb still in the elevated position, and the same attitude was maintained as the patient was removed to the ward, and continued by attaching the end of the splint to a rope connected with the tripod and pulley used in applying Sayre's plaster-of-Paris jacket. This position of the limb did not cause the patient material inconvenience, and after two or three days the rope was slackened a little so as to allow the end of the splint to come down an inch or two, and the same thing was repeated every two days or so till the limb could be placed quite horizontal.

This preliminary operation has taken a long time to describe, but in execution it is of the simplest character, no paring of the broken surfaces being done at this stage and there being almost no bleeding and no shock. The wound

FIG. 3.



A Clinical Lecture

ON

THE DIAGNOSIS AND TREATMENT OF MALIGNANT DISEASE OF THE PROSTATE.

Delivered at the Medical Graduates' College, London, on Feb. 3rd, 1908,

BY J. W. THOMSON WALKER, M.B. EDIN., F.R.C.S. ENG.,

SURGEON TO OUT-PATIENTS AT THE HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITALS; ASSISTANT SURGEON TO ST. PETER'S HOSPITAL FOR STONE.

IN a statistical study[1] of 16 cases of malignant disease of the prostate collected from the records of 6732 cases of cancer in the Middlesex Hospital I estimated that the ratio of cancer of the prostate to other forms of cancer was 2·3 per 1000. Previous writers (Tauchon, Gürlt, Heinemann) had given a less ratio. From the frequency with which cancer of the prostate is now met with in surgical practice I believe that these figures under-estimate the actual numbers. More important for the purposes of clinical diagnosis, however, is the relative frequency of malignant and simple enlargement of the prostate. In order to obtain some information on this point I have taken 242 consecutive cases of enlargement of the prostate which have passed through my hands and find that the diagnosis of malignant disease of the prostate was made in 57 cases and of simple enlargement in the remaining cases. That no possibility of cavil may exist in regard to the diagnosis, 17 of these cases have been excluded from the list and have been put under the category of "doubtful cases." The remaining 40 cases afford no opportunity for criticism. In 11 of them the diagnosis was confirmed by operation and microscopical examination and in the remaining 29 the disease was either so far advanced when the patient first came under my observation or the progress of the disease was such that the diagnosis was indisputable. This gives a proportion of 16·5 per cent. of malignant growths in the total number of cases of enlarged prostate.

I shall proceed to discuss the symptomatology of these cases and my remarks will be based entirely upon them. The average age of the 40 cases was 65 years and, as most of them applied for advice within a comparatively short time after the onset of the symptoms, this age may be taken to represent the time of life at which symptoms first appear. In one patient symptoms commenced at the age of 44 and in another at 46 years. Malignant disease of the prostate is, however, of slow growth and the symptoms which it produces are due to urethral obstruction or nerve pressure, so that the disease has spread widely before they appear. It is probable, therefore, that the growth actually commences at a much earlier age. The age is practically the same as the average age of the 185 cases of simple enlargement of the prostate, which was 66 years. Age is not, therefore, of great value in making a diagnosis, although we may suspect that an enlargement of the prostate which commences much under 50 is more likely to be malignant than simple.

Difficult micturition; retention.—Difficult micturition is the cardinal symptom of malignant disease of the prostate. It is the most frequent, the most prominent, and usually the earliest symptom. Obstruction to the outflow of urine was present to a marked degree in 37 of the 40 cases (92·5 per cent.) and it was the first symptom of disease in 22 (55 per cent.). A frequent history (22 cases, 55 per cent.) was a gradual onset of difficulty. The patient complained that he could not start passing urine promptly but had to wait a little; the stream was small and might drop down instead of being projected with force and the last part of the urine dribbled or there was some after-dribbling when the act had apparently been completed. With the gradually increasing difficulty of micturition there were in a few cases (4 cases) one or several attacks of retention and eventually the patient might become partly (7 cases) or completely (2 cases) dependent upon the catheter. In other cases (14 cases) the onset was sudden and in some of these (8 cases) there was an initial attack of complete retention. The bladder usually partly recovered its tone after this initial attack.

Frequent micturition.—Next to difficult micturition an increase in the frequency of the act is the symptom of which the patients most often complain. There was a well-marked increase in the number of times urine was passed in 35 cases (87·5 per cent.). This was the initial symptom in five cases (12·5 per cent.) and it was accompanied by pain in one other case. In only two cases was the increased frequency entirely diurnal; in all other cases the patient passed urine at intervals during the night as well. In a few of these the prostatic type of nocturnal micturition was observed; the patient rested for the first four or five hours of the night and rose at 2 or 3 o'clock and several times after this. In most cases, however, the intervals were equally spaced at three or two hours throughout the night. The frequent micturition was not due to a septic condition of the urine, for in 10 cases where no catheter or other instrument had been passed and the urine was clear diurnal and nocturnal frequency was present. In four patients there was continual dribbling from a bladder which was not distended. In only one of these was the urine foul and indicative of chronic cystitis. In the others it was either clear or slightly cloudy. The growth had spread widely in all four cases. In two it formed a large hard mass above the pubes, infiltrating the abdominal wall in one. In the other two cases it had spread up the bladder base beyond the reach of the finger. These cases, with the exception of the one with foul urine, were remarkable for the absence of bladder symptoms until the dribbling commenced. The growth seems to have spread outside the bladder along the anterior and posterior walls and so fixed the urethra that it acted as an immobile tube which drained off the urine.

Pain.—Pain was slightly less often present than the previous symptoms, being noted in 29 cases (72·5 per cent.). It was the initial symptom in ten cases.

There were three types of pain—namely, pain connected with micturition, pain apart from micturition but due to urinary obstruction, and pain independent of micturition or blockage. The pain associated with micturition was usually along the urethra and in the penis, being most marked on the under surface of the glans about the base of the frænum or on the upper surface just behind the corona. It was experienced either at the commencement of micturition or after the act. The pain was aching and not severe. Pain on micturition was perineal in one case and in another spread to the groins and shot down the legs to the soles of the feet. In three cases it was suprapubic. Aching over both kidneys resulted from urinary obstruction in three cases. More striking and characteristic was pain apart from micturition and unconnected with urinary blockage. This was observed in the penis, or urethra, or at the root of the penis or the peno-scrotal junction. In some cases the rectum was the seat of pain and in one the anus was affected. There was frequently heavy aching pain in the lower part of the spine and across the base of the sacrum, and also at the sacro-iliac synchondroses and sometimes in the hip-joints. Suprapubic pain was not uncommon; perineal pain was noted in one case. There was pain in the groins and in the legs in two cases. In one the pain was distributed over the front of the thighs as far as the knees and in another it extended down the back of the thighs. No masses of enlarged glands could be felt in the pelvis in these cases. The pain in all these cases was sufficiently severe to cause distress, but in none of them was it agonising in character. What was remarkable about it was its constant presence in a case of urinary disease, its persistence over a period of months or years, the absence of any connexion with micturition or movement, and the disappointing effect of drug treatment.

I shall outline an illustrative case. A man, aged 58 years, was sent to me by Dr. J. P. Atkinson of Saffron Walden having suffered for nine months from pain in the lower part of the spine and both legs. There were difficulty in passing urine at times and some after-dribbling. He passed urine five or six times during the day and lately had risen from three to seven times at night. He had been treated by a surgeon in a provincial town for sciatica. Dr. Atkinson suspected that the pain originated in prostatic disease. When I examined him in November, 1905, he complained of constant pain at the base of the sacrum and in each sacro-iliac synchondrosis and in the lower part of the sacrum and coccyx. The pain extended along the posterior aspect of each thigh to the

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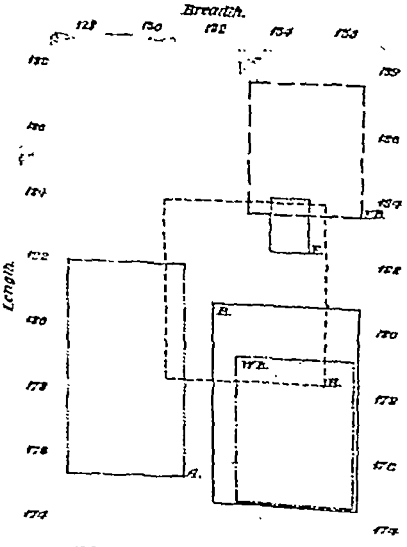
[1] The Archives of the Middlesex Hospital, vol. v., 1905.

Up to the present the number of available measurements is too small to permit of a general classification on this basis. The legs of the negro are described as slender, with a poor development of calf muscle, but this is not always the case. The head is long, usually doliohocephalic, but is broader among the natives of the south and east than among those of the north and west. In the forest zone of central Africa, *from the great lakes to the west coast*, a short-headed element appears, probably from some strains of pygmy blood. A considerable degree of prognathism is common, being most marked among the peoples of the forest zone. It is more marked on the west coast than in the lake region or in South Africa. It also appears to be more prevalent in German East Africa than in the British territories to the north and south. The nose is very broad and flat, but in areas in the central Soudan, the great lakes district, and downwards through the central plateau to South-East Africa are tribes in which many individuals present a much higher and narrower nose with a better-formed bridge. Again, it may be noted that the tribes in German West Africa are more platyrhine. Scanty as is our present information as to this character it would appear to be the most available medium for classification on a physical basis.

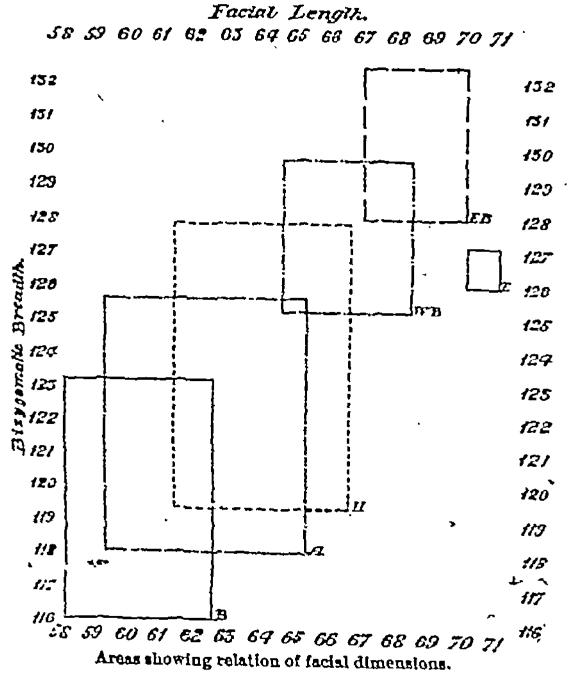
A surprising degree of uniformity of features appears to exist throughout negro Africa. Sir H. H. Johnston declared that "if you took a negro from the Gold Coast of West Africa and passed him off amongst a number of Nyasa natives and if he were not remarkably distinguished from them by dress or tribal marks it would not be easy to pick him out." Again, "The average man or woman of Liberia might very well pass current as a native of Uganda, of the Swahili coast, Nyasaland, Ashanti, or Old Calabar." Other travellers bear similar testimony, which is amply confirmed by photographs from all quarters. We must therefore believe in a fundamental negro type spread evenly over the southern half of the African continent. Along the north of the negro zone in the Soudan, in the lakes district, and throughout central and south-eastern South Africa, are tribes with many individuals of a higher type, evidently the results of a racial cross. These types also present close resemblances to one another irrespectively of their geographical position, as may be illustrated by a comparison of the Mandingo, the Zanzibaris, and the Zulu-Kaffirs. Sporadically this type appears throughout Bantu-speaking Africa. Before considering the relations and origin of this higher type it is necessary to adopt some form of classification; the simplest and most usual rests on a linguistic basis. By this the negro peoples can be divided into two main divisions along a line passing from the Rio del Rey across the watershed between the Chad and the Congo basins at the 5° N. parallel, trending south-east through the forests of the Welle to the Semliki, touching the Victoria Nyanza save on its north-eastern coast, and passing due east from Kavirondo Bay to the sources of the Tana, thence along that river to the Indian Ocean. South of this line all the negro peoples speak languages bearing a very close resemblance to one another which are classed together under the designation Bantu. North of this line are spoken a large number of different languages which have been classified into some 19 main divisions. These may for convenience be termed Soudanese. This Soudanese section has been further divided by Keane and others into eastern, central, and western groups. The more important tribes in each group are—

FIG. 1.



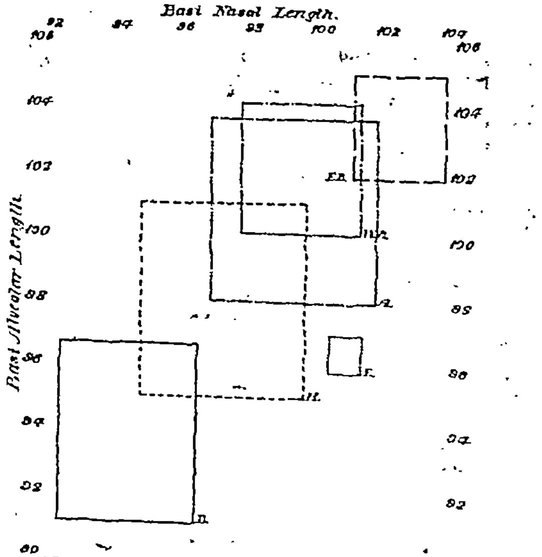
Areas showing relations of cranial dimensions.

FIG. 2.



Areas showing relation of facial dimensions.

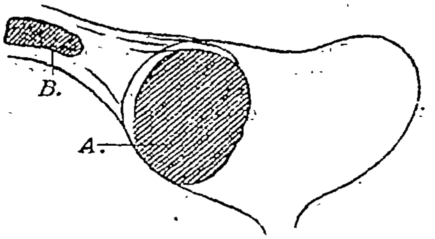
FIG. 3.



Areas showing relation as regards prognathism. B, Bushmen. W B, Western Bantu. H, Hottentot. E B, Eastern Bantu. A, Ashanti. E, Egyptian.

Eastern group.—The Barun and Boma on the north-western slopes and outliers of the Abyssinian plateau; the Berta, Dinka, Shilluk, and Bari of the upper Nile valley; and the Bongo, Zandeh, and Monbottu of the Bahr-el-Ghazal, and the appreciated by the unpractised finger. There is no mobility approaching that of the uterus or kidney, but the prostate has a mobility which becomes evident when a healthy organ is compared with a malignant one. Chronic inflammation which has spread from the prostate or vesicles to the pelvic areolar tissue may fix the prostate, but in doing so the tissues are matted and the outline of the prostate is obscured. There are a notable lack of hardness and a long inflammatory history that distinguish these cases. A few malignant prostates of the smooth, symmetrical, well-defined type retain their mobility.

FIG. 4.

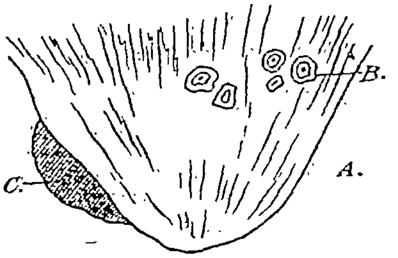


Malignant disease of left lobe of prostate. A, Hard nodule. B, Enlarged lymph gland.

Before passing on to the spread of cancer of the prostate I shall make a note in regard to the diagnosis from prostatic calculus. The two conditions may present some similarity on rectal examination. The nodular form of malignant prostate gives the impression of a number of irregular calculi imbedded in the prostatic substance. But a number of large calculi, as these would be, are packed closely together into a single mass and usually lie in a single cavity so that the finger can detect a grating as they rub together. The rectal surface is smooth, not irregular, and there are no sharp points or hard ridges projecting through the rectal mucous membrane. Such a collection of stones almost always lies in a cavity communicating with the urethra and can be detected with the sound. The smooth well-defined type of malignant prostate may resemble a large single calculus. In the cases I have observed such a calculus always occupies a distended prostatic urethra and is readily distinguished by the sound. A single hard nodule in one lobe may be difficult to diagnose where the sound gives no information and the finger detects no grating. An enlarged lymph gland at the side of the prostate will point to malignant disease. Calculus is usually found in much younger men and the x rays will give valuable assistance in doubtful cases.

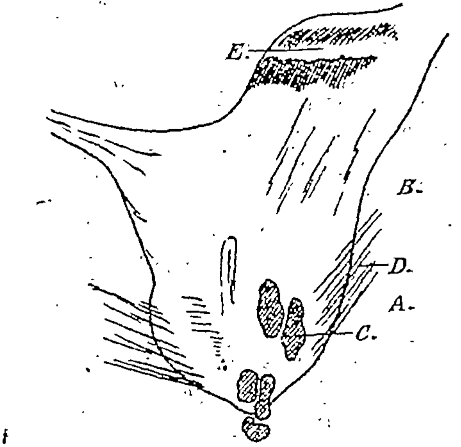
In the more advanced cases of cancer of the prostate two directions of spread can be detected by rectal examination. The growth may extend upwards along the base of the bladder. (Fig. 5.) Blocking of the seminal vesicles, to which I have already referred, may simulate this, but where the disease has actually spread in this direction the contour of the vesicles is obliterated and a hard mass passes up beyond this level. (Fig. 6.) One side has usually spread higher than the other. Hard stony ridges may be felt on the extension. High up the growth spreads outwards towards the side of the pelvis and it may sometimes be felt encircling the wall of the rectum. In the second direction of spread the growth extends laterally so that the sulcus on either side of the prostate is filled and the finger, instead of dipping into a groove and appreciating the antero-posterior depth of the prostate, passes over an even surface to the side of the pelvis and gains the impression that the prostate has diminished in size or has disappeared. The lymphatics of the prostate pass upwards and outwards on either side at the upper part of the organ immediately below and outside the seminal vesicles. Just beyond the prostate at this spot lies a small lymph gland which is frequently enlarged in malignant disease of the prostate and sometimes also in vesical carcinoma. It is the first link of a chain of lymphatic glands that pass out to the internal iliac group.

FIG. 5.



Malignant disease of the prostate spreading upwards along the bladder base. A, Prostate. B, Hard points projecting through the wall of the rectum. C, Commencing lateral spread.

FIG. 6.



Nodular cancer of the prostate spreading laterally and along the bladder base. A, Prostate. B, Upward extension. C, Nodules in substance of prostate. D, Lateral extension. E, Hard ridge.

Treatment.—A large number of cases of cancer of the prostate have progressed too far when the diagnosis is made for any radical operation to be considered. Treatment will then consist in relieving symptoms. The occasional passage of a good-sized metal bougie may give much relief from the difficulty of micturition, but if hæmaturia is a feature of the case instruments should be avoided. Catheter life may become necessary from increasing obstruction, or a permanent suprapubic fistula may be demanded. For the pain nothing short of opium will suffice and there is no reason for withholding it. I have elsewhere[2] given an account of the operations that have been performed for malignant disease of the prostate and shall here confine my remarks to my own experience. The methods open to choice are the suprapubic and the perineal.

1. *Suprapubic enucleation.*—On opening the bladder in an early case of malignant disease of the prostate it is usually found that the organ does not project into the bladder or at most forms a projecting rim around the opening of the urethra. The mucous membrane is leathery and bound down, and tough bands pass outwards and backwards beneath the bladder wall. The internal meatus is rigid. The forefinger forced into it is tightly gripped. Attempts to commence enucleation by forcing the finger through the posterior wall of the prostatic urethra or through the mucous membrane on the vesical surface of the prostate are unavailing or only succeed after a struggle. The assistance of scissors or a knife may be required. The digital enucleation once commenced is continued with much difficulty and without any line of guidance until finally several masses of tissue of india-rubber-like consistence are torn out. There remains a space like an egg-cup, with walls of a tough leathery consistence, from which scraps of tissue can still be scraped. The bleeding from this cavity is remarkably slight. There are other cases where the enucleation commences without great difficulty but the gland is *firmly* adherent to the sheath and is incompletely separated from it after a struggle. In another type of case one lobe is easily shelled out and the second lobe is partly enucleated, leaving a thick shell of adherent tissue. I have operated on four cases of this type by the suprapubic route. One of these died from shock

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[2] The Practitioner, February, 1908.

longer legs and may have served to spread the long-legged negro throughout the southern area.

The two features of the nasal index and the proportion of the limbs promise to yield much information for the classification of the negro peoples and it is to be hoped that ample data may be forthcoming from those anthropologists who are actually working in the field, but their numbers are few.

The materials for the study of the osteology of the negro peoples are somewhat more extensive, at least so far as skulls are concerned. Unfortunately, in the past a number of specimens have been sent to English and other museums without any exact information as to the tribe to which they belonged and have to be entered in the catalogues as negroes from unknown localities, which renders them practically useless for comparative study. Good collections of skulls are available from the Gold Coast, Ashanti, and Dahomey, representing the Western Soudanese, from French Congo, South Africa, Nyassaland, and the Kilimanjaro district; while there are a few from the upper Nile, Uganda, and the Congo basin. Material for the study of the rest of the skeleton is almost entirely lacking. By grouping together these skulls it was possible to obtain sufficient numbers to yield results. The grouping decided on was to place all the Ashanti and Dahoman skulls together, to make a group of Zulu-Kaffirs, another of the specimens from Nyasaland, these being subsequently found so similar that ultimately they were treated as one group of Eastern Bantu. The skulls from French Congo were grouped as Western Bantu and the Djagga collection at Berlin was treated separately. Owing to the almost complete absence of female specimens from some of the groups male skulls only have been used for comparative treatment. It at once appeared that there was a marked difference between these groups: the Western Bantu showed many more broad-headed skulls and much more prognathism than the Eastern group. The Ashanti were more prognathous and more dolichocephalic than the Eastern Bantu but slightly less prognathous than the Western. Both Ashanti and Western Bantu are very platyrhine, but the Djagga are particularly remarkable for the extensive prevalence of this feature. It may be noted that the few skulls from British East Africa and from the Congo side of Tanganyika do not show this to any greater extent than the Eastern Bantu. The skulls of the Eastern group are also in almost all dimensions larger than the rest. To the eye the resemblances rather than the differences between individual skulls certainly appear the more prominent, but when the average measurements and their standard deviations are considered the grounds for grouping are quite evident.

For each skull a selection of nine measurements, out of some 40 actually made, has been taken and the averages and standard deviations of each group have been calculated. The averages were then charted in pairs on squared paper, the one dimension being used as ordinates, the other as abscissæ. The pairs were so chosen that the two dimensions compared in the construction of the ordinary indices were recorded simultaneously. Thus in the figure showing the comparison of length and breadth of the skull the lengths were used as ordinates and the breadths as abscissæ. Thus the average length of the Eastern Bantu skull (average of 116) was 186·3 millimetres and the average breadth 135·4 millimetres, so that a point at the intersection of the corresponding lines on the diagram represents the average for both characters. It has been shown that the chances are approximately 1000 : 1 that the average of any subsequent group of the same size will fall within the limits of this average $\pm 3 \frac{\text{standard deviation}}{\sqrt{\text{number of observations}}}$. The standard deviation of the skull length was 6·8132 and the number of skulls 116. The value of $\frac{s}{\sqrt{n}}$ was therefore $\frac{6\cdot8132}{\sqrt{116}}$, i.e, 0·6592; three times this or 1·9 represents the amount to be added to, or subtracted from, the average in order to obtain such a range that the chances are 1000 : 1 that all subsequent averages of similar groups would fall within it. In this case the range is 186·3 ± 1·9, i.e., from 184·4 to 188·2. This range is then marked on the diagram. Similarly the range in breadth is $135\cdot4 \pm 3 \times \frac{5\cdot9152}{\sqrt{116}}$—i.e., ± 1·7 or 133·7 to 137·1. This also is charted on the diagram and the rectangle of which these values are the sides is constructed. Within the area thus included the chances are 1000 : 1 that the point representing the average of any subsequent group of the same kind would fall. When series of such rectangles constructed for different groups of skulls do not overlap the odds that the differences between the dimensions are not due to mere chance selection will exceed 1000 : 1. In the accompanying diagrams such rectangles are shown for the Western Soudanese negro, the Eastern and Western Bantu, the Bushmen and Hottentots, and for the Egyptians, the latter representing the only available measurements of skulls of a Hamitic race. These are from the measurements recorded in Arthur Thomson and Randall McIver's "Ancient Races of the Thebaid"; the others are entirely from my own measurements.

Six pairs of measurements are contrasted. The Bushmen, Hottentots, and Eastern Bantu may be noticed in each case to form an ascending series. The Hottentots are more nearly a mean between the Bushmen and Bantu than between the Bushmen and Egyptians, which supports the argument that whatever be the origin of the Hottentot race it has some negro blood. The Eastern Bantu are clearly marked off from the Ashanti (Western Soudanese) group. The Western Bantu are in many respects intermediate but are distinct from the Soudanese in a sufficient number of characters to show that a real difference exists. The Egyptian group may be noted to differ from the Ashanti in the same direction as the Eastern Bantu but in most cases to present smaller dimensions. It would therefore scarcely seem certain that the Eastern Bantu could be looked on as a cross between the negro and the Egyptian, but rather that some similar element to that found in Egypt might have entered into their constitution. Such an element is to be looked for in the Southern Hamites or Ethiopians represented by the Abyssinians or Somali.

The exhibition of photographs affords the simplest method of demonstrating the existence of race mixture. The line of contact between the negro and the white races took place mainly along the Nile valley, across the Sahara into the Central Soudan, the direct route up the Nile to the Great Lakes being closed by the marshes of the Sobat-Nile confluence. A further line was from the Abyssinian highlands to the lake country, and later a certain degree of penetration occurred from the coast. The white races affecting the Soudan were the Hamitic Egyptian and Berber peoples. A distinct gradation from white to negro can be traced: (1) from Morocco to the Gambia; (2) from Egypt through Kordofan to the Central Soudan and the Gold Coast; and (3) from Abyssinia and Somaliland, past the Great Lakes plateau into Southern Africa; but in this area the negro is of a higher type.

While this offers a reasonable explanation of the superior types of Bantu and Central Soudanese other differences between the northern and southern negro have to be explained. Several observers in British Central Africa, and particularly Sir H. H. Johnston, have noted that labourers belonging to the Bechuans and other Kaffir tribes coming to work in Nyasaland could be distinguished by a greater flatness of the face which could well be accounted for by a slight admixture of Bushman blood, and it seems that it is those tribes who have been longest in the south who present this feature to the greatest extent. The greater prognathism and the appearance of a broad-headed element in the Western Bantu receive an explanation from the presence therein of the prognathous pygmy. Also in a large part of French Congo and the Camerun the Bantu is a recent intruder pressing up in successive waves from the Congo basin into the coastal districts, each tribe forcing on its predecessor. The tribes near the coast probably contain much northern negro blood; the later comers are in large part of the superior type. Johnston describes them as tall, upright, with a fine face, high thin nose, beard, moustache, and a plentiful crop of hair; the others ill-shaped, loosely made, with splay feet, high calves, retreating chin, no hair on the face, and the wool on the head close and crisply curled. It is the presence of the superior type which marks off the Bantu from the Western negro. Probably the type in the Central Soudan is very similar, but of this there is as yet not sufficient evidence. As can be seen from a study of African history, it is this type that has made such progress as has occurred in negro Africa, the unmixed type really appearing to be retrograde in every tendency.

A REPORT ON 50 CASES OF ANALGESIA BY THE INTRASPINAL INJECTION OF STOVAINE.[1]

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OF the many novel methods of modern surgery of comparatively recent introduction perhaps few have been so startling and so full of promise as the induction of analgesia by the intraspinal injection of various drugs. Few methods have placed in our hands so powerful a means of combating the great danger of administering general anæsthetics in the presence of certain cardiac and pulmonary affections. And yet in spite of the fact that in this country the method has been placed on a sound footing by Mr. A. E. J. Barker, who has been the pioneer of this branch of surgical progress, and that this surgeon has, after an extended trial, urged its wider adoption in current medical literature, comparatively few surgeons have thought it worth serious consideration. Recently its claims were advocated by Mr. H. P. Dean, Mr. C. A. Leedham-Green, Mr. E. Canny Ryall, and others,[2] and considerable difference of opinion prevailed as to the drug most suitable for the purpose. It is not my intention to enter into a discussion of the merits of stovaine, novocaine, tropacocaine, or other drugs, such experience as I have obtained being solely of the first mentioned; for I feel that the experience of one surgeon utilising the same drug in a number of cases is of more value than if that surgeon had experimented with three different drugs in the same number of cases. The cases here presented are published solely in order that they may swell the number already reported in this country, by which means alone a satisfactory estimate may be arrived at of the comparative value, or the reverse, of the method in question, as opposed to that of general anæsthesia and more particularly as regards chloroform.

It is interesting to consider first of all the objections that are raised to intraspinal analgesia by those who have not seen the method applied, or who are for various reasons obstinately opposed to its introduction. In my personal experience the chief of these has been that the spinal cord is bound to suffer in some mysterious way, either at the time of injection or at some later date. What particular form of disaster is anticipated is not clear, but it appears to concern the chance of paralysis of some unexplained origin, the pathology of which is, I find, not usually forthcoming on investigation.

Again, there are those who, Cassandra-like, harp on the great danger of septic infection of the spinal canal, extension of the analgesia to the centres of respiration and circulation, the uselessness of the method above the umbilicus, and who appear to have a rooted objection to the patient retaining consciousness during the operation. It is but natural that the skilled anæsthetist should look with disfavour upon a method which *appears* to threaten to supersede to a great extent the time-honoured science of which he has been an able exponent; and as in conversation with many well-known anæsthetists I have heard these objections repeatedly urged and have been asked to believe that ether is the one great harbour of refuge from the risks of chloroform, that there is no real necessity for the introduction of intraspinal analgesia, and that the whole thing is simply a passing fad imported from abroad, I feel bound to say in the first place that I do not for a moment believe that general anæsthesia is threatened with extinction, nor would I for one wish that it were; secondly, cases do occur in which any form of general anæsthesia is out of the question; thirdly, a skilled anæsthetist is not always available; and lastly, I can see no valid reason why the induction of intraspinal analgesia should not be in the hands of the skilled anæsthetist, provided he is fully versed in its technique and in the necessity for aseptic methods. In support of this last statement one has only to remember that although the analgesia provided by stovaine is usually ideal and of considerable duration, cases are met with in which the analgesia is insufficient or its level not sufficiently high. In these circumstances one is compelled to have recourse to a general anæsthetic, and therefore I prefer to consider intraspinal analgesia as *an addition to* the armamentarium of the skilled anæsthetist rather than as an encroachment upon his department.

Recently, following the excellent work of Mr. Barker which much impressed me, I commenced to employ the method in my own wards at the "Dreadnought" Hospital, and this report concerns the first 50 of these cases, for assistance in taking the notes of which I am much indebted to the resident staff of the hospital as well as to several of the post-graduate students in the London School of Clinical Medicine, and to all of whom my thanks are due. I may say that the method of intraspinal analgesia was not indicated in all of these cases, and therefore was only applied to those patients who willingly agreed to its application or who requested it in preference to general anæsthesia. Of these latter there soon was quite a number, the method rapidly becoming popular among the patients, who recounted their experiences to others in the wards. The solution employed was that prepared by M. Billon of Paris after Mr. Barker's formula,[3] and the latter's methods were closely followed; the doses, however, especially in the later cases, were kept as nearly uniform as possible for purposes of comparison. As I have for the sake of brevity and ease of comparison tabulated the whole of my cases it would be waste of time to consider them individually, and I will therefore only refer to those in which there is some point of interest bearing especially on the question of this method of inducing analgesia.

CASE 1.—This case was one of a gigantic inguino-scrotal hernia in a plethoric man, 62 years of age. It was necessary to attempt the cure of it by the implantation of a filigree of silver wire by the double-section method recently described by me.[4] The patient was found to be suffering from double aortic disease and it was considered unsafe to give him any form of general anæsthetic. The hernia was so large[5] that I feared that in this, my first case of analgesia by this method, the effect of the stovaine might not be sufficiently prolonged to permit of so extensive an operation as was necessary being completed under its influence. This, however, had to be risked, and accordingly six centigrammes of stovaine-glucose solution were injected in the middle line between the second and third lumbar spines. Analgesia was complete in eight minutes, rose to the level of the nipples, and lasted 80 minutes. In spite of the extensive nature of the operation, the whole of the sigmoid colon being adherent to the sac and requiring to be freed by dissection from it, no difficulty was experienced and the parts remained perfectly insensitive at the close of the operation. Ligature of the omentum was felt slightly as a tactile sensation, not as pain.

This case is typical of the class in which the method is genuinely indicated and shows a duration of analgesia which would suffice for most surgical procedures.

CASE 2.—This case was admirably illustrative of the influence of spinal analgesia in combating shock. The patient was admitted terribly mauled by having been caught by a pulley making 1700 revolutions per minute. Both feet were reduced to pulp by compound fracture dislocation; the base of the skull was fractured; the skin of the left side of the chest was so scored that eventually a patch of the size of a breakfast-plate sloughed out; and the sacrum was so badly bruised that three large bed-sores soon appeared. The patient was thought to be dying, but four days later he rallied and it was determined to amputate the right leg which had become gangrenous. The site of injection was just above the bed-sores and had to be very carefully cleansed. Six centigrammes of the solution were used and in seven minutes the operation was commenced, the limb being removed at the tubercle of the tibia. No pain whatever was felt and in spite of the very serious condition of the patient there was no sign of shock and he ultimately recovered.

Five months later it became necessary to remove the other foot for intractable pain and deformity (Case 35) as the patient was quite unable to bear the weight of his body on the anterior part of the foot. He again chose stovaine in preference to general anæsthesia and under its influence a Syme's amputation was performed. The injection was made through the same space as before without difficulty, the flow of fluid being as free as on the first occasion. No ill effects followed and the patient expressed himself as much in favour of the method of analgesia as compared with general anæsthesia, of which he had had previous experience.

CASE 4.—This was a case of oblique fracture of the tibia with marked displacement of the fragments. After injection the bone proved to be completely insensitive to drilling and a three-inch screw was used. The patient, who was a German, was much interested and chatted actively during the operation, which lasted nearly an hour.

CASE 6.—This was the first failure of the series. The flow of cerebro-spinal fluid was clear but very slow; no difficulty was experienced in the injection, but possibly some of the stovaine may have escaped into the extradural space. The knee-jerks disappeared and the legs became partially anæsthetic; the analgesia was, however, quite incomplete at the end of 12 minutes, and the operation, a radical operation for inguinal hernia, had to be done under general anæsthesia. No after-effect was apparent as the result of the combination of the two methods.

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[1] A post-graduate lecture delivered before the London School of Clinical Medicine.

[2] Meeting of the British Medical Association at Exeter, 1907. THE LANCET, August 10th, 1907, p. 378.

[3] Brit. Med. Jour., 1907.

[4] Transactions of the Clinical Society of London, 1907.

[5] This measured 25 inches in circumference and 15 inches in length.

knee. There was pain in each groin and in the perineum. He had not lost weight. The prostate was stony hard, fixed, and irregular, and a mass of infiltration extended up the bladder base. (Fig. 5.) At several points the growth was commencing to break through the rectal wall. There were no enlarged lymph glands in the lower pelvis or groins. The after-history was interesting and instructive. He returned to the surgeon under whose care he had formerly been, the diagnosis of malignant disease of the prostate was set aside, and the patient was sent to Droitwich. Eventually "prostatic abscess" was diagnosed and a perineal incision was made through which the malignant growth soon fungated, and when I heard of the patient in May, 1907, he was rapidly sinking.

Hæmaturia.—A misleading feature in the symptomatology of prostatic carcinoma is the absence in a majority of cases of hæmaturia. Blood was observed in the urine in only five out of 40 cases (12·5 per cent.) and in only one case was hæmaturia the initial symptom. In four cases blood was noticed in small quantity on one or two occasions; in one case there was a gradual steady increase in the blood in the urine for 18 months. The blood was dark or bright and occurred in one case at the beginning of micturition and in another at the finish. The rarity of hæmaturia is capable of anatomical explanation. The new growth is usually of the hard scirrhus type, which is comparatively avascular and is not prone to ulcerate. And further, the direction of spread is seldom towards the interior of the bladder and the prostatic urethra is not directly involved.

Emaciation.—Emaciation occurred in 15 cases (37·5 per cent.) but in most it was slight. In four cases it was rapid and extreme but in two of these the emaciation was due to urinary septicæmia. This fallacy much reduces the value of emaciation as a sign of malignancy in diseases of the urinary tract. Loss of flesh is rapid and extreme in all urinary diseases when sepsis has spread to the kidneys and is combined with urinary obstruction or even where renal sepsis without obstruction exists. In prostatic disease both these factors are frequently combined.

Intestinal obstruction.—Extensive infiltration of the rectal wall caused obstruction of the bowel in two cases.

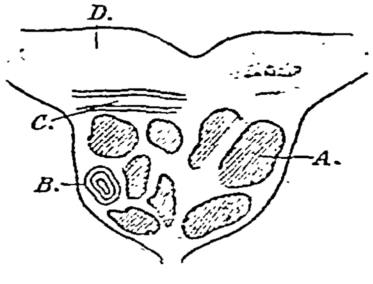
I shall very briefly compare these symptoms with those of the diseases most likely to be confused with cancer of the prostate. Simple enlargement of the prostate usually occurs at the same age as malignant disease but if the symptoms appear much before the age of 50 years the disease is more likely to be malignant than benign. The early symptoms of simple enlargement are more often those of irritation than of obstruction, frequent micturition rather than difficulty, although cases occur where the symptoms are largely or solely those of obstruction from the beginning. The frequent micturition of simple enlargement unless caused by cystitis usually assumes a special type. The patient rests during the first part of the night and rises at 2 or 3 o'clock in the morning and several times after this. Pain apart from micturition and independent of obstruction such as I have described in malignant disease is not observed in simple enlargement. Hæmaturia is a much more frequent symptom of simple than of malignant enlargement. Emaciation does not occur in simple enlargement but this sign is only of diagnostic value where the urine is aseptic. The symptoms caused by stricture of the urethra may closely resemble those of malignant disease of the prostate but the pain and emaciation are absent and the symptoms usually commence at a much earlier age. There are some cases of disease of the spinal cord that closely simulate the symptoms of stricture and malignant disease of the prostate. In these cases the bladder atony is a more prominent feature than the other symptoms of nervous disease. The diagnosis may only be made by proving the absence of urethral obstruction and of any change in the prostate and by careful examination of the nervous system.

Examination of the patient. 1. *Enlargement of lymph glands.*—The inguinal lymph glands are frequently the seat of secondary deposit and are enlarged, hard, and discrete. They are enlarged in 16 per cent. of cases. In a doubtful case I have removed an enlarged inguinal gland and found a deposit of carcinoma in it. The lymph glands ranged along the iliac vessels and even along the aorta may be felt enlarged in advanced cases.

2. *Rectal examination: (a) the prostate.*—The characters displayed by a malignant enlargement of the prostate are hardness, irregularity, and fixation. These require some discussion. The consistence of a healthy prostate is elastic. Where chronic prostatitis is present it is firm and tough. In tuberculous disease there are hard nodules. The gland is stony hard where a prostatic calculus or malignant growth exists. In cancer the first impression gained by the finger is nearly always that a stone is present. Whether there is a single large mass or a nodule or many nodules this stony hardness is almost constantly present. In many malignant prostates there are small points or ridges on the rectal surface which are as hard and sharp as the edge of a flint and which appear to project through the rectal mucous membrane. There are a few doubtful cases so far as hardness is concerned. A malignant prostate may be small and very tough, but some other sign may be present by which the suspicion of malignancy is confirmed.

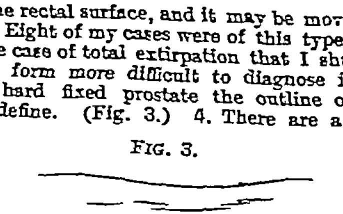
Irregularity of contour is a characteristic feature of *cancer of the prostate. There are several types to which* it is convenient to refer at this point. 1. The most frequent and characteristic *form* is a moderate enlargement made up of numerous irregular hard nodules separated by clefts and fissures. (Fig. 1.) The outline of the prostate does not show much alteration. At a fairly early period in any form of malignant disease of the prostate the *seminal vesicles* may be felt as large thick-walled masses lying above the prostate. The ducts are blocked and the vesicles are in a state of dilatation and chronic inflammation. 2. In a second form the prostate retains its natural contour and surface. (Fig. 2.) It is moderately enlarged, bi-lobed, smooth on the rectal surface, and it may be moveable; it is stony hard. Eight of my cases were of this type and among them was the case of total extirpation that I shall describe later. 3. A form more difficult to diagnose is a small, broad, flat, hard fixed prostate the outline of which is difficult to define. (Fig. 3.) 4. There are a few cases where the change affects only one lobe which is enlarged and hard or which may contain a hard buried nodule, while the remaining lobe may be natural in size and consistence. (Fig. 4.) The last character of the malignant prostate is its fixation. Mobility in a healthy prostate is not readily

FIG. 1.



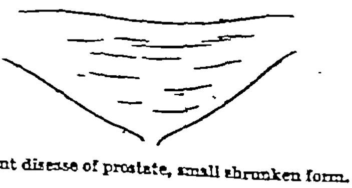
Malignant disease of the prostate, nodular form. A, Hard, discrete nodules. B, Sharp point projecting through wall of rectum. C, Hard ridge. D, Distended thickened seminal vesicles.

FIG. 2.



Malignant disease of prostate, smooth regular form.

FIG. 3.



Malignant disease of prostate, small shrunken form.

A Table in which are summarised the Details of, and the Results obtained in, Fifty

Case.	Description.	Sex.	Years of age.	Operation.	Flow of cerebro-spinal fluid.	Centigrammes of stovaine.	Reflexes gone.	Legs heavy.	Perineum and scrotum.	Feet and legs.	Thighs and groins.	Analgesia complete.	Duration.	Height of analgesia.
1	Plethoric with double aortic disease.	M.	62	Inguinal hernia; implantation of filigree.	Free.	6	At once.	2 min.	3 min.	3½ min.	5 min.	8 min.	80 min.	Nipple line.
2	Very ill; fracture of base of skull; crushed legs; gangrene of right toe. P. 140; T. 102° F.	M.	27	Amputation at tubercle of tibia.	"	6	"	"	"	3 "	4 "	7 "	55 "	Umbilicus.
3	Strong adult.	M.	35	Horseshoe fistula of anus.	Single drops.	4	"	3 "	7 "	4 "	10 "	12 "	30 "	Iliac spines.
4	Healthy German.	M.	37	Screwing of fractured tibia.	Free.	6	1 min.	2 "	3 "	6 "	7 "	9 "	58 "	Umbilicus.
5	Healthy seaman.	M.	31	Inguinal hernia and varicocele.	"	6	At once.	2 "	4 "	5 "	8 "	11 "	57 "	Costal margin.
6	Healthy adult.	M.	35	Inguinal hernia.	Very slow.	6	"	5 "	Anæsthesia incomplete.					
7	Big plethoric and alcoholic seaman.	M.	43	Varicose veins of left leg and thigh.	Good.	6	"	3 "	4 min.	6 min.	7 min.	9 min.	90 min.	Clavicles.
8	Thin but powerfully built Irishman.	M.	65	External urethrotomy.	"	5	"	5 "	8 "	7 "	9 "	12 "	35 "	Iliac crests.
9	Prematurely aged; arterio-sclerosis.	M.	50	" "	"	5	1 min.	1 "	3 "	4 "	5 "	5 "	50 "	Third rib.
10	Healthy German.	M.	30	Double vaginal hydrocele.	Free.	6	At once.	3 "	2 "	3 "	3 "	10 "	40 "	Nipple line.
11	Healthy negro.	M.	37	Inguinal hernia; implantation of filigree.	"	6	1 min.	2 "	2 "	3 "	5 "	9 "	60 "	Umbilicus.
12	Spare built, with arterio-sclerosis.	M.	50	" "	Slow.	6	At once.	1 "	2 "	5 "	4 "	11 "	58 "	
13	Healthy seaman.	M.	23	Varicocele.	Good.	5	"	1 "	2 "	2 "	5 "	8 "	40 "	Inch below umbilicus.
14	Healthy seaman.	M.	24	Inguinal hernia.	Free.	6	"	2 "	3 "	5 "	7 "	12 "	65 "	Costal margin.
15	Healthy seaman.	M.	35	Varicocele.	Very slow.	5	1 min.	5 "	Analgesia insufficiently high.					
16	Healthy seaman.	M.	24	Inguinal hernia.	Free.	6	At once.	2 "	2 min.	3 min.	5 min.	7 min.	48 min.	Umbilicus.
17	Phthisical Bengali.	M.	25	Excision of tuberculous testis.	"	6	"	3 "	2 "	4 "	6 "	10 "	57 "	Inch above umbilicus.
18	Spare woman; bad asthma and emphysema.	F.	48	Ventrofixation for complete procidentia uteri.	Good.	6	"	3 "	5 "	4 "	6 "	9 "	80 "	Costal margin.
19	Healthy seaman.	M.	35	Inguinal hernia.	Free.	6	"	2 "	3 "	6 "	6 "	7 "	50 "	Two inches above umbilicus.
20	Healthy seaman.	M.	27	" "	Good.	6	1 min.	2 "	2 "	3 "	5 "	6 "	55 "	Third rib.
21	Healthy seaman; very nervous.	M.	42	" "	Free.	6	2 "	3 "	8 "	6 "	8 "	10 "	45 "	Iliac crest.
22	Healthy seaman.	M.	23	" "	"	6	1 "	2 "	2 "	9 "	4 "	9 "	65 "	Ensiform cartilage.
23	Healthy seaman.	M.	43	Inguinal hernia and vaginal hydrocele.	"	6	3 "	5 "	7 "	12 "	Analgesia failed to reach groins.			
24	Healthy seaman.	M.	35	Inguinal hernia.	"	6	2 "	1 "	2 "	3 "	3 min.	5 min.	60 min.	Two inches below umbilicus.
25	Muscular Italian.	M.	32	Inguinal hernia, implantation of filigree.	"	6	1 "	1 "	6 "	4 "	5 "	7 "	55 "	Ensiform cartilage.
26	Thin, rather nervous patient.	F.	36	Apendicectomy.	"	6	At once.	2 "	4 "	5 "	7 "	11 "	58 "	"
27	Strongly built seaman.	M.	25	Inguinal hernia.	Very free.	6	1 min.	1 "	2 "	3 "	3 "	6 "	55 "	Costal margin.

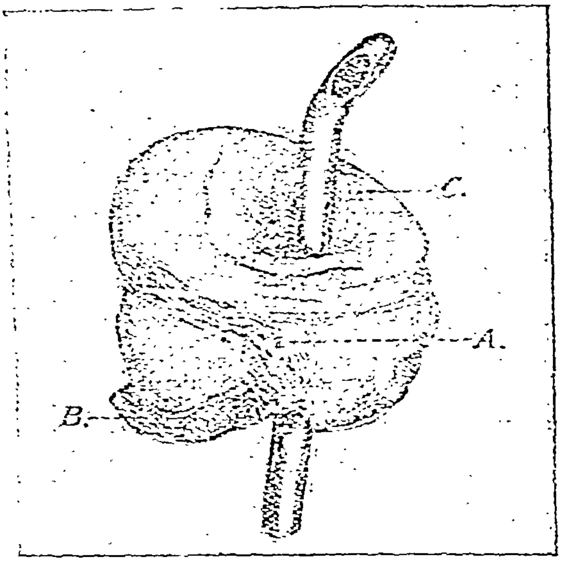
15 hours after the operation, another died two and a half months after the enucleation from septic pyelonephritis which had existed before the operation, another succumbed to bronchitis three months after the operation without having shown signs of recurrence of the growth, and the last case is well eight months after the operation but has had some hæmorrhage pointing to recurrence of disease. It cannot be said that suprapubic enucleation is satisfactory as an operation for these cases or that the after-results afford encouragement to continue this line of attack.

2. *Perineal operations.*—There are two methods by which a cancerous prostate may be removed by the perineal route: (*a*) Prostatectomy as it is performed for the removal of benign enlargement of the prostate. (*b*) A more complete removal of the prostate, prostatic urethra, sheath of pelvic fascia, portion of the bladder base overlying the prostate, and seminal vesicles.

(*a*) *Perineal prostatectomy.*—I shall not give the details of this operation for I have recently described it.[3] I have operated upon two cases of malignant disease of the prostate by this method. One patient is well two months after the operation and the other in good health after six months. This method of removal is the most satisfactory of those described, for the prostate can be very thoroughly dissected out and the posterior and lateral parts of the sheath removed. But a study of the anatomical relation of the prostate to the bladder base and prostatic urethra will show how intimate is the connexion between the muscle of the bladder base and the urethral wall with that of the stroma of the gland, and how ill-defined are the limits of the glandular tissue of the organ. And it will be seen that any method which stops short of removing the prostatic urethra and the muscular floor of the bladder which overlies the prostate will court recurrence of the growth. For this reason the more extensive operation elaborated by Young of Baltimore[4] is a sounder proceeding. But this operation is a very formidable undertaking, and on this account something short of an ideal method may be preferable in some cases.

(*b*) *Total extirpation of the prostate, prostatic urethra, seminal vesicle and bladder base (Young's operation).*—I have recently discussed this operation and shall therefore content myself with the relation of a case which will illustrate the method and the after-state. A man, aged 70 years, came under my observation at St. Peter's Hospital with symptoms of prostatic disease of three weeks' duration. The prostate (Fig. 2) was enlarged, smooth, bilobed, stony hard, and fixed. There was half an ounce of residual urine. The general condition was good. I operated on August 20th, 1907. With a staff in the urethra a curved, anteriorly convex, pre-rectal incision was made and the apex of the prostate was exposed. The membranous urethra was opened longitudinally and a Young's tractor was introduced. The posterior aspect of the prostate was exposed and an unusual amount of bleeding followed the separation of the rectum from the prostate. The lateral surfaces of the prostate were freed, the levatores ani muscles being somewhat difficult to control. The tractor was now depressed and the urethra cut across at the apex of the prostate, together with the veins passing to the prostatic plexus. The prostate was now drawn backwards and a retractor which had controlled the rectum was changed from the posterior part of the wound and placed under the arch of the pubis. The anterior surface of the prostatic sheath could now be seen and a head lamp was necessary for the further dissection. The space of Retzius was opened up and gave access to the front of the prostate and the pubo-prostatic ligaments could be seen high up. The latter were detached with the finger and the junction of the anterior wall of the bladder with the base of the anterior surface of the prostate could be seen and the vertical veins of the bladder wall identified. The limit of the prostate was defined with the finger and a transverse incision was made with a scalpel through the bladder wall just above this. When this opened the bladder cavity the fluid contents escaped. The incision was extended on either side by means of curved scissors and the bladder surface of the prostate could be turned down into the wound. An incision was now made transversely through the mucous membrane and muscle of the bladder base in front of the ureteric openings and this was deepened by blunt dissection to the upper surface of the seminal vesicles. The further steps of the operation consist in dissecting out the vesicles and vasa deferentia. I did not define the latter structure and, cutting too freely, incautiously cut across the vesicles and had to dissect portions of them away after removing the prostatic mass. (Fig. 7.) The large aperture in the bladder base, which would easily admit a Tangerine orange, was stitched antero-posteriorly from behind forwards until an opening which would admit the forefinger was left at its anterior angle. The whole bladder was now readily pulled downwards by the free ends of the knotted sutures. The cut end of the prostatic urethra was freed and united to the opening in the bladder by catgut sutures, with the help of a gum-elastic catheter passed along the urethra into the bladder. The ends of these sutures were left long and brought out of the wound. Some packing which had controlled the venous bleeding on either side of the pelvis was now removed, the levatores ani and perineal muscles were brought together with catgut stitches, and the wound was drained. The catheter was tied in place.

FIG. 7.



Specimen of malignant prostate after removal, viewed from the front, catheter lying in prostatic urethra. A, Prostatic plexus of veins. B, Portion of right levator ani muscle. C, Mucous membrane and muscle of bladder base.

The operation lasted one and a half hours and was well borne by the patient. The catheter was removed too soon by the house surgeon and the urine leaked by the perineum, and for a time it looked as if the whole wound would break down. The wound healed rapidly, however, and the patient left the hospital 29 days after the operation wearing a urinal.

It is now five months since the operation and the following is the patient's state (Jan. 29th, 1908). He is gaining weight and feels strong and well. Urine is passed four or five times during the day and three or four times at night. In the daytime when moving about he "weeps" a little, but the urine does not dribble away. He has discarded his urinal and finds that a cloth is sufficient to keep him dry. If he collects the escape in a urinal it amounts to half a wine-glassful for the whole day. At night he is completely continent and wears no protection. He wakes to pass urine three or four times, the warning sensation being a warmth and an aching in the perineum. There is no force in the stream and he must stand up to pass it. He passed one ounce of clear urine at my request and three ounces of urine were then withdrawn by catheter. Rectal examination showed a thick transverse ridge at the region of the bladder base due to scar tissue.

This is an operation for cases where the malignant disease has not spread beyond the limits of the prostate and it is the only one which holds out a strong probability of success. The operation depends upon early and accurate diagnosis and it rests with those who are in charge of such cases at the first onset of symptoms to see that a diagnosis is made.

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[3] Ibid.

[4] Johns Hopkins Hospital Reports, vol. xiv., 1906.

A Table in which are summarised the Details of, and the Results obtained in, Fifty Cas

Case.	Description.	Sex.	Years of age.	Operation.	Flow of cerebro-spinal fluid.	Centigrammes of stovaine.	Reflexes gone.	Legs heavy.	Perineum and scrotum.	Feet and legs.	Thighs and groins.	Analgesia complete.	Duration.	Height of analgesia.
28	Prematurely aged with arterio-sclerosis.	M.	50	Inguinal hernia.	Free.	6	2 min.	2 min.	4 min.	3 min.	7 min.	9 min.	40 min.	Umbilicus.
29	Bad senile arterio-sclerosis; aortic aneurysm.	M.	48	Antyllus's operation for popliteal aneurysm.	"	6	1 "	2 "	5 "	3 "	7 "	12 "	85 "	Two inches above umbilicus.
30	Healthy seaman.	M.	44	Inguinal hernia; twice recurrent; implantation of filigree.	Slow.	6	At once.	2 "	2 "	3 "	3 "	6 "	40 "	One inch above umbilicus.
31	Healthy seaman.	M.	40	Inguinal hernia.	Very free.	6	2 min.	1 "	3 "	5 "	6 "	8 "	50 "	Umbilicus.
32	Healthy seaman.	M.	47	Subfascial abscess about ankle.	Free.	6	2 "	3 "	4 "	6 "	11 "	12 "	45 "	Costal margin.
33	Wasted patient with phthisis at right apex.	M.	47	Erosion of tuber ischii, secondary abscess in thigh.	"	6	2 "	3 "	5 "	5 "	7 "	10 "	60 "	Umbilicus.
34	Healthy seaman.	M.	45	Femoral hernia.	Very free.	6	At once.	1 "	3 "	4 "	7 "	9 "	50 "	Inch above umbilicus.
35	Same patient as Case 2 now in good health.	M.	27	Syme's amputation.	Free.	6	"	2 "	2 "	4 "	3 "	12 "	48 "	Umbilicus.
36	Spare anæmic lad with acne and comodones.	M.	24	Double congenital inguinal hernia.	"	6	2 min.	1 "	3 "	6 "	8 "	9 "	65 "	Inch below umbilicus.
37	Healthy seaman.	M.	34	Varicose veins.	"	6	At once.	4 "	3 "	6 "	7 "	9 "	65 "	Ensiform cartilage.
38	Healthy seaman.	M.	50	Excision of a urethral calculus and hæmorrhoids.	"	6	2 min.	3 "	6 "	7 "	9 "	10 "	35 "	Two inches below umbilicus.
39	Healthy seaman.	M.	45	Inguinal hernia.	"	6	At once.	3 "	1 "	4 "	5 "	6 "	50 "	Costal margin.
40	Healthy seaman.	M.	42	Varicose veins.	Slow.	6	1 min.	2 "	2 "	4 "	5 "	5 "	50 "	"
41	Seaman; alcoholic and muscular.	M.	40	Recurrent inguinal hernia. Implantation of filigree.	Free.	6	1 "	2 "	2 "	5 "	6 "	10 "	60 "	"
42	Plethoric but otherwise healthy.	M.	48	Exploration of iliac tumour. Extraperitoneal.	"	6	1 "	4 "	1½ "	4 "	5 "	7 "	40 "	Ensiform cartilage.
43	Healthy seaman.	M.	34	Varicose veins.	"	6	1 "	2 "	3 "	4 "	4½ "	5 "	65 "	"
44	Same patient as Case 42.	M.	48	Laparotomy.	"	6	1 "	1 "	1½ "	3 "	3 "	4 "	—	Umbilicus.
45	Healthy patient.	M.	30	Excision of callus from tibia and fibula.	Single drops.	6	½ "	1 "	2 "	7 "	4 "	8 "	60 min.	"
46	Same patient as Case 37.	M.	34	Varicose veins.	Free.	6	1 "	1 "	2 "	4 "	4 "	8 "	35 "	Costal margin.
47	Healthy seaman.	M.	42	Large vaginal hydrocele.	Very free.	6	No result whatever.							—
	13 minutes later second injection given.				Free.	5	2 min	3 min.	5 min.	6 min.	10 min.	12 min.	30 min.	Two inches above umbilicus.
48	Thin patient with tight stricture.	M.	34	Catheterisation.	"	4	2½ "		7 "	6 "	8 "	10 "	30 "	Two inches below umbilicus.
49	Wasted patient with bad stricture and many old false passages.	M.	45	External urethrotomy. (Wheelhouse)	"	6	7 "	4 "	6 "	7 "	8 "	9 "	60 "	Umbilicus.
50	Healthy seaman.	M.	—	Inguinal hernia. Implantation of filigree.	Free.	6	2 "	3 "	5 "	6 "	7 "	10 "	20 "	Iliac crest.
	Second injection given.				—	5	—	—	—	—	—	—	40 "	Ensiform cartilage.

CASE 15.—This was the second failure. It was a case of varicocele, and as in the former instance the flow of spinal fluid was very slow. The patient began to complain of pain as the veins were being divided, and although he said he could stand it and was unwilling to have an anæsthetic, he was obviously feeling it sharply and accordingly the operation was completed under ether.

CASE 18.—In this case the patient, a woman, 43 years of age, was the victim of a procidentia uteri of the most complete order and of bad chronic asthma. The operation (an original one and at present unpublished) involved the stripping of the peritoneal coat from the dorsal surface of the uterus. The analgesia lasted over three-quarters of an hour and was complete except that when the uterus was very forcibly dragged upon she complained of a pain in the chest (a symptom which I have noticed in one or two other cases when pulling on omentum or mesentery); she was, however, a very nervous patient and after the operation she said that she had really felt nothing of it. She felt no ill-effects whatever after the operation.

CASE 23.—Here the analgesia again failed completely. It was a case of inguinal hernia. Six centigrammes were injected, but the analgesia never rose higher than the scrotum and perineum and was not complete below that point. In this case, however, the flow of spinal fluid had been free. A general anæsthetic was given. There were no unpleasant after-effects.

CASE 26.—A woman was admitted for a recurrent attack of appendicitis. She was 36 years of age and healthy but extremely nervous, so much so that I hesitated to submit her to spinal injection; she, however, had a dread of chloroform or ether, and the operation was therefore done under stovaine. In 11 minutes the analgesia was complete to the ensiform cartilage, and with the exception that the patient complained of discomfort during the separating of some dense adhesions, which she referred to the epigastrium and for which a very few inhalations of chloroform were given, the method was perfectly satisfactory. She subsequently admitted that she had suffered no pain but had been a little nervous; she was never under the influence of the chloroform. Subsequently she was a little sick and her temperature was raised for two days.

CASE 29.—This patient was suffering from a very large popliteal aneurysm which threatened early rupture. He was also the victim of a commencing aneurysm in the arch of the aorta. The injection was made in the usual manner, six centigrammes being employed, the result being a complete and prolonged analgesia. The operation involved extensive dissection and handling of the popliteal nerves, but of this the patient felt nothing, tactile sensation even being in this case entirely abolished. It had been my intention to attempt to carry out Matas's operation of endo-aneurysmorrhaphy; the openings of the vessel into the sac proved, however, to be respectively on the anterior and on the posterior aspect, and therefore the old operation of Antyllus was done, about two pounds of clot being evacuated from the sac. The only after-effects consisted of slight headache, a temporary rise of temperature with a sensation of coldness but no rigors, and some aching of the back and loins, of which the patient made light. In spite of the severe handling of the popliteal nerves he made no complaint of subsequent pain, and is now perfectly sound.

CASE 33.—The patient was a man of 47 years of age, who was suffering from pulmonary tuberculosis with slight hæmoptysis and who had extensive caries of the tuber ischii with a large abscess in connexion with it in the right thigh. He was much wasted, and was not a suitable case for general anæsthesia. Six centigrammes of stovaine were used and produced a perfect analgesia to the level of the umbilicus. His condition on the table was excellent. The right tuber ischii was gouged away and the abscess laid open, scraped, and packed, the patient declaring himself perfectly comfortable. There were no subsequent complications in this case.

CASE 35.—In this case a man, aged 47 years, was admitted with acute retention of urine due to an impacted calculus in the urethra. He was in great pain and the stone was firmly gripped in the spongy portion of the urethra. Five centigrammes of stovaine gave complete analgesia to the umbilicus and the calculus was removed quite painlessly through a median perineal incision; it was of the size of a small cherry stone.

CASE 47.—I had occasion in this case to repeat the injection. The patient was a stout man, aged 42 years, with a very large vaginal hydrocele. The usual method was followed and six centigrammes of stovaine solution were injected, no difficulty being experienced in obtaining a good flow of cerebro-spinal fluid; in fact, the fluid came away almost as if under pressure. The fact that the knee-jerks were much exaggerated, as were also the plantar reflexes, and that he had a specific history may account for the complete absence of any result from the injection. After waiting nearly a quarter of an hour I injected a further dose of five centigrammes when gradually the analgesia established itself. It, however, only lasted a comparatively short time and was followed by no ill-effects.

CASE 50.—In this case also the injection was repeated owing to the short duration of the analgesia induced by the first puncture. The patient was a healthy man with a large inguinal hernia recurrent from an operation done abroad. The case was therefore treated by the implantation of a silver filigree. An injection of six centigrammes failed to give complete analgesia for longer than 20 minutes, although no difficulty had been found in making the injection; the patient was therefore turned over and a further dose of five centigrammes was given. Analgesia at once became complete and remained so for another 40 minutes. No ill-effects were noted and the patient declared himself well satisfied with the method.

I may say that the later cases in this series, with the exception of Case 49, have shown a distinct tendency to feeble analgesia, as have some of those recently treated and not included in this list. This may be due to the fact that M. Billon has ceased quite recently to manufacture the stovaine-glucose solution himself and has handed the work over to a firm; there may therefore be a difference in the strength of the new consignment from that originally prepared by M. Billon.

From a consideration of the cases detailed in this series I am tempted to record the impressions which I have gained independently of the method of intraspinal analgesia for the benefit of those who have not seen it put into practice; at the same time, it must be remembered that they are those of a beginner, and that although fewer failures may come with more experience the cases here reported are set forth as accurately as it has been possible to do, without any desire on my part to glorify the results obtained or to minimise the risks which time may possibly show the method to be attended by.

Remarks Bearing on the Performance of the Injection.

The difficulty of performing the injection has in none of the cases been serious; in one or two stout patients the second lumbar spine has not always been easy to define, but by arching the back to an extreme degree it can generally be recognised. In any case, if the injection happens to be made below or above this spine no great danger is likely to be run, but possibly the same cannot be said of injection at a higher level than the first lumbar spine. It will be noted that the second case of the series was injected in the first lumbar interspace in order to avoid the possible contamination of bed-sores. The direction of the needle I have found to vary much; as a rule it passes upwards and forwards, but in one or two cases injection has only been possible in a slightly downward direction. In nearly every case the cerebro-spinal fluid has been found at a depth of two to two and a quarter inches from the surface, this depth only being exceeded in very stout patients. If, therefore, a greater depth than this is reached in a thin subject when the needle is accurately inserted in the middle line and has not struck bone the failure to find fluid is probably due to a blunt point pushing the dura mater, which is comparatively tough, in front of it, or to the blocking of the cannula or needle with blood clot. In only one case did blood come freely from the needle after insertion. It did not vitiate the result of the injection nor was it followed by any ill effects.

The application of the ethyl chloride spray before the injection is made at once gets over the difficulty of the slight pain of the puncture, but this should not be carried too far for fear of hardening the skin to the extent of turning the point of the needle, in which case it may fail to enter the theca spinalis. In only one of the cases did the patient complain of the pain of the puncture. The spinal fluid not being easily found the needle was passed rather more deeply than usual when he suddenly complained of a sharp pain which he said shot from his back to his toes. This was probably due to one of the nerves of the cauda equina being touched. No ill result, however, followed.

The variation of the pressure of the cerebro-spinal fluid was throughout very noticeable. In some cases the fluid came from the needle as if under considerable pressure, while in a few cases, on the other hand, the flow was so slow as to result in a succession of drops. This was especially the condition present in two of the cases in which the analgesia failed.

I do not think that the sealing off of the puncture wound is a matter of great importance and it certainly involves some little delay in turning the patient upon his back and raising his head. There is not the least probability of infecting the spinal canal through this wound; if such a disaster should occur it must be solely due to the use of a dirty needle.

The prompt raising of the patient's head so that the foramen magnum shall be on a higher level than the dorsal curve of the spine is a matter to be very carefully supervised. This is, I think, shown by the fact that in Case 7, in which this duty was inadvertently carried out rather late, the analgesia rose to the level of the clavicles (the highest of the series), and the after-effects were seen in the occurrence of really bad headache, backache, and a tendency to rigors, although on the table the patient's condition was excellent. It is, I think, wise to keep the patient's head raised throughout the operation. Care should also be taken that the rest upon which the sacrum is raised in order to allow of the fluid injected gravitating towards the dorsal region of the spine is correctly placed and not allowed to slip, as it at times tends to do, towards the lumbar region; as in this case, a portion of the injected fluid may lie below the point of injection and only a small quantity reach a higher level. In perineal operations this is not a matter of great importance, the sacral nerves being those chiefly in question; but in operations on the groins, limbs, or abdomen it is fatal to the establishment of full analgesia. As soon as the analgesia is nearly complete this rest may be removed.

A little practice soon educates one's sense of touch to the extent of knowing the depth to which the needle has penetrated, the sensation of entering and leaving the ligamentum subflavum, of being in the extradural space, and of puncturing the dura mater being soon acquired and giving a great sense of confidence in one's manipulations.

Points of Interest regarding the Analgesia.

The most striking fact noticeable in this method is the tendency to variation exhibited in different cases as regards height, areas involved, duration and after-effects of the analgesia, even when the dosage remains constant, and the temperament and physique of the patients are comparable. As will be seen from a perusal of the accompanying table, the analgesia produced by a dose of six centigrammes of stovaine administered to patients of approximately the same class and age, varied in height from the knees to the clavicles; while in some cases no after-effects were noticeable, in others headache, nausea, backache, moderate pyrexia, and in one case slight rigors were met with. That these after-effects may be due to rapidity of absorption is possible; they probably have no connexion with the rapidity nor with the completeness of the analgesia, since these are the result of local contact with the sensory nerve roots and do not depend on absorption. Moreover, the severity of the after-effects does not always depend on the height of the analgesia, although in one case (Case 7) it would appear to have done so. In this case, in which the great height of the analgesia led one to be a little anxious as to its effect on the respiration and circulation, the patient's condition remained excellent on the table, his pulse and breathing appearing to be less affected than in several cases in which the analgesia stopped at a very much lower level. In spite of this variation it is possible to give approximately the order of events ensuing on injection, although the time at which these events occur varies in different cases.

The earliest and most constant phenomenon is the absolute abolition of all superficial and deep reflexes; usually within one minute the plantar, cremasteric, and patellar reflexes are all unobtainable. Following this the muscular sense gradually goes, the patient feeling his legs excessively heavy on an attempt to raise them, and in a few minutes, usually from two to three, the feet and legs are completely paralysed. It is noticeable here that the power to slightly flex and extend the toes remains. About the same time the perineum and scrotum become insensitive and these parts can usually be operated upon much earlier than the limbs and groins, the analgesia completely affecting the deep urethra and testis. The effect on the lower extremities is usually first seen on the peroneal aspect of the side upon which the patient was lying at the time of injection. By the time the lower part of the thighs has been reached the groins will usually be found quite insensitive and suitable for hernial and other operations, and by the time the upper part of the thighs has become analgesic the condition will generally have spread to the umbilical region, and in some cases even to the costal margin, the ensiform cartilage, or the nipples.

Not uncommonly tactile sensation remains to a blunted degree although sensation of pain is absolutely abolished; and in most cases there is an inability to distinguish the application to the skin of hot lotions from ether or ice, both conveying the sensation of tepid water.

The demarcation of the upper limit of the analgesia is usually very marked; half an inch higher or lower often leading from a normally sensitive area to one of analgesia. As regards the tissues themselves, all of them seem to become equally affected, with perhaps the exception to a slight extent of the peritoneum, omentum, and mesentery. Although these in most cases follow the rule of complete analgesia, cases occur now and then in which, although no actual pain results from their manipulation, ligation or dragging upon them appears to produce a sensation of dull aching in the chest and some nausea, which passes off, however, as soon as the manipulation ceases. Contrary to what one would expect to find, the two most sensitive tissues—the skin and the bone—appear to enjoy the most perfect analgesia, amputation and screwing being quite painlessly performed. Mr. Barker has drawn attention to the complete relaxation of muscles obtained by intraspinal analgesia and this has also been my experience. I have found it much easier to approximate the conjoined tendon to Poupart's ligament in closing the inguinal canal by Bassini's method under the influence of stovaine than by the aid even of chloroform.

The failure of analgesia which occasionally occurs is difficult of explanation except on three theories—viz., inefficient injection, only a portion of the dose reaching the spinal theca; natural insusceptibility of the patient; and inefficiency of the drug, due either to accidents during its preparation, its deterioration from keeping, or its contamination with other solutions in the operating theatre. I prefer to think that my failures are due to one of the two first-mentioned causes, first, because as I have already said I look upon my efforts rather as those of a beginner, and secondly, because the drug was freshly prepared to order. At the same time no difficulty was experienced in injecting these cases, and presumably insusceptibility to stovaine is as probable as to many other drugs. The possibility of one's syringe and needles being tainted with soda solution must be allowed, although in these cases the greatest care was taken to avoid any contamination of this sort. The effect of the drug on the circulation is seen in most cases in acceleration of the pulse, and in some few others in diminution of its force, while in the case of the respiration the rhythm is little altered, but there is generally a tendency to sighing from time to time shortly after injection; this does not apparently arise from any discomfort nor feeling of weakness.

The return of sensation to the parts rendered analgesic will usually be found to take place in the reverse order to that in which the analgesia was established, the abdomen first becoming sensitive, then the thighs, after which the legs and perineum, and lastly, the feet; the reflexes return last of all. The rapidity of this return varies considerably; in some cases it has been difficult to say exactly in what order the various parts regained sensation, the whole of the analgesia appearing to pass off simultaneously. Sensation, however, invariably returns before motion, and the return of the latter is often accompanied by a feeling of weight, dull aching, or tingling in the limbs like "needles and pins," or a feeling of stiffness, all of which pass off in the course of an hour or so. I have not seen any case in which the power of the bladder or rectum was affected.

Are the After effects Worse than those of General Anæsthesia?

It is a little difficult to draw comparisons between these when well marked and the after-effects of chloroform, ether, &c., since the chief effect of stovaine is seen in headache and backache, whereas that of general anæsthesia consists of vomiting. I think the majority of us would prefer the comparatively short-lived discomfort of the former to the physical suffering and unpleasantness of the latter, especially when unduly prolonged. The difficulty of combating the sickness of general anæsthesia is well known and at times nothing seems to affect it. On the other hand, the pain and headache of stovaine analgesia will be found to be readily controlled by aspirin in doses of from 10 to 15 grains. In most of my cases the after-effects have been so trivial as not to merit serious consideration. I think that the fact that in every case in which a patient has had experience of both methods opinion has been unqualifiedly in favour of spinal analgesia is sufficient evidence that the after-effects of stovaine are preferable to those of chloroform or ether. A further testimony is afforded by the fact already referred to that many of my patients requested spinal analgesia on the advice of those who had already had it, and that the only three patients requiring a second operation again chose the method in preference to general anæsthesia. If among the after-effects we have to include certain cases reported from the continent as having terminated fatally or in which there was more or less permanent paralysis, I am bound to say that I know of no case in which such an accident has occurred in *this* country or when carried out according to Mr. Barker's directions. I believe the cause, if these cases have been accurately reported, must be sought in the combination of other drugs, and especially of adrenalin with the stovaine. This drug, which has been used abroad, with the intention of prolonging the analgesia, is to my mind an extremely dangerous addition to the solution, since its action depends on the temporary avascularisation of the spinal cord. It is in the highest degree probable that the anæmia of the cord produced by the action of adrenalin, if unduly prolonged, is capable of bringing about the death of the cells of the anterior and posterior cornua with a resulting degeneration of the nerves in connexion with them. But this is a matter which might well occupy the attention of the physiologists.

s in which Analgesia was brought about by the Intraspinal Injection of Stovaine.

	Motion possible.	Condition during operation. (P. = pulse. R. = respiration.)	After-effects.	Shock.	Pyrexia. (T. = temperature.)	Remarks.	Opinion of the patient.
	No.	Comfortable. Smoked a pipe. P. 120; R. 20.	Slight headache and vomiting, relieved by aspirin.	None.	T. 100°.	*Hernia very large. Circumference, 25 inches. Length, 15 inches.* Sigmoid adherent in all its length to sac. Felt ligation of the omentum slightly.	Much less unpleasant than chloroform.
	,,	Slight nausea after 10 minutes, relieved by brandy. P. 110; R. 15.	Nausea, feeling of weight in limbs.	,,	T. 101·5°. (? Due to septic state.)	Injection made above second lumbar spine to avoid bedsores. Bone quite insensitive.	Much prefers it to ether.
	In toes.	Excellent. P. and R. normal.	None.	,,	T. 99·8°.	Marked unilateral sweating of head after injection. Dilatation of sphincter was not felt.	Very favourable.
	No.	Chatted actively and smoked. P. and R. normal.	,,	,,	T. 100·4°.	Bone completely insensitive.	Very decidedly favourable.
	,,	Comfortable. P. 100; R. 18.	Slight headache.	,,	No.	Spinal analgesia by own request.	Quite satisfied.
	Yes.	—	—	—	—	Operation done under general anæsthesia. No symptoms referable to combination of methods.	—
	No.	Slight nausea for five minutes; analgesia perfect.	Pain in both legs. Bad headache and backache; slight rigor.	None.	T. 101·2°.	Head was raised rather late after injection; aspirin relieved headache.	Did not like it. Refused to have other side done under any anæsthetic; never had chloroform.
	Slight.	P. 108 and feeble; R. 15. Brandy; comfortable; analgesia perfect.	None.	,,	T. 99·5°.	Analgesia by own request; tactile sensation in deep urethra; no pain.	Very decidedly favourable.
9	No.	Pulse feeble, 118; R. 20. Slight nausea.	Slight headache.	,,	T. 100°.	Analgesia perfect; tactile sensation in deep urethra.	Very decidedly favourable.
0	,,	Excellent. P. and R. normal.	None.	,,	T. 101°.	Analgesia perfect; by own request.	Felt no pain whatever.
1	,,	Excellent.	,,	,,	No.	*Complained of some discomfort in epigastrium during ligation of omentum.*	Much prefers this to chloroform which he has had before.
2	,,	Excellent. Smoked a cigar. P. and R. normal.	,,	,,	,,	Analgesia by own request.	Very favourable.
3	,,	Excellent.	Tingling in legs; slight headache.	,,	,,	Analgesia by own request. Tactile sensation on ligation of veins.	Quite satisfied with the result.
14	Slight.	Very comfortable; chatting all the time.	Sharp pain in wound and aching in limbs relieved by aspirin.	,,	T. 100·8°.	Analgesia by own request and perfect.	Has never had general anæsthetic, but thinks he would rather have stovaine.
15	Yes.	—	—	—	—	Patient said he could stand the pain, but he was obviously suffering. General anæsthesia was substituted.	—
16	No.	P. 108 at first; afterwards normal. No nausea.	Some pain in chest and limbs.	None.	No.	Analgesia perfect.	Very pleased he had the new method.
17	Slight.	Excellent.	Slight headache and nausea.	,,	,,	Analgesia perfect.	Very satisfied.
18	Yes.	P. 110; later 80. Some nausea; rather nervous; felt epigastric discomfort on packing abdomen.	None referable to stovaine.	,,	T. 100°.	Got frightened towards end of operation. Asked for chloroform and then refused it after a short administration.	Thinks she was more frightened than hurt and would not mind it again.
19	No.	Excellent.	Headache, relieved by aspirin.	,,	T. 100°.	Analgesia perfect.	Very favourable.
20	Slight.	Slight rigor; feeling cold. P. and R. normal.	Rather bad headache; aspirin.	,,	T. 101·2°.	,,	Doubtful; but he has never had general anæsthesia.
21	No.	Lost his nerve and asked for chloroform, but afterwards refused it; P. 112.	None.	,,	T. 101°.	Analgesia good.	Unpleasant, but did not feel any pain.
22	,,	Slight nausea after ten minutes; P. and R. normal.	Aching in legs and slight headache.	,,	No.	Analgesia by own request, and perfect.	Very favourable.
23	—	—	—	—	—	—	—
24	No.	Good; feeling of emptiness in stomach.	Sharp pain in limbs and headache, both relieved by aspirin.	None.	T. 100·5°.	Analgesia perfect although not very high.	Would rather have the headache than be unconscious.
25	Slight.	Excellent. P. and R. normal.	None.	,,	No.	Analgesia perfect.	Quite comfortable.
26	No.	Good, but rather frightened at first. P. 102; R. 20.	A little sick after operation; no headache.	,,	T. 101·2°.	Good analgesia till operation nearly completed. Felt pulling on bowel and at this point a little chloroform was given.	*Was more frightened than hurt;* it did not really hurt at all.
27	,,	P. fell to 48. Head lowered without my knowledge. (Possible cause of after-effects.) Comfortable.	Severe pain in back and knees; vomiting for two hours; bad headache; flatulence.	,,	T. 100·8°.	Analgesia perfect.	Never had general anæsthesia, so cannot tell.

is not exerted upon the spinal cord itself, but upon the posterior, and to some extent upon the anterior, nerve roots.

What the maximum dose may be has yet to be proved; as will be noted 11 centigrammes were given in Case 50 without any ill-effects; but there must be few cases in which six or eight centigrammes will not suffice for all ordinary surgical requirements.

In view of the recent high death-rate from chloroform in certain quarters, I cannot help thinking that if the method of intraspinal analgesia had been more extensively employed and some of these cases submitted to operation under its influence such mortality would have been avoided. Finally, I would urge upon all anæsthetists the desirability of learning and adopting the method, not only for the sake of their patients but for their own professional welfare.

Summary of Cases of Intraspinal Analgesia.

Number of cases submitted to injection	50
Oldest patient	62 years.
Youngest	24 ,,
Largest single dose	6 centigrammes.
,, double ,, ...	11* ,,
Smallest dose	4 ,,
Greatest height of analgesia	To the clavicles.
Shortest interval between injection and operation ...	4 minutes.
Longest duration of analgesia	90 ,,
Average duration	51 ,,
Shortest analgesia in any completed operation	30 ,,
Number of cases in which analgesia rose to, or above the umbilicus	38 = 76 per cent.
Highest temperature due to stovaine after operation	101·2° F.
Number of failures to obtain sufficient analgesia † ...	3 = 6 per cent.

* I.e., 6 + 5.

† It must be remembered here that these cases were not submitted to a second dose, which, as in Cases 47 and 50, would probably have produced the desired amount of analgesia.

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RENAL HÆMORRHAGE IN CHRONIC INTERSTITIAL NEPHRITIS.

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IN the early part of the last century cases in which hæmaturia appeared without any symptoms gave rise to considerable speculation. Little was known as to their explanation and they were spoken of as cases of "hæmaturia sine materia," "renal hæmophilia," or even "hæmaturia from a healthy kidney."[1] As time passed certain obvious changes were found associated with this condition and these were considered to explain all such cases. They were then supposed to be due to new growths, stone, or tubercle. It was not until the end of the century, when the cystoscope (a great aid to our powers of diagnosis) came into use and advancing surgical skill justified the exploration of many of these obscure cases, that the group of unexplained hæmaturias again became prominent. To this group belong many of the cases which I propose to consider. By the term "chronic interstitial nephritis" I wish to indicate the condition also known as granular kidney, chronic Bright's disease, or cirrhosis of the kidneys as distinguished from a purely local nephritis due to some definitely local cause, such as an obstruction to one ureter or an inflammation ascending from the lower urinary tract. In granular kidney there is a widespread deterioration of the arteries and arterioles; there is also an increase of the arterial tension; thus it is not surprising to find that spontaneous hæmorrhages occur in many parts of the body. Dr. Samuel West[2] quotes statistics showing that from 15 per cent. to 75 per cent. of cases of granular kidney die from cerebral hæmorrhage; epistaxis is very common and may be the first symptom of the disease; while retinal hæmorrhages are of great value in its diagnosis. Many of these hæmorrhages occur late when the blood tension is markedly raised and the vessel walls are much weakened; these, then, are due to mechanical causes; others, such as epistaxis and (as I hope to show) hæmaturia, may take place at a stage when such gross changes are not marked, and may perhaps be due to some toxic process causing a local infiltration. The hæmaturia of granular kidney has not attracted so much attention as the other forms of bleeding, but it is by no means rare.

Sir George Johnson[3] first drew attention to this condition and regarded it as occurring in an "advanced stage." He considered that the blood came from the bladder and the pelvis of the kidney, rather than from the kidney itself, because it was unusual to find blood-casts of the tubes. The amount of blood lost during any one attack is, as a rule, small; but traces of blood may be found in the urine over long periods. The subject is dismissed very shortly in text-books; thus Sir W. Roberts[4] speaks of the hæmorrhage as "generally insignificant," and Professor W. Osler[5] merely says "there may even be hæmaturia." In 1885 Dr. West[6] published three cases showing that the bleeding might be quite severe; he considered it to be "vesical in origin, as, in the absence of acute nephritis, the urine was rarely smoky or dark in colour." Two years later Mr. A. A. Bowlby[7] described cases of "Profuse Hæmaturia in connexion with Granular Kidney," in which it was proved post mortem that the blood had come from the kidneys. These cases, however, were complicated by urethral obstruction, in one by an enlarged prostate, and in the other by stricture of the urethra. The *profuse* bleeding was probably induced by instrumentation. In the first case the patient had retention of urine, which was relieved by catheterisation. Mr. E. Hurry Fenwick[8] states that the sudden removal of much residual urine from such a case, in which the ureters and renal pelves are dilated, often causes dangerous hæmorrhage; "the intertubular vessels, and those in the mucous membrane of the conducting channels, being suddenly robbed of a support to which they had been accustomed, rupture; and blood escapes freely into the bladder." Mr. Fenwick also gives evidence to show that in the second case the bleeding was very probably due to irritation of the stricture, causing a "reflex hyperæmia" of the kidneys. Such cases I do not propose to consider, as they appear to be of a different nature to those in which there are no back-pressure changes. In 1889[9] and 1893[10] Mr. Fenwick drew attention to the hæmaturia of chronic Bright's disease: he considered it to be by no means uncommon, and stated that about 12 per cent. of the obscure cases of hæmaturia sent to him for cystoscopy belonged to this group. In 1892 Mr. C. W. Mansell Moullin[11] recorded a case of severe renal colic, associated with hæmaturia, in which a diagnosis of renal calculus was made; on exploration no stone could be found and post mortem, ten days later, nothing was found save granular kidneys.

In 1900 Dr. West,[12] writing about hæmaturia in his work on Granular Kidney, stated that it had often led to mistakes in diagnosis and quoted several cases. He considers copious hæmorrhage rare, but has known mild bleeding to persist for long periods. About this time Dr. G. M. Edebohls[13] published several papers concerning the surgical treatment of chronic renal disease, especially by decapsulation of the kidneys, but he did not devote any attention to hæmaturia. Mr. Fenwick in 1904[14] again wrote of this symptom in granular kidney and regarded it as occurring early in the disease before the advent of noticeable cardio-vascular or retinal changes, the clue to the cause of the bleeding being given by the urine which is of low specific gravity and contains a faint trace of albumin with tube casts. In March of last year a paper on the Hæmaturia of Chronic Nephritis by Dr. Arthur L. Chute of Boston[15] appeared in the *American Journal of Urology* but most of his cases appear to belong to the infected and obstructed groups with which we are not concerned; he lays stress on the importance of separating cases of hæmaturia due to Bright's disease from those in

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[1] Rovsing: Brit. Med. Jour., 1898, vol. ii., p. 1547.

[2] S. West: On Granular Kidney and Physiological Albuminuria, 1900, p. 93.

[3] Sir George Johnson: Medical Lectures and Essays, p. 747, quoted by Mr. E. H. Fenwick.

[4] Sir W. Roberts: Renal Diseases, fourth edition, p. 144, quoted by Mr. Fenwick.

[5] W. Osler: The Principles and Practice of Medicine, fourth edition, p. 880.

[6] S. West: THE LANCET, July 18th, 1885, p. 104.

[7] A. A. Bowlby: Transactions of the Clinical Society, 1887, vol. xx., p. 147.

[8] E. H. Fenwick: The Cardinal Symptoms of Urinary Disease, 1893, p. 44.

[9] E. H. Fenwick: The Electric Illumination of the Bladder and Urethra, 1889.

[10] The Cardinal Symptoms of Urinary Disease.

[11] C. W. Mansell Moullin: Transactions of the Clinical Society, vol. xxv., 1892, p. 56.

[12] On Granular Kidney, p. 103.

[13] G. M. Edebohls: The Surgical Treatment of Bright's Disease, 1904.

[14] E. H. Fenwick: A Handbook of Clinical Cystoscopy, p. 361.

[15] Arthur L. Chute: American Journal of Urology, No. 3, vol. iii., 1907, p. 89.

which Analgesia was brought about by the Intraspinal Injection of Stovaine—continued

	Motion possible.	Condition during operation. (P. = pulse. R. = respiration).	After-effects.	Shock.	Pyrexia. (T. = temperature).	Remarks.	Opinion of the patient.
	No.	Excellent. P. dropped to 54 but no nausea. R. 18.	Flatulence only.	None.	T. 100·2°.	Analgesia perfect.	Very favourable.
	„	Excellent. P. 96; R. 18 Talking all the time.	Slight headache and backache.	„	T. 100·5°.	Analgesia perfect, although popliteal nerves dissected out and held aside.	Very comfortable all the time.
	Slight.	Excellent for 40 minutes when patient complained of pain. Chloroform given to finish.	—	„	No.	This injection was undoubtedly successfully made as shown by height and completeness of analgesia.	Thinks he could have stood pain; felt nothing at all for first 40 minutes.
	No.	P. rose to 132 soon after injection. Later it fell to 120, and was normal at end. R. 18 to 21; felt cold.	Next morning flatulence, headache, and pain in the knees.	„	T. 99°.	Analgesia perfect.	Very favourable.
	„	Felt sick soon after injection. Slight tactile sensation retained.	Headache and flatulence; no pains.	„	T. 100°.	„ „	„ „
	„	Excellent. P. 126; R. 18.	None.	„	No.	„ „	Never felt anything at all and was quite comfortable.
	„	Slight nausea after ten minutes. Relieved by brandy. P. 100; R. 17.	„	„	„	Analgesia perfect. Large mass of omentum ligated and removed painlessly.	Perfectly comfortable after nausea passed off.
5	Slight.	Excellent. P. and R. normal.	Very slight headache. Some pain in stump.	„	T. 99·8°.	Second time he has had stovaine. Requested it again on this occasion. Injection made through old puncture mark.	Very comfortable; thinks he felt tingling in the back during sawing of tibia, but no pain at all.
6	No.	Excellent. P. and R. normal. Slight nausea for a short time.	None.	„	No.	Analgesia perfect. Both sides operated upon.	Felt no pain whatever.
7	Slight.	Excellent. T. and R. normal.	Slight backache.	„	T. 100°.	Analgesia perfect.	Felt neither pain nor discomfort.
8	No.	Excellent.	Rigor on returning to ward. Headache, backache, pain in limbs, all relieved by aspirin.	„	T. 100°.	Tactile sensation in deep urethra where calculus was impacted. No pain.	Very pleased; was in great pain, which left him almost as soon as he was pricked in the back.
39	Slight.	Excellent.	None.	„	No.	Analgesia perfect.	Never had chloroform, but this was quite painless.
40	„	Slight nausea. T. and P. normal.	Backache and slight headache.	„	„	„ „	Quite comfortable.
41	Yes.	Excellent.	Headache.	„	T. 99°.	„ „	Never felt anything.
42	No.	Nausea 10 minutes after injection.	None.	„	No.	Tactile sensation retained; fourth and fifth fingers felt numb.	Quite comfortable after nausea passed off.
43	„	Good. P. 101; R. 8–10.	„	„	„	Analgesia perfect. Complained of difficulty of speech during operation.	Felt nothing of the operation.
44	—	—	„	„	„	Given in this case to lessen the shock of possible colectomy. Condition, however, proved inoperable. Operation done under chloroform.	—
45	No.	Slight headache. P. 92; R. 12. Felt "pins and needles" in legs; otherwise good.	„	„	„	Felt nothing of chiselling and drilling of bones.	Much prefers it to ether.
46	„	Excellent. P. 76; R. 13.	Backache.	„	T. 100·2°.	Second occasion of spinal analgesia. At his own request.	Quite comfortable all the time.
47	—	—	—	—	—	—	—
	Slight.	Tactile sensation in legs. Excellent. P. and R. normal.	Backache slight.	None.	T. 100°.	Patient had very exaggerated reflexes and ankle clonus slightly. Cause of failure of first injection not apparent. Testis.	Felt no ill effects except backache.
	Yes.	Good, but nervous. P. 130–150; R. 20–22.	„	„	No.	Deep urethra quite insensitive in this case.	Did not feel anything.
	„	Excellent. P. 100; R. 20–24.	None.	„	„	As at end of an hour track of urethra had not been found, general anæsthesia was given and catheter passed from bladder.	Was quite comfortable in his wound but felt cramped in lithotomy position.
	No.	Excellent. P. and R. normal.	„	„	—	Analgesia provided by first injection only lasted 25 minutes. The second injection provided another 40 minutes, or 65 minutes in all.	Felt no pain at all.
	—	—	—	—	—		—

previously when the hæmaturia recommenced; he was, however, markedly anæmic. The urine had a specific gravity of 1010 and contained blood but no casts and no tubercle bacilli were seen. Radiographs were again negative. The cystoscope showed that the blood came from the left side.

On Oct. 5th the following operation was performed by Mr. Fenwick, the anæsthetic being ether. An incision was made in the left loin and the kidney exposed; its capsule was found to be thickened and the kidney substance was firmer than normal. The upper part of the ureter was exposed and seen to be healthy. An incision was now made into the lower pole of the kidney along its convex border; it extended well into the kidney substance but did not enter the pelvis. This incision was then sewn up with catgut; the wound was closed, except for a drainage-tube, which was removed five days later. The wound healed by the first intention and the patient was allowed to get up three weeks after the operation. The urine after the first 24 hours was free from blood and from albumin and remained free until Oct. 30th when the patient was discharged.

In this case the bleeding, though never very copious, continued over so long a period that a severe anæmia was produced, the kidney disease itself not being advanced enough to cause an extreme cachexia. Simple medical treatment did not arrest the hæmorrhage while an operation at once brought about an improvement. The case is interesting for another reason, as it shows that the hæmorrhage may be persistently unilateral, though due to a disease affecting both kidneys and associated with, if not partly caused by, general systemic changes.

Frequency.—It is not possible to get an accurate idea of the frequency of hæmaturia in granular kidney at present, for quite a number of cases are not recognised as such, and the details necessary for their recognition are not recorded. My 31 cases were selected from 2229 cases of granular kidney. This gives a frequency of 1 in 72, probably far too low.

Age-distribution.—It was at first thought that hæmaturia occurred late in granular kidney, but this is not supported by the cases collected for this paper. The youngest case was eight years old, the eldest 64 years; the average age was 26·2 years and 65 per cent. of the cases were under 30. In Dr. West's statistics[16] 79 per cent. of cases of granular kidney were over 40 years at death, so that hæmaturia appears to be one of the earlier symptoms.

Stage of the disease.—In 21 of the cases there were no increased arterial tension, no thickening of the walls of the blood-vessels, and no other sign of disease, except the state of the urine. In these patients, then, hæmaturia was the first indication of a chronic nephritis, and called attention to it at quite an early stage of the disease. This is of some interest, as the early diagnosis of granular kidney is extremely difficult. In 31 cases the fundi of the eyes were examined with the ophthalmoscope, and in only six were changes (such as retinitis and retinal hæmorrhages) found; the other 25 were pronounced to be normal.

Sex.—Judging from these cases sex appears to have no influence in the causation of hæmaturia, 29 being in males and 16 in females, numbers which agree very closely with Dr. West's statistics with regard to granular kidney; he gives a ratio of 26 to 16.

Differential diagnosis.—Renal hæmorrhage is usually recognised by the fact that the blood is intimately mixed with the urine. I do not propose to discuss the diagnosis of the source of the hæmorrhage; in doubtful cases cystoscopic examination is most useful. A mild attack of hæmaturia, due to granular kidney, may be mistaken for a *subacute nephritis*. The chief differences are—(1) that there is little or no œdema; (2) the amount of blood and albumin in the urine fluctuates from day to day; and (3) the course of the case is different, as it may be weeks or months before the hæmorrhage ceases; when it does the urine is of low specific gravity and contains casts with a trace of albumin. As an example I quote the following case.

CASE 3.—A youth, aged 17 years, was admitted to the London Hospital under the care of Dr. F. J. Smith on Feb. 26th, 1906, with the following history. He had been ill for one month, complaining of a sore throat and "pains all over." During the second week he noticed some slight swelling of his face. He suffered from headache and was sick once. There had been nothing abnormal about the urine. He had never had scarlet fever or any other illness. On admission there was slight puffiness of the face and eyelids but no œdema of the legs or genitals. There was no sign of cardiac hypertrophy; the pulse tension was moderate, the artery wall was not thickened, and the fundi were clear. The urine was acid, smoky in appearance, of specific gravity 1024; it contained a trace of albumin. Microscopical examination showed blood-cells but no casts. The hæmaturia gradually diminished. On March 6th the urine was free from blood, and casts, both hyaline and granular, were seen. The amount of urine passed in 24 hours was from 70 to 80 ounces. Later, blood again appeared in varying amounts and on March 23rd the patient went home feeling quite well but still passing a small amount of blood in his urine.

This case was regarded as a subacute nephritis, but I submit that it was probably an example of hæmaturia due to granular kidney.

Hæmaturia due to *renal tuberculosis* will be recognised by the more marked nocturnal frequency. The cystoscope will also show changes in the ureteric orifices; above all, tubercle bacilli may be found in the urine.

Renal calculi may be detected by the aid of the x rays. There will usually be a *history of typical renal colic*, except *in the rare cases of aseptic embedded calculi which are most* difficult to recognise. Renal colic may, however, be produced by the passage of blood clots along the ureter, in which case these *are found* in the urine and can be recognised by their characteristic shape.

Malignant disease of the kidney in the later stages may be suspected on the discovery of a renal tumour on one side. The examination of the urine may show the presence of fragments of growth. In these cases there is usually profuse bleeding in the early stages sufficient to justify exploration of the kidney through the loin. When there are renal tumours with irregular surfaces in both loins it is probable that the hæmorrhage is coming from congenital cystic kidneys. I have recently seen such a case in hospital but at present the diagnosis is unconfirmed.

Hæmaturia due to the *bilharzia hæmatobia* is differentiated by finding the characteristic ova in the urine; in these cases the hæmorrhage is usually vesical. Mr. Fenwick[17] quotes a case of hæmaturia due to *tertiary syphilis* of the kidney. This was diagnosed by finding other signs of syphilis and by the effect of specific treatment. Mr. Fenwick[18] has also described cases of hæmaturia due to *angiomata* of the renal papillæ. In these the urine was normal and the diagnosis was only made in the course of operations rendered necessary by the profuseness of the bleeding.

Cause.—The hæmaturia of granular kidney does not appear to depend on the purely mechanical causes (high arterial tension and deterioration of the vessel walls) which bring about the later manifestations, such as cerebral or retinal hæmorrhage; for, like epistaxis, it may occur before these changes are noticeable. It is more probably due to local infiltration set up by some toxin; perhaps the same poison is responsible for the general vascular weakening which appears later, such changes appearing in the kidney first and advancing more rapidly there than in other organs.

Prognosis.—This depends almost entirely on the degree of kidney change that is present. Of the 45 cases which I collected only four patients died while under observation, and none of these from hæmorrhage, which shows that the bleeding is rarely severe or uncontrollable. Dr. West has followed a case for 11 years, and one patient treated at the London Hospital had been passing blood in his urine at intervals for 17 years. Anæmia was a marked feature in some of the patients, and this was doubtless partly due to the hæmaturia; but the bleeding is, as a rule, controlled by treatment and can hardly affect the prognosis much.

Treatment.—Rest in bed, purgatives, and a diet consisting chiefly of milk, eggs, and bread-and-butter will, as a rule, be sufficient to stop the bleeding. Hæmostatic drugs, such as calcium lactate or calcium chloride, may be tried, but are hardly necessary. Iron in some form will be useful during convalescence. 38 of the cases which I collected were so treated, and with the exception of three deaths all recovered. The three deaths were in advanced cases, all of the patients having retinal changes and other signs of marked cardio-vascular degeneration. Recurrence is extremely probable, for the cause, the chronic nephritis, still remains. One case was explored for a renal calculus which did not exist, and died ten days later. Surgical treatment has been tried in a

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[16] On Granular Kidney, p. 7.

[17] The Cardinal Symptoms of Urinary Disease, p. 25.

[18] A Handbook of Clinical Cystoscopy, p. 392.

A Consideration of the Chief Advantages of the Method.

The complete abolition of the phenomena of shock is undoubtedly one of the greatest triumphs of spinal analgesia and has already been referred to in Case 2 of my series. For an explanation of this great result I would refer the student to Cushing's work on the cocainisation of nerve trunks.[6] This surgeon found that the preliminary injection of the great nerve trunks of the body before any operation upon the area governed by them completely abolished the phenomena in question. Intraspinal analgesia is simply another method of applying the operation advocated by Cushing, the sensory impressions resulting in shock being blocked at the posterior nerve roots instead of in the course of the nerve trunks.

The second great result of this method is that it has placed in our hands the means of bringing to operation in comparative safety many cases in which general anæsthesia would have been attended by very considerable danger from such complications as fatty and fibroid degeneration of the heart, double aortic and mitral disease, aneurysm, goitre, chronic bronchitis, and extreme nervous dread of anæsthesia.

The above are not, however, the only merits which the method can claim. The saving of time due to the rapidity of the analgesia, and the possibility of commencing in safety the antiseptic cleansing of the seat of operation during the progress of the analgesia, as well as the fact that no risk is run by radically altering the position of the patient on the table during the operation—such, for example, as rolling him over on to his face—are points of great importance. The necessity for preliminary and post-operative starvation, and the loss of appetite consequent on sickness and the unpleasant taste of ether in the mouth are entirely avoided by the use of spinal analgesia, and the patient can be fed, and brandy, &c., administered even in the course of operation, often a matter of great assistance in old and feeble patients.

The idea that there is a great disadvantage in the fact that the patient retains consciousness throughout the operation and is aware of all that is said and done is to my mind an erroneous one. I think that every surgeon of experience will admit that occasions arise from time to time, especially in abdominal gynæcology, in which it is advisable to obtain from the patient during the operation consent to some change in the method of procedure, the possible necessity for which has not been considered before the anæsthetic was administered. In the case of general anæsthesia either the surgeon must bear the responsibility for that procedure, or the patient must be sent back with the operation incomplete, to await a second operation when his or her consent shall have been obtained. Several such cases occur to my mind both in my own practice and in that of other surgeons, but considerations of space prohibit their quotation here. It is often of the greatest value to be able to question a patient during operation, and spinal analgesia permits of this. Should it be desirable to prevent the patient hearing the clatter of instruments, the sawing of bone, or the remarks of the operator or his assistants, the matter is easily accomplished by the use of plugs of wet cotton-wool or soft paraffin wax. As to the witnessing of unpleasant sights, nothing is simpler than a well-arranged screen across the patient's chest or a handkerchief tied across the eyes, at least one of which methods, preferably the former, is, of course, the usual practice.

Again, the advantage that the patient can at once be seen by his friends after the operation and engage in intelligent conversation with them is obvious.

Lastly, from the surgeon's point of view, the great danger is entirely obviated of strain being put upon abdominal sutures by retching, or upon the sutures of a Bassini's operation for hernia by the unconscious and often forcible extension of the hip-joint and other uncontrollable movements; and in the latter case certainly one of the chief predisposing causes of early recurrence is removed by the employment of spinal analgesia.

Cases in which the Sphere of Utility of the Method is Limited.

It must not, however, be supposed from what I have said that the method is in all points ideal; it certainly has its limitations, and I have already drawn attention to its tendency to variation and its occasional unreliability. Although I hold women to be commonly more courageous than men in the face of surgical procedures, it will at times be found that in extremely nervous women it is difficult to be certain when analgesia is really complete, so unwilling are they to acknowledge a condition which they fear may be only skin deep and may possibly pass off suddenly and leave them in great pain. Occasionally towards the end of their trial their courage may fail them and a general anæsthetic may be requested where none is really necessary.

The greatest disadvantage to my mind of spinal analgesia is met with when dealing with perineal conditions in women. Although the method is almost ideal for operations in this region in particular, the assumption of the lithotomy position is naturally an almost insuperable bar to its employment in private and (though to a less degree) in hospital practice. Even the lateral position would, I fancy, be little less offensive to the majority of women. In these cases there is no doubt that general anæsthesia is a *sine quâ non* from the patient's point of view, whatever the surgeon may think.

I have been asked frequently if a second injection is permissible in the event of failure of the analgesia, or where it does not last sufficiently long. Personally I have only recently attempted it and, as shown in Cases 47 and 50, the result was perfectly satisfactory and was followed by no ill-effects. There may, however, have been some doubt as to the stovaine having reached the spinal canal in the first of these cases, although I do not think so; there certainly was no doubt about the second. I can see no valid reason why it should not be done if the dose be carefully moderated; there is, however, an obvious objection from the point of view of asepsis as regards the operation, since it entails the rolling over of the patient and the displacement of all towels, &c., in order to carry out the injection.

Although the analgesia may in some cases rise as high as the umbilicus, in the present state of our knowledge the method must be regarded as unsuited to operations at a higher level than this and in many cases even at this point, for although such operations as those for umbilical herniæ of moderate dimensions might be commenced under its influence, it must be remembered that this region is the first to which sensation returns and therefore the duration of the analgesia cannot be so long as in parts at a lower level. For extensive operations here, involving the implantation of large filigrees of silver wire, it is at present quite unsuitable.

In the presence of bed-sores or ulcers occupying the neighbourhood of the second lumbar interspace the injection might be impossible and certainly is unsafe.

It remains to be proved that it is unsafe to insert the needle at a higher level than this space, and in cases in which the indication for spinal analgesia is imperative I should not hesitate to attempt it; but no doubt should exist in the mind of the surgeon as to the extreme care with which this step should be carried out, for although the cord itself runs no danger from the needle at the level of the second or third lumbar interspace the same cannot be said of injections at a higher level.

As far as I know, the method has not been put to serious test in children and the cases in which it might be called for in them must be very few. Recently I applied the method with perfect success in the cases of two boys, aged 14 and 16 years respectively, using a single dose of four centigrammes in each case.

Conclusions.

From a study of my cases and of those of other surgeons I am convinced that in spinal analgesia a method of the greatest value has been devised; I believe that in careful hands and with the particular stovaine solution employed by Mr. Barker it is a perfectly safe proceeding. The opinion of patients as to its merits is universally favourable and the after-effects of the drug are really trivial in the majority of cases, while in the remainder they bear comparison very favourably with those of the various general anæsthetics. The analgesia provided is, as a rule, of the most perfect order, available to all operations within the area involved. The excessive rapidity of the pulse noticed in some of the cases subsequently to injection has probably nothing to do with the drug itself; it is amply accounted for by the excitement of the patient, and it will be seen that it rapidly subsides on the discovery that the operation is really painless.

With regard to the frequent occurrence of tympanites, it is clearly explicable on the supposition that the rami communicantes of the sympathetic system of nerves are equally affected by the injection, the bowels becoming for the time being partially paralysed.

There can, I think, be no doubt that the effect of the drug capsule which surrounds a quiescent tuberculous focus is the herald of disaster, and it has indeed occurred that the use of thiosinamine in subjects of healed syphilitic disease of the throat with resulting fibrous overgrowth has caused so much softening and swelling of this tissue as to obstruct breathing and necessitate tracheotomy.[3]

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[6] Annals of Surgery, 1902.

Another form of fibrosis should be noted here. It is that variety which apparently is not the result of inflammation but rather the sequel of degeneration. Thus it is met with in diseases of the spinal cord as sclerosis and as fibroid patches in the heart due to arterio-sclerosis of branches of the coronary artery. Thiosinamine is not reputed to exert any specific action on this form of fibrosis, though it has been used in posterior sclerosis of the cord (tabes dorsalis) with some improvement.[4]

Although the possibilities of thiosinamine as a drug of extraordinary value seemed very vast, an impediment to its general employment was offered by the circumstance that it is insoluble in water and its alcoholic solution caused severe pain on hypodermic injection. It was not until Mendel of Essen conceived the idea of combining it with sodium salicylate to form the soluble compound known as fibrolysin that this drawback was removed, and a pharmaceutical product was put at the disposal of the profession in a manner ideally adapted for use. Exposure to air or light causes decomposition of fibrolysin; it is therefore put up in sterile solution in hermetically sealed brown glass ampullæ, the contents of which measure 2·3 cubic centimetres, representing one-third of a gramme of thiosinamine. Each ampulla suffices for one injection. It should be stated that fibrolysin was prepared on the analogy of diuretin which is a combination of insoluble theobromine with sodium salicylate.

I may now indicate in a general way the clinical applications of fibrolysin. Unna demonstrated its benefits in cheloid, and his observations have been abundantly corroborated by others. A far different use has been found for the drug in treating urethral stricture; some writers record successes. Its effect has been put to the test in cases of adhesions between internal organs and even adhesions between serous surfaces. One of the recent reports concerns a case of delayed pneumonic resolution, where the consolidation lasted 10 weeks, but cleared up after injections of fibrolysin. Attempts have been made to obtain some advantage from it in relieving the fibrosis which causes valvular disease of the heart. Fibrous stricture of the pylorus and fibrous contraction of the palmar fascia (Dupuytren's) have in many instances yielded to a series of injections. In the special branches of surgery aurists have sought to alleviate deafness due to sclerotic changes in the labyrinth or adhesions between the ossicles. Ophthalmologists have resorted to it to disperse corneal opacities and to dissolve iritic adhesions.

A critical consideration of the literature impresses one with the view that fibrolysin does indeed possess legitimate applications to this wide field of therapeutics. This impression is emphasised by the personal experience of the writer, which, however, is limited to three cases. One was an instance of Dupuytren's contraction which underwent complete cure; another was a thick keloidal growth situated on the shoulder which improved marvellously; and the third was a case of hypertrophic thickening and lobulation of the skin of the nose (rhinophyma) which diminished sensibly in size as a result of fibrolysin injections. The injections, which must, of course, be given with full antiseptic precautions, are best administered deeply into the gluteal muscles. The proceeding is practically painless and it leaves no after-effects. There seems to be no advantage in injecting in the locality of the scar tissue which it is desired to influence. Fibrolysin has been given by intravenous injection when a rapid effect has been required. An odour of garlic and mustard emanates from the breath in a few minutes, showing that thiosinamine is speedily set free in the blood.

Promise of successful treatment is indicated by definite naked-eye changes, best seen, of course, in thickened pink scars and in typical cheloids which stand out in relief from the skin. These become paler, softer, boggy, and translucent, and their texture gets plastic and pliable. If the injections are abandoned at this stage there is a rapid reversion to the previous condition, because this change only implies a transudation of lymph into the scar tissue, an effect which can also be obtained by injecting hemi-albumose, peptone, urea, or uric acid. This change is, however, preparatory to the ultimate absorption of the morbid fibrous tissue. The microscope demonstrates that the new blood-vessels lose their definition of outline, their contour becomes confused, the angular processes of the fibrous tissue cells become separated from one another, and the component strands look swollen. The serous transudation may well be compared to Bier's treatment by inducing artificial hyperæmia. This treatment also softens indurations, loosens adhesions, and promotes the absorption of inflammatory products. It is perhaps necessary to add that normal fibrous tissue does not undergo these changes as the result of injections of fibrolysin.

When massage or other forms of physical treatment are likely to be serviceable in the relief of conditions for which fibrolysin is to be administered these measures should be simultaneously employed. The value of this is best illustrated by cases of stricture of the urethra and simple stricture of the œsophagus which have proved refractory to dilatation by bougies or sounds. The action of fibrolysin in softening the cicatricial tissue has in many instances permitted the passage of instruments through obstructions which were previously quite impassable, and in this manner has paved the way for effectual cure by mechanical dilatation. Some very striking successes have been achieved in stricture of the œsophagus by this method. The same principle applies to the treatment of joint adhesions in chronic arthritis. Rigidity, stiffening, and thickening are influenced by the fibrolysin injections, but these must be supplemented by massage, active and passive movements, and hydrotherapy. It has indeed been objected that the improvement following the use of fibrolysin is due to the physical therapeutics accompanying it. It has been pointed out that contractures of various kinds may eventually yield to mechanical measures. This, however, cannot apply to such conditions as stricture of the œsophagus, where such measures are impossible, and there are too many of these cases on record to justify the suggestion of mistaken diagnosis as put forward by a recent writer.[5]

It may well be admitted that clinical experience is as yet insufficient to support some of the claims for the therapeutic efficiency of fibrolysin. It exerts an influence on the scars of burns, but it is premature to apply it for the scar which causes traumatic epilepsy. On the other hand, benefit has followed its employment in the cases of perineuritis causing sciatica and other forms of neuralgia. But in regard to cases of pleural adhesions, pelvic cellulitis and its sequelæ, and other diseases where it is used on hypothetical principles, no definite opinion can be advanced. A case has been recorded where widespread abdominal adhesions following an injury and causing intestinal obstruction was cured by injections of fibrolysin.[6] More recently three cases of gastric adhesions have been published which have been so far cured by fibrolysin as to abolish the intense pain from which the patients suffered.[7] These results are fully explained on the ascertained pharmacological action of the drug.

Perhaps the most interesting of what may be termed the remote application of fibrolysin concern its use in middle ear disease. Some observations on its action have been made in the ear department of the General Hospital in Vienna.[8] The injections were given in the arm, beginning with a dose of 0·3 cubic centimetre, gradually increasing to the whole contents of one ampulla—i.e., 2·3 cubic centimetres. The treatment usually comprised from 20 to 30 injections spread over a period of about two months. The injections were discontinued when it was evident that they were not producing continued improvement in the hearing. The treatment was abandoned if no benefit was derived from the first eight or ten injections. The injections were not employed to the exclusion of other means of aural therapeutics, such as politzerisation, aural massage and electricity, but the cases were such as had not been in any way improved by these methods. They were examples of dry otitis media, adhesions to the membrane, and beginning sclerosis between the ossicles. It is obvious that when the sclerosis has advanced to ossification fibrolysin has no pharmacological application. The conclusions arrived at show that which nephrectomy is required but is inclined to advise surgical treatment, such as decapsulation, for these also.

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[3] Wiener Klinische Wochenschrift, No. 10, 1903.

[4] Brit. Med. Jour., June 22nd, 1907.

[5] Dobrowolski: Inaugural Dissertation, Koenigsberg, 1907.

[6] Quoted in Medical Review, September, 1907.

[7] Herschell: Folia Therapeutica, 1907.

[8] Monatsschrift fur Ohrenheilkunde, 1907, No. 2.

On looking through the London Hospital records for the last 15 years I have been able to collect 31 cases of hæmaturia occurring in what was regarded as chronic interstitial nephritis; in none of these cases could any other cause for the hæmorrhage be found, the urine was always of a low specific gravity—that is to say, about 1010—and contained granular or hyaline casts, or both; in some there were many other signs of granular kidney, in others these appeared later, while in many no further signs of disease could be discovered. To these I have added 14 cases collected from the literature. On examining the hospital notes I find that in the last year or two the heading "hæmaturia, ? cause" has been less often used and granular kidney is more often put down as the cause, this form of hæmaturia having received very little attention until lately. Some cases I selected had been recorded as ? acute or subacute nephritis, occurring in the course of granular kidney, and my reasons for including these are given lower down. On the surgical side I found six cases, all of which have been in the hospital within the last five years, none being recorded in any of the ten preceding ones, a fact which shows how recently these cases have come under the notice of the surgeon. In the course of my search I noticed a considerable number of cases of slight hæmaturia occurring in young persons, mostly under 21 years of age, who, after being elaborately overhauled as hospital in-patients, were yet discharged as "hæmaturia ? cause." A few of them returned later, to enter my group of chronic interstitial nephritis, but many have not been heard of again; I cannot help thinking that at least a portion of these were really cases of early granular kidney although on their discharge from hospital their urine appeared quite normal. The following case, in which the diagnosis was very doubtful at first, I quote at length, as the notes are now complete:—

CASE 1.—A schoolboy, aged 11 years, was admitted to hospital, under the care of Dr. G. Schorstein, on August 29th, 1903, as a case of "acute nephritis." On the 28th he awoke feeling sick and on passing his urine he noticed it was "red, almost like blood." He stayed at home that day, ate his breakfast and dinner, and in the afternoon vomited, but only a little; he slept well that night. Next day the urine was still red; he then came to hospital and was admitted. He had noticed no frequency of micturition, no headache or other pain, and no swelling anywhere. He had had a similar attack two years ago (no pain, no œdema, and no vomiting), and was in Bromley Sick Asylum for three weeks; he had been quite well since. There was no history of scarlet fever, measles, or diphtheria. There was nothing of importance in the family history. His condition on admission is described as follows: "A healthy looking boy, not anæmic, no puffiness of face, no œdema anywhere. Temperature normal. Pulse—no increased tension, vessel wall not thick. No sign of cardiac enlargement. Retinæ healthy. Lungs, nothing abnormal. Abdomen, no lump felt. Testes healthy. Urine, smoky, reaction acid, specific gravity 1016, it contains about one-tenth of albumin by volume (heat test). Microscopical examination shows the presence of blood cells and a few granular casts." The treatment was rest in bed, a milk diet, and purgatives as required.

Further notes are as follows. On Sept. 2nd no tubercle bacilli could be found in the urine. On the 29th the patient was allowed to sit in a chair for two hours daily; he felt and looked well, but was still passing blood in his urine as before. On Oct. 5th the patient had been complaining of aching pains in the lumbar regions and was not to get up again for the present. He was taking eight minims of tincture of perchloride of iron three times daily. From Oct. 16th until the end of November he had dry cupping to his loins daily; this at once relieved the pain and the hæmaturia diminished. On Nov. 3rd the urine was again found to be free from tubercle bacilli and radiographs of the kidney and bladder regions appeared quite normal. The amount of blood in the urine fluctuated from day to day and on Dec. 12th he was sent to a convalescent home, still passing blood.

During the following nine months he attended as an out-patient; at the end of that time his urine was clear and he was discharged. On August 22nd, 1904, the patient was admitted under the care of Dr. Percy Kidd for hæmaturia, which had recommenced on the 20th; he felt perfectly well and there was no œdema; there was no change in his condition except that the arteries were now definitely thickened; the fundi were still clear; the urine was of specific gravity 1008 and contained granular and hyaline casts, blood, and one-eighth of albumin. He was in hospital for six weeks; the urine on his discharge still contained a little blood. On Jan. 31st, 1905, the boy was brought back to the hospital; he had been feeling ill for three weeks; the first symptoms were nausea and frontal headache worst in the morning; then he began to be sick after meals and complained of pain in the epigastrium; his nose bled often during the night; he had to rise at night to pass his urine. He had not noticed any blood in his urine. On admission he was slightly anæmic and rather drowsy; there was no œdema. The pulse tension was low; the vessels were markedly thickened. The heart's apex beat was heaving in character and well outside the nipple line. Examination of the fundi showed no hæmorrhages or œdema. The urine was pale, of specific gravity 1010; it contained a trace of albumin and blood cells but no casts. The total amount of urine passed on Feb. 1st was 60 ounces. He was given a milk diet; no drugs were used except a saline purgative in the mornings. The epistaxis and vomiting continued, although the anterior and posterior nares were plugged and adrenalin was used; the bleeding was only temporarily controlled. On Feb. 5th the total amount of urine passed was only 20 ounces. Hot packs were used and pilocarpine was given subcutaneously, but there was no improvement and on the 7th he died "suddenly."

Necropsy.—At the post-mortem examination the kidneys were found to be small, equal in size, together weighing 7½ ounces; the capsule was thickened and left a granular surface when removed; the cortex was much diminished. The heart weighed 10½ ounces, the left ventricle being hypertrophied and dilated. There were no other lesions except widespread arterial degeneration.

Another case I quote in full, as I had the opportunity of seeing it while house surgeon to Mr. Fenwick.

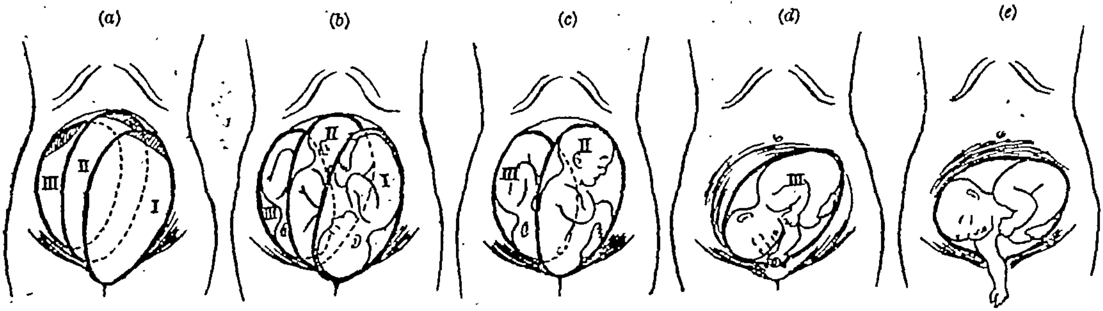
CASE 2.—A lad, aged 20 years, was admitted to the London Hospital on Dec. 11th, 1905. Three weeks before admission the patient noticed blood in his urine. There was no pain and no other trouble of any kind. The urine was the same colour throughout micturition and there was blood in it each time he passed urine; this continued until he came to hospital, the amount of blood passed gradually increasing; there were no clots in the urine. One week later pain came on in the lumbar region, usually starting in the left side, and then appearing in the right; it was worse when lying down and by night than by day; it passed forwards on the left side to the groin and along the penis, never to the testicles; it was never severe, but dull and aching in character. After the onset of hæmaturia he had to rise twice each night to pass urine. He could lie comfortably on either side as a rule, but when the pain was bad lay on the side least affected. There were no vomiting, no nausea, no puffiness of the face in the morning, and no swelling of the feet. He had had a cough for three months but there were no night sweats and he was not losing flesh. Three years previously he had a similar attack while in Russia, which lasted four weeks and was "cured by medicine." There was no history of syphilis or gonorrhœa and nothing to suggest hæmophilia. The family history contained nothing of interest.

On admission he was anæmic, but otherwise healthy in appearance. The pulse tension was higher than normal and the vessel wall was palpable. The testicles, prostate, and vesiculæ seminales were healthy. The chest and abdomen showed no abnormality. There were no retinal hæmorrhages nor œdema. Radiographs of the kidney and bladder regions were negative. The bladder was examined by means of the cystoscope and found to be healthy. The urine was smoky and red in colour, of specific gravity 1026; it contained albumin in proportion to the blood present. Microscopical examination showed the presence of blood cells, hyaline casts, and phosphatic crystals; there were no tubercle bacilli, and no bilharzia ova. The amount of urine passed in 24 hours was 52 ounces. The patient was instructed to take a mixture containing gallic acid and opium and was sent home still passing blood in his urine. On Dec. 29th he was readmitted. The hæmaturia had continued and the patient looked more anæmic. Mr. Fenwick again examined him with the cystoscope and saw blood coming from the left ureteric orifice; the efflux from the right ureter was small but clear. On Jan. 29th, 1906, he was again discharged, the urine then containing only a trace of blood. On Sept. 27th the patient returned. He had been well until two weeks accurate observation, since delivery is often partly effected by the time the medical man or midwife arrives.

The diagnosis of triplets before labour is usually somewhat difficult. Pinard relates how he recognised three distinct fœtal heads by palpation, whilst Duval heard three different fœtal hearts on one occasion. In the present case auscultation was difficult and unsatisfactory, but palpation should have given the clue to the diagnosis. The fact that the third head was hidden behind the breech of the second child made matters a little difficult. According to Edgar, 60 per cent. of triplet children present by the head, whilst the tendency to abnormal presentation is greatest in the case of the last child. This is the more readily understood when we reflect that we are dealing with an excessively distended uterus, which even when contracted down fairly well after the birth of the first two children is still likely to leave sufficient room for alterations to take place in the position of the last child. It must be rather exceptional to have, as in the present instance, vertex, breech, and shoulder presentations occurring in the same labour.

Triplets are said to occur chiefly from the twenty-fifth to the thirtieth year of life, a period which is accounted the most fertile, and during which the generative powers of a woman seem at their maximum. The mother's age, 30 years in this case, comes just at the end of this time of special reproductive activity.

The fact that the larger placenta showed a clear line of distinction between its two component parts and that one section was much smaller than the other, taken together with the observation that one child weighed a pound less than the other, leads to the consideration of the possibility of superfœtation. A tentative inquiry was put to the mother on this point, in response to which she volunteered definite and decisive information. The last menstrual period was from Nov. 13th to 18th, 1906. From that date on till March 19th, 1907 (when she first felt quickening), she was not on friendly terms with her husband and did not cohabit with him, with the single exception of Dec. 9th, 1906, on which date a temporary reconciliation took place. This date she fixed as the only possible one for insemination. The possibility of superfœtation was thus negatived and the almost exact duration of pregnancy, following on the single coitus, ascertained. Save during pregnancy and lactation the patient averred her menstrual times were always regular. One was due on Dec. 13th but was prevented by the fertilisation which must have occurred between Dec. 9th and 13th. Reckoning from Dec. 9th, 1906, to August 4th, 1907, gives the 238th day as that on which labour supervened. It is well known that labour usually comes on prematurely with triplets; but it is interesting to observe that reckoning the expected time of labour in the usual way from the beginning or end of the last menstrual period, the children would have appeared almost full time. The case therefore illustrates the large margin of error which is possible in the recognised methods of calculating the time of labour.



(a) Relative position of sacs. (b) Lie of fœtuses in utero. (c) After birth of first child. (d) After birth of second child, showing how the third infant changed position. (e) Position of third child before turning was performed.

A debateable question raised is the most favourable time for fertilisation. The current text-books say that just before or just after the menstrual period is the usual time, but most seem inclined to the view that the days following menstruation are more especially suitable. This, merely on *a priori* grounds, seems to me improbable. Given the discharge of an ovum or of a number of ova which become fertilised, I think it reasonable to conclude that the time when the mucosa is hypertrophied and engorged with blood is the most opportune for the lodgment, nutrition, and development of these ova. In this case we are provided with evidence, which seems perfectly trustworthy, to the effect that fertilisation occurred within the four days intervening between the time of insemination on Dec. 9th and the onset of the expected menstrual discharge on Dec. 13th. Triplets were the result. Neither amongst her near relatives nor those of her husband is there any other instance of multiple pregnancy—not even twins. It seems tempting to infer, therefore, that the time of fertilisation was a factor in the unusual fertility. If, as the text-books assert, the time just following menstruation is most commonly the time of conception, this case is a remarkable exception and would almost lead us to think that the pre-menstrual time is more favourable to the development of fertilised ova. It is, of course, impossible to dogmatise on such a question.

Triplets may arise from the fertilisation of one, two, or three ova. The more common origin of triplets is from two ova, one of which divides and gives rise to uniovular twins of the same sex. The rarer way was exemplified in this case, for the fertilisation of three ova was sufficiently proved. The larger placenta showed well-marked indication of being formed by the junction of two smaller ones; there were three separate cords and three complete bags of membranes. The chorions attached to the larger placenta were fused at the line of contact. The sexes of the children attached to the one placenta were different.

Quickening was first felt on March 19th, 1907. This was during the thirteenth week of pregnancy and must be considered rather early. Estimating roughly from this, the mother thought she had gone to full term.

The disposition of the parts made out by palpation before delivery, taken together with the actual mechanism as observed in the course of labour, enable us to give the lie of the fœtuses in utero and to describe how delivery was effected. I venture to give rough diagrams showing how they were situated relatively to one another. The children are numbered I., II., and III. in the order in which they were born. The fundal head and the head engaged in the pelvis were both easily made out. Probably the third head was behind the breech of the second child, for it was certainly not felt superficially. The legs of the first child and the breech of the third were very distinct, although, as said above, the true significance of the latter was not realised before labour.

The first child corresponded to a V_1 presentation. After she was born the breech of the second child quickly came down into the pelvis, and simultaneously the breech end of the third child inclined towards the mother's left side. After the delivery of the second child in the manner of a B_2 presentation, the head of the third, instead of sliding down to engage in the superior strait, hitched against the right side of the brim, whilst the breech fell still more over to the mother's left. This movement was possibly furthered by the manipulation of the uterus undertaken to prevent undue relaxation after the two children had been born. At this time the knob-like projections of limbs were palpated in the umbilical region, though the other parts of the child were not accurately made out by abdominal examination. Of course, there was now no head felt at the fundus. Finally the head slipped back completely into the right iliac fossa, the face still being anterior, whilst the right arm prolapsed outside the vulva when the membranes ruptured. A third oblique position was thus produced. The original lie of the children, therefore, was respectively V_1, B_2, and V_2, the last becoming third oblique after the birth of the other children. The unusual space left after the birth of the first two number of cases; where no changes in the fundi can be detected and the patient's general condition is good enough to warrant the administration of a general anæsthetic, operation may be advisable to check bleeding which does not react sufficiently to medical treatment.

Two methods of operation have been practised with some success. In the one, introduced by Dr. Edebohls, the capsule of the kidney is removed as entirely as possible. He even claims that this procedure has a curative effect on the nephritis itself. Four cases were treated in this way; in all the hæmaturia ceased for a time, but two relapsed within a few months. The other method is described by Mr. Fenwick. He believes that the blood escapes from the lower pole of the kidney; he therefore makes an incision into this part of the kidney substance without opening the renal pelvis. This causes a scar to form which obliterates the vessels responsible for the bleeding, and so stops it. Case 2, quoted above, is an example of this method.

Conclusions.—Renal hæmorrhage is not at all uncommon in the course of chronic interstitial nephritis and differs from other hæmorrhages occurring in the disease, as it often appears very early. This leads to difficulty in diagnosis, but may enable cases of chronic nephritis to be recognised sooner than they otherwise would be. Medical treatment is, as a rule, sufficient to control the bleeding, but recurrence is probable. Surgical treatment may be necessary in rare cases of severe hæmaturia occurring early in the disease.

London Hospital, E.

THE TREATMENT OF DISEASE AND DEFORMITY DUE TO SCAR TISSUE.

By J. SNOWMAN, M.D. BRUX., M.R.C.P. LOND.

A BRIEF moment's thought suffices to conjure up a host of lesions which may represent the remains of a subsided inflammation. Both medicine and surgery are concerned with these crippling results of injury or disease. The scar of a burn may distort the features or impede the movement of an important joint, the healing of any simple incision may be the seat of an ugly cheloid, the cure of a gastric ulcer may herald pyloric stenosis, and an adherent pericardium may remain as the permanent legacy of a departed rheumatic attack. Such troubles as these are all testimonies of a cured process of inflammation. The lessons of pathology indicate that it is not desirable to interfere with inflammatory reaction, even if we possessed the clinical means of controlling it. But it is not possible to contemplate the havoc which inflammation may leave in its train without the search for a method of alleviating it.

Surgical measures obviously present themselves as offering the prospect of remedying some deformities caused by scars. In cases where the clothes have been involved in a conflagration and the whole axilla has been burnt it occasionally happens that the arm becomes fixed to the chest-wall by adhesions. This disability can be relieved by operation—sometimes an extensive one. Scar-like bands causing intestinal obstruction likewise yield to the knife. Similarly gastric adhesions, which have been responsible for some of the most distressing forms of chronic dyspepsia, have been effectually dealt with by surgeons after laparotomy. Adhesions after injuries to joints are successfully treated by massage and passive movement.

The majority of scars concerning which advice is sought are objectionable, not because they interfere with function, but because they are disfiguring. Hypertrophic scars and cheloid may in addition be painful, but the cosmetic reasons for demanding treatment are urgent enough. The pitting of small-pox may serve as an example. Malcolm Morris [1] relates a case wherein the scarring was so extensive as to render the patient an object of horror. He was treated by inducing a strong inflammatory reaction by the application of resorcin ointment to the face. With the subsidence of the inflammation desquamation set in. The thickened borders of the scars disappeared and the pits became raised to the level of the surrounding skin, so the patient's face no longer debarred him from social intercourse. Resorcin is the type of a drug which, carefully used, sets up just enough hyperæmia to suffice for the absorption of the organised exudate in the subcutaneous tissue, but a successful result is always a problematical matter. Massage and painting with iodine are milder measures calculated to induce hyperæmia with a similar object, but with similar limitations.

There is one variety of scar tissue for which an opposite line of treatment is recommended—i.e., cheloid. This differs from ordinary scar tissue in containing an abundance of capillaries. Local treatment aims at diminishing its vascularity. To this end lead collodion, elastic pressure, deep incisions, and electrolysis are employed but with doubtful success only.

The introduction of light and x ray treatment has constituted a real advance in the therapeutics of scar tissue, more especially when it is in a thickened and hypertrophic condition. When such scars contract they give rise to most unsightly appearances and light treatment has, in numerous instances, achieved marvellous improvement or has, indeed, effected absolute cures. It is well known that the scars left when lupus nodules have been exposed to the Finsen light are smooth and soft. Experience has now shown that the exposure of hypertrophic contracting scars to the Finsen light causes an inflammatory reaction, on the subsidence of which the scars generally become flatter, more supple, and tend to vanish. X rays have also produced excellent results in the same conditions. These rays produce fatty degeneration of the cells on which they act and then apparently their absorption follows. Fibrous elements in the skin are the most difficult to influence in this way, but it seems quite clear that even fibrous tissue will undergo degeneration. An active hyperæmia is associated with this process, an exudation of leucocytes invades the cells in the scar, and they are eventually removed by phagocytosis. Light treatment, therefore, affords most benefit when it is necessary to deal with scars from a cosmetic point of view and the Finsen light is undoubtedly the method of election.

But there is yet another means of treatment which may compete with radio-therapy in the matter of results and is superior to it in that it requires no elaborate apparatus for its application. The process is merely one of hypodermic medication and the published records of the cases treated are definitely encouraging. The drug employed is fibrolysin. This is a combination of one molecule of thiosinamine with half a molecule of salicylate of sodium. For some few years past desultory references to thiosinamine have been made in papers on dermatology, in connexion with the treatment of unsightly scars, cheloid scleroderma, and lupus. It was, indeed, for the last affection that Hebra introduced the drug into therapeutics. Its constitution is indicated by the chemical terms allyl-sulphocarbamide or allyl-sulpho-urea. It is prepared from the oil of mustard and occurs in colourless crystals, is insoluble in water, and smells faintly of garlic. When used for hypodermic injections it is dissolved in alcohol. Its effects are limited to the blood-forming organs. Several hours after its injection in doses of from one to four grains the leucocytes in the blood are greatly diminished in number, falling as low as 4000 per cubic millimetre. This condition lasts, however, but a short time and is followed by a pronounced leucocytosis. While this change is proceeding a destruction and absorption of fibrous exudation and cicatricial tissue are said to occur.[2]

The claim which Hebra made for thiosinamine in the treatment of lupus was never really substantiated but the extensive clinical use of the drug has shown that there are numerous morbid conditions in which it exercises therapeutic effects of great value. These conditions are all identical in that they are the consequences of inflammatory action, but though their histology is similar they differ widely in their anatomical disposition and pathological results. Thiosinamine undoubtedly possesses a specific action on scar tissue. This obviously implies therapeutic powers of no ordinary extent, for scar tissue dominates morbid anatomy in a high degree. Scar tissue is not limited to the cicatricial fibrosis following chemical or mechanical injuries; it includes the fibrous capsules which arise from the irritation of foreign bodies, abscesses, gummata, and growths, and it embraces the fibrotic thickenings of chronically inflamed serous membranes. Indeed, nephritis and hepatitis will smoulder away only to leave the liver and kidney scarred by bands of fibrous tissue. Much of this fibrosis is protective and conservative in its function and a drug which can indiscriminately act on fibrous tissue wherever its seat and whatever its purpose may be a dangerous remedy. The softening of the fibrous content of the serum. When the patient's own cells were used, however, the result was very different. In only 19 cases were the indices between 0·8 and 1·2; 25 were below 0·8 and none was above 1·2. Still more marked was the relation of the index found when the patient's cells were used to that found when my cells were used, for the index was lower with the patient's own cells in 38 cases and higher in only four, while in two the index was the same with both the patient's cells and my cells.

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[1] Practitioner, July, 1905

[2] Wood: Principles and Practice of Therapeutics, thirteenth edition.

My thanks are due to Dr. C. Slater for the use of his laboratory and to Dr. A. F. Stabb for giving me access to his patients. The following list gives the period of labour at which the blood was taken and the two indices:—

Case.	Number of hours or days in labour when the blood was taken.	Hours after delivery when the blood was taken.	Index with patient's cells.	Index with control cells.
1	4 hours.	—	0·73	1·0
2	5 „	—	0·63	1·0
3	Short cervix.	—	0·93	0·86
4	„ „	—	1·0	1·16
5	„ „	—	0·8	1·0
6	—	1	0·8	0·8
7	21 hours.	—	0·9	1·1
8	9 „	—	0·6	0·9
9	7 „	—	0·83	1·27
10	15 „	—	1·15	0·71
11	—	6	0·77	1·04
12	3 days.	—	0·75	1·17
13	12 hours.	—	0·74	1·11
14	14 „	—	0·6	1·0
15	3 „	—	0·65	1·2
16	6 „	—	0·7	1·2
17	12 „	—	0·51	0·62
18	12 „	—	0·83	0·83
19	18 „	—	0·6	1·01
20	30 „	—	0·73	1·06
21	8 „	—	0·76	1·06
22	7 „	—	0·72	0·92
23	12 „	—	0·64	1·29
24	12 „	—	0·9	1·2
25	8 „	—	0·7	0·91
26	12 „	—	0·7	0·92
27	10 „	—	0·66	1·0
28	24 „	—	1·0	1·06
29	—	12	0·8	0·9
30	48 hours.	—	1·0	1·2
31	36 „	—	0·44	0·98
32	24 „	—	0·5	1·1
33	—	1½	1·0	1·3
34	8 hours.	—	1·16	1·18
35	—	7½	0·9	1·13
36	—	½	0·6	1·06
37	—	—	0·61	1·0
38	—	8	0·81	0·75
39	14 hours.	—	0·65	0·75
40	30 „	—	0·52	1·2
41	—	5	0·64	1·0
42	—	2	0·91	1·0
43	—	2	0·87	1·05
44	—	3	1·14	1·04

New Cavendish-street, W.

SANITARY INSPECTORS' EXAMINATION BOARD.—An examination for certificates of qualification for the appointment of sanitary inspector or inspector of nuisances under Section 108 (2) (*d*) of the Public Health (London) Act, 1891, will be held in London on Tuesday, May 5th next, and the four following days. An examination will also be held in Birmingham in June next if sufficient candidates notify their intention of presenting themselves before May 18th. Particulars of the above examinations will be forwarded on application to the honorary secretary, the Sanitary Inspectors' Examination Board, 1, Adelaide-buildings, London Bridge, London, E.C.

"CURES" FOR ASTHMA: FATAL CASE FROM AN OVERDOSE OF OIL OF SAGE.

BY HENRY T. M. WHITLING, M.B., B.S. DURH., M.R.C.S. ENG.

ON Feb. 7th last my partner, Dr. G. D. Laing, was called at 9.30 A.M. to a woman, aged 44 years, and on his arrival found her collapsed with cardiac failure and dyspnœa, after having taken about two teaspoonfuls of oil of sage. He injected strychnine hypodermically and she rallied and appeared better before he left. Later, at 11.30, I was called to her urgently since she was much worse, and we proceeded to her house together. On my arrival I found her undressed and lying on a bed, with a deeply cyanotic face, "air-hunger," and with epileptiform convulsions. The extremities were cold, the hands being peculiarly leaden-coloured; the heart was most irregular and too erratic to be counted but very quick. Though apparently dying, as I learnt that she had not vomited, I passed down the tube of a stomach pump and extracted about one and a half pints of fluid, smelling most powerfully of the characteristic odour of sage. Then I washed out the stomach with hot water until it returned perfectly clear, and pumped 8 ounces of hot milk, white of egg, and half an ounce of brandy into the stomach. The patient was wrapped in hot blankets and given plenty of air, while my partner again injected strychnine. She, however, died in convulsions about 2 P.M. I was shown a 4 ounce bottle of oil of sage from which 2 drachms had been taken.

A necropsy, limited to the trunk, was performed by myself and Dr. Laing on Feb. 11th, and we found the heart to be normal, the muscle well developed, and no valvular disease or degeneration. The lungs were emphysematous; no tubercle was present. There was some engorgement at the bases; no bronchitis was present. The stomach was dilated; only some of the milk which had been injected was left. There was no strong smell of oil. Patchy ecchymosis was present along the greater curvature towards the pylorus; there were no ulceration, perforation, &c. In the intestines there was patchy ecchymosis of a similar character extending along the mucous membrane for from 2 to 3 feet only, and there was a strong smell of sage. The liver was normal; no signs of alcoholism were present. The kidneys were normal. The uterus was normal; the woman was not pregnant.

This woman was a sufferer from chronic asthma and had been recommended by a friend to take one drop of oil of sage, gradually increased to five drops, in two teaspoonfuls of brandy every morning for 14 days. By some blunder two teaspoonfuls of oil of sage were considered by the victim to be the dose, and the first dose taken ended fatally as above. The peculiarity of the case is that so far as my personal efforts have been able I can find no other fatal case of poisoning by oil of sage in England, though a considerable number of records have been searched. Moreover, it is extremely difficult to procure, one very large and eminent firm of chemists in the Midlands never having stocked or sold it. Sage "tea" (decoction) is generally used in the country for "fevers," "chest" complaints, and for uterine derangements. As regards the latter, it is credited with an action of an abortive, so we had to be certain that this woman was not pregnant, as in large doses of these oils there may be, and often is, an ulterior motive beyond a cure for chest troubles. In this case there was no pregnancy, nor did she or her husband ever suspect it.

The composition of oil of sage has kindly been supplied to me by Messrs. Burroughs and Wellcome, to whom I am also greatly indebted for looking up notes on its therapeutical action. I quote the following account of its pharmacology from the nineteenth edition of the "United States Dispensatory."

SALVIA (SAGE).

Both these and the flowering summits have a strong fragrant odour, and a warm, bitterish aromatic, somewhat astringent taste. They abound in a volatile oil, which may be obtained separate by distillation with water. Muir (J. Chem. S., 37, p. 678) found it to contain a terpene boiling at 150° C. (312·8° F.), another boiling at 171° C. (339·8° F.) thujone, $C_{10}H_{16}O$, a liquid boiling at from 197° to 203° C., and ordinary camphor, $C_{10}H_{16}O$. In the fresh oil the first terpene predominates. On standing, the amount of thujone increases, and then the camphor. The oil from the English leaves contains only a sesquiterpene $C_{15}H_{24}$, of the boiling point 260° C. (500° F.). Wallach (Ann. Ch. Ph., 1829) states that the first portions contain pinene and cineol but the greater portion consists of thujone, $C_{10}H_{16}O$ (formerly called salviol). Ferrous sulphate strikes a black colour with infusion of sage.

patients with pronounced deafness may benefit to the extent of greatly improved hearing for speech and noise, but recovery to the degree of appreciating the ticking of a watch is not to be anticipated. Tinnitus also undergoes marked diminution.

The injections of fibrolysin have occasionally been followed by temporary untoward effects. One observer has noted pyrexia, another a fall in the pulse rate. Discolouration of the skin around the puncture may persist for some weeks or a small nodule lasting about a fortnight may form at the site of injection. Some patients have complained of headache and lassitude but these symptoms disappear after a few hours. Physical weakness, even approaching to paresis limited to one or two limbs, seems to be met with at rare intervals. Some of these constitutional effects must be attributed to the pharmacological action of the drug in producing serous congestion and hyperæmia. At any rate, the onset of epistaxis or menstruation after the injection of fibrolysin, which has been noted in some instances, is explained on this assumption. On the whole, however, no more apprehension need be entertained by the practitioner who has decided to try the effect of fibrolysin in a suitable case than he would feel in the injection of diphtheria antitoxin.

Brondesbury, N.W.

LABOUR IN A CASE OF TRIPLE PREGNANCY, WITH OBSERVATIONS THEREON.

BY V. ZACHARY COPE, B.A., M.D., B.S. LOND.,
SURGICAL REGISTRAR TO THE LONDON TEMPERANCE HOSPITAL; LATE RESIDENT MEDICAL OFFICER, BRITISH LYING-IN HOSPITAL, LONDON.

THE rarity of accurate observations upon cases of triple pregnancy makes it probable that the account which follows may be of general interest. For permission to publish and for suggestions in respect of this case I am indebted to Dr. G. Drummond Robinson, physician to the Endell-street Hospital.

The patient, a married woman, aged 30 years, was admitted to the wards of the British Lying-in Hospital, under the care of Dr. Drummond Robinson, at 10.30 A.M. on August 4th, 1907. Labour had begun at 6 A.M. the same morning and was in full progress at the time of her admission. It was her sixth confinement. Ten years previously, at the age of 20 years, she had been delivered of her first child. The infant was premature and only lived a short while. Since that time she had given birth to four children at full time. Three of these were still living. The abdomen was enormously distended by an evidently abnormally large uterus. Although the patient was a multipara the skin was as tense as in a primipara and showed numerous pink "lineæ." The flanks were bulged out far back so that the general appearance resembled that caused by an excessive ascitic effusion. The superficial abdominal veins were prominent, whilst the veins of the legs were markedly varicose. By palpation a hard, freely moveable mass, which could be nothing other than a fœtal head, was felt in the left hypochondrium. On making Pawlik's grip another head was felt engaged in the pelvic brim, whilst a breech, or that which felt exactly like a breech, was palpated in the right hypochondrium. The backs of two fœtuses were made out to be lying one in each flank looking outwards. Twins were diagnosed and the conclusion was arrived at that the head engaged in the pelvis belonged to the body and breech on the mother's right, whilst the fundal head was presumed to correspond with the body on the left side of the mother. This diagnosis was upset, however, by movements both felt and seen to occur just below the fundal head on the mother's left. A knob just like a foot was felt in this situation. I then surmised that this must represent the breech end of the advancing head, thus making the first child a first vertex presentation. Consequently the fundal head was inferred to be in connexion with the fœtal back on the mother's right and it was thought possible that a mistake had been made in taking the mass in the right hypochondrium to be a breech. But the distinct gap between the fundal head and this mass was not accounted for and since the diagnosis of triplets did not occur at the time I confessed myself puzzled, but slurred over the difficulty in order to express a definite diagnosis to the midwives who were present. The observations made by abdominal palpation would, if logically followed out, have led to the correct diagnosis. The lax condition of the abdominal muscles was favourable to palpation but the passive tension caused by the excessive amount of liquor amnii largely counteracted this. Auscultation did not give much aid. A fœtal heart was indistinctly heard on each side, but the amount of fluid present prevented any accurate observations being made.

Labour pains were strong and frequent. At 11.50 A.M. a vaginal examination revealed the vertex of the first child low down in the pelvic cavity, the os uteri fully dilated, but the membranes still intact. The latter were therefore ruptured by the finger. At 11.55 A.M. a rather small female child was born in the manner corresponding to a first vertex position. A slight pause ensued and I made another vaginal examination to determine how the second child was engaging. It was found to be entering the pelvis breech first—a complete pelvic presentation. The second bag of membranes was still unbroken and was not interfered with for a few minutes in order that a pupil-midwife might also examine. Before that could be accomplished, however, strong pains returned, and about five minutes past 12 the second child was born completely enveloped in the amnion which had to be broken to liberate the infant. The placentas did not come away but still the uterus remained too large to be completely accounted for by the retention of these. Moreover, some small knob-like projections were felt by the hand which manipulated the uterus. With the idea that these might be fœtal extremities another vaginal examination was undertaken. A third bag of membranes was found presenting and the hard resistance of a vertex was felt on the right of the pelvic inlet, as if slipping down from the right iliac fossa to engage in the brim. It was announced to those present that a third child was presenting by the vertex. Progress was slow, so I examined again and found the position changed. The fœtal vertex could not now be felt but a limb was distinguished floating in the amniotic sac over the pelvic inlet. Hastily concluding this to be a foot I ruptured the membranes, when to my surprise an arm rapidly prolapsed through the vulva, whilst at the same time very strong and more painful uterine contractions supervened. Careful examination now showed the child's head to be in the right iliac fossa and the right shoulder impacted in the pelvic cavity, with the abdomen looking forward and right arm prolapsed. There seemed no prospect of spontaneous delivery despite that the child was a little smaller than usual, so an anæsthetic was administered and internal version performed. The child's left leg was brought down. The umbilical cord got caught round the limb as it descended and the leg had to be well flexed before a loop could be slipped round the knee and over the limb in order to liberate the child. Delivery was then effected without much difficulty. The infant was in a condition of white asphyxia, but revived after careful resuscitative measures. Immediately after the birth of the last child its placenta was expelled and was followed promptly by a larger placenta with two cords attached belonging to the other two children. A considerable but not excessive amount of blood was lost and the mother's condition throughout remained very good.

The first child, a girl, weighed 4 pounds 10 ounces. The second was a boy, weighing 5 pounds 10 ounces. These two were attached to a single large placenta by two separate cords. The other child was a girl, also weighing 5 pounds 10 ounces. It had a separate placenta. The larger placenta weighed 27 ounces and measured 10 inches by 7 inches. The smaller was 6 inches by 7½ inches and weighed 23 ounces; over half its circumference the membranes were attached an inch or more internal to the margin of the placental substance. The umbilical cords were 14½ inches, 18 inches, and 12 inches long respectively.

Remarks.—The occurrence of triplets is comparatively uncommon, being about once in 6000 labours in Great Britain. In Ireland and some continental countries the proportion is a little higher. Still more rarely does it happen that delivery takes place in a building where particular observation can be given to the mechanism of labour. During the last 20 years no other case has occurred in the wards of the British Lying-in Hospital, nor has there been any case of triplets at Queen Charlotte's Hospital till last month. There have been two cases since 1880 at the General Lying-in and one at the City-road Hospital during the last ten years. Cases have certainly been reported from out-patient departments but it is much more difficult to keep them under

Institute was administered, 70 cubic centimetres being injected into the flank. For the next three days the patient's condition remained practically unchanged. On the 10th the legs were not quite so rigid. He improved daily until the 25th, on which day he complained of severe pain in his wrists, elbows, and knees, which were tender and swollen. He had also a well-marked antitoxin rash and his temperature went up to 100° F. These symptoms lasted for three days and then subsided. The patient made a complete recovery.

It is interesting to note that this is the third case of tetanus which I have successfully treated with antitoxin.

My thanks are due to Dr. H. P. Potter, medical superintendent of the infirmary, for permission to publish the notes of this case.

Kensington.

A CASE OF STRANGULATED LEFT INGUINAL HERNIA CONTAINING CÆCUM AND APPENDIX.

BY C. E. RUSSEL-RENDLE, F.R.C.S. EDIN.,
ASSISTANT SURGEON, SOUTH DEVON AND EAST CORNWALL HOSPITAL.

A MALE infant, nine months old, was admitted into the South Devon and East Cornwall Hospital on April 23rd, 1907, with a strangulated left inguinal hernia. There was a history of a "lump" occasionally visible in the left groin for some two months previously; four days prior to admission it had failed to disappear and the child had been taken to the out-patient department where the hernia had been reduced. On admission there was a fairly large lump on the left side of about the size of a bantam's egg, presenting the usual signs of strangulation. This had lasted for five hours. Under chloroform the usual operation was undertaken. The first loop of bowel that appeared was small intestine but more remained behind, which on investigation proved to be part of the cæcum with an appendix nearly three inches long showing signs of previous inflammation. The appendix was removed, the bowel was reduced, and the canal was closed with mattress sutures of chromic gut. The patient went out perfectly healed on May 30th. Three weeks later he was readmitted with a hernia (not strangulated) on the opposite side. There had been no previous history nor had any signs of a hernia been seen during his stay in hospital. A radical cure was performed on June 24th and the child left the hospital three weeks later. Both herniæ were of the acquired variety, neither testis being seen, but each in its proper place in the scrotum.

Remarks.—A left-sided hernia of cæcum and appendix is an extremely rare condition, especially in so young an infant, and on this account I thought the case worth recording. In 1891 a case of appendix and cæcum in a left femoral hernia in a woman, aged 58 years, occurred in St. Bartholomew's Hospital, and is recorded in Vol. XXVII. of its reports. Mr. W. McAdam Eccles also quotes a case under the care of Thiery where the appendix alone was found in the left inguinal hernia in a male, aged 58 years, but these are the only two cases that I can find. There was no transposition of viscera and therefore I assume that the meso-cæcum was unusually long, although I could not demonstrate it at the operation. It was curious, also, that a hernia should develop on the opposite side so suddenly and so soon after the first one had been dealt with.

Plymouth.

ROYAL INSTITUTION.—The following are among the lecture arrangements after Easter: Professor F. T. Trouton, two lectures on (1) Why Light is Believed to be a Vibration, and (2) What it is which Vibrates (experimental course); Professor William Stirling, two lectures on Animal Heat and Allied Phenomena; Mr. W. Bateson, three lectures on Mendelian Heredity; and Dr. Alexander Scott, three lectures on the Chemistry of Photography (experimental course). The Friday evening meetings will be resumed on May 1st, when Professor Joseph Larmor will deliver a discourse on the Scientific Work of Lord Kelvin (with experiments and typical apparatus illustrative of his discoveries and inventions). Succeeding discourses will probably be given by, among others, Dr. J. Y. Buchanan, Dr. H. T. Bulstrode, Professor Kapteyn of the University of Groningen, and Professor Sir James Dewar.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Hypnotism.

A MEETING of this section was held at the Apothecaries' Hall, Blackfriars, on March 24th, Dr. T. E. BURTON BROWN, the President, being in the chair.

Dr. JOHN MILNE BRAMWELL delivered an address on Hypnotism. He described the gradual evolution of hypnotic theory from the time of Elliotson and the later mesmerists to the present day. Mesmerism, Dr. Bramwell pointed out, was the first anæsthetic, and hypnotic anæsthesia was still occasionally induced at the present day. At the same time he regarded this as being more of scientific than practical interest, for only a limited number of persons could be hypnotised deeply enough for operative purposes. Dr. Bramwell gave an account of his own work and drew attention to the fact that formerly his proportion of successes had been greater when he was able to choose his cases from amongst the patients of his own general practice. At present, when the cases sent to him were almost invariably long-standing ones in which other methods of treatment had been tried without success, his difficulties were considerably increased. Still, even in such cases, success was often striking and sometimes rapidly obtained. Dr. Bramwell described the methods which he adopted. He rarely found it necessary to induce deep hypnosis, but a restful, drowsy state seemed to favour the action of suggestion. Why suggestion administered in this form acted with more force than the suggestions of ordinary life he was unable to explain adequately, but the fact that this was the case came under his daily observation.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

A MEETING of this section was held on April 3rd, Dr. JAMES BARRY BALL, the President, being in the chair.

The following cases and specimens were exhibited:—

Dr. W. JOBSON HORNE: An Autograph Letter by Johann Czermak.

Dr. JAMES DONELAN: 1. A Swelling of the Right Vocal Cord with a Projection at the Left Vocal Process in a phthisical woman. 2. Two cases illustrating the Effects of Neglected Adenoids.

Dr. STCLAIR THOMSON: Two radiographs showing the Value of X Rays in Sounding the Frontal Sinus. In one radiograph the probe had entered an ethmoidal cell; in the other it was, with the help of the x rays, passed correctly into the frontal sinus.

Dr. J. DUNDAS GRANT: A case of Thyrolingual Fistula successfully treated by electrolysis and excision; it had twice recurred after excision alone.

Mr. H. BETHAM ROBINSON: A specimen of Pedunculated Lymph-angeioma removed from the anterior commissure of the larynx of a man aged 35 years.

Dr. R. H. SCANES SPICER: A case of Papilloma of the Left Vocal Cord in a man aged 76 years.

Dr. A. STANLEY GREEN and Dr. H. LAMBERT LACK: A Smooth Red Sessile Growth, considered to be a tuberculoma, springing from the posterior laryngeal wall below the cords in a phthisical woman.

Mr. C. A. PARKER: A case showing great Nodular Infiltration of the Septum and Outer Wall of Both Nares of Uncertain Causation.

Dr. DAN MCKENZIE: A Suppurating Hæmatoma of the Septum, with a Fistulous Opening into the Gingivo-labial Fold.

Mr. P. R. W. DE SANTI: A case of Bilateral Swelling of the Septum Nasi.

Mr. W. H. KELSON: Bony Outgrowths from the Maxilla and Mandible in a man, aged 30 years. The case was generally considered to be one of leontiasis ossium.

Mr. CYRIL A. B. HORSFORD: A new instrument for passing a suture through the epiglottis to facilitate intralaryngeal operations.

Dr. H. J. DAVIS: 1. A case of Fibroma at the Junction of combined with the manipulation of the uterus through the abdominal wall were contributing factors in the change of position. Children V_1 and B_2 had a conjoined placenta. The change in position of the third child was most probably the reason why this large placenta came away last of all.

The puerperium was uneventful. The uterus involuted quite normally. The lax condition of the abdominal walls after delivery was very remarkable. Puerperal complications are said to occur more commonly in the case of triplets. This is probably because of the unusual strain on the mother and the liability to complications during the labour. No collapse occurred after labour, although such an enormous reduction in the intra-abdominal tension had taken place so comparatively suddenly. I believe that it is in these cases that the application of a firm binder is more especially useful in averting collapse.

In cases of triplets the children are often very premature and many are stillborn. The fœtal mortality (according to Edgar) is about 31 per cent. The children delivered at this labour were certainly slightly premature but they all thrived very well after birth. However, I have recent information that one child died when two months old from broncho-pneumonia. The other two are in splendid condition.

Bessborough-gardens, S.W.

NOTE ON AN ABNORMALITY OF THE LIVER SIMULATING A THORACIC TUMOUR.

By E. A. ELDER, M.A., B.Sc., M.B., Ch.B. Edin.,

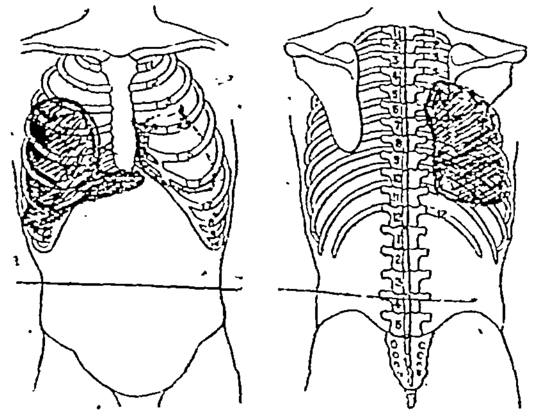
AND

J. M. POSTLETHWAITE, B.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,

HOUSE SURGEONS, BLACKBURN AND EAST LANCASHIRE INFIRMARY.

THE patient, a man, aged 57 years, was admitted to the Blackburn and East Lancashire Infirmary on the evening of Dec. 16th, 1907, partially unconscious and suffering from dyspnœa. He had been working up to three days previously. The history of the illness was that on Dec. 13th while stretching up to the mantelpiece he was seized with sudden pain in the chest and with shortness of breath.

On admission he was suffering from severe dyspnœa and had a pulse rate of 106, his temperature being 101·6° F. The lungs produced a highly resonant note on percussion, except on the right side, where an area of dulness extended from the second interspace to the costal margin in front and going as high as the spine of the scapula behind. Over the dull area was an absence of breath sounds, of vocal resonance, and vocal fremitus, but harsh vesicular breathing, accompanied by numerous crepitations and a few sibilant rhonchi, could be heard over the rest of the lungs. The heart appeared to be enlarged; the apex beat was at the level of the sixth rib, half an inch outside the nipple line. The heart sounds were muffled and considerably masked by respiratory sounds. The legs were œdematous up to the knees. There was no albumin in the urine. The patient was restless and irritable and apparently unable to answer questions. He gradually lost consciousness and died on Dec. 18th.



Rough diagram to illustrate area of absolute dulness on the right side of chest. The shading should have extended up to the lower border of the second rib in front.

A post-mortem examination was made. On opening the right thoracic cavity a large, smooth, rounded tumour was seen projecting up through the right side of the diaphragm into the thoracic cavity and displacing the lower and middle lobes of the right lung, which were collapsed and shrunken into a very small size. The lower and middle lobes were pushed up by the tumour into the upper and back part of the right thorax against the upper lobe which was emphysematous. The upper convex surface of the tumour was covered by the diaphragmatic pleura and reached to the level of the second rib. The inferior surface forming the base was slightly concave and rested upon what was apparently the liver beneath it but at the same time was attached all round to the remainder of the diaphragm. On opening the abdomen the liver was seen in its usual position but seemed to be of unusual shape and to be minus the gall-bladder. It extended from the right hypochondrium almost to the left but no division into the right and left lobe could be discerned. After removing the organ from the abdominal cavity the gall-bladder was observed lying behind it and connected with the thoracic tumour which on section was found to consist of liver substance. These two liver masses were connected by a duct from each, which joined to form a common duct leading to the duodenum. A third small lobe of liver substance was found situated above on the left extremity of the lower lobe, being connected to it by a very narrow neck of liver tissue and surrounded by a fold of peritoneum. The weight of the tumour was 38 ounces, the smaller mass 23 ounces, and the smallest three ounces. The heart: the pericardium was adherent and very much thickened. The right auricle and ventricle were filled with ante- and post-mortem clots. The tricuspid valve admitted four fingers to the middle joint; there were old vegetations on the valve. The left ventricle was hypertrophied. The aortic valves were apparently normal. The lungs: on the right side the pleura was slightly adherent to the chest wall. The lower and middle lobes were collapsed, the upper being emphysematous. On the left side the pleura was extensively adherent to the chest wall. The lung was emphysematous, the lower lobe being œdematous. The spleen was very small; it measured three inches by one inch.

We are indebted to Dr. M. Bannister for his kind permission to publish this case.

Blackburn.

THE CELL AS A FACTOR IN PHAGOCYTOSIS.

By H. WANSEY BAYLY, M.A. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,

ASSISTANT IN THE BACTERIOLOGICAL DEPARTMENT OF ST. GEORGE'S HOSPITAL; DIRECTOR OF THE OPSONIC DEPARTMENT OF THE CLINICAL RESEARCH ASSOCIATION.

(From the Bacteriological Department, St. George's Hospital.)

IN the paper on Phagocytosis read before the Medical Section of the Royal Society of Medicine on March 25th[1] Mr. S. G. Shattock and Mr. L. S. Dudgeon emphasised the importance of the rôle of the cell and demonstrated that it, as well as the serum, played a part of some importance. In July, 1907, with the view of endeavouring to ascertain whether fatigue lowered the power of resistance to infection by acting on the cell or the serum, I made 88 determinations of the tuberculo-opsonic index of 44 women in labour in Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W. As the observation seems to suggest that the lowered resistance to infection in women during and immediately after labour may be due at least in part to want of avidity of the cell, I have thought that it might be of some interest to those who heard, or have since read, the interesting paper mentioned above.

With each patient's serum I made two determinations of the tuberculo-opsonic index, in the one case using the patient's own cells and in the other using my cells. I found, using my own cells, that in 39 cases the index was between 0·8 and 1·2. Of the remaining five cases three were above 1·2 and only two below 0·8, thus confirming Dr. G. T. Western's conclusion that fatigue does not lower the opsonic resolving lobar pneumonia, was studded with small abscesses, and showed typical septic broncho-pneumonia; the pus of the abscesses showed the same organism. The origin of the trouble was the bladder. It was the first instance in which he had found the staphylococcus aureus producing the particular group of symptoms.

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[1] THE LANCET, March 28th, 1908, p. 933.

Dr. HARVEY exhibited specimens of Infective Mouse Tumours which were obtained originally from Dr. E. F. Bashford of the Cancer Research Laboratory and had been transplanted for five or six generations. They grew successfully in from 40 to 60 per cent of the mice inoculated. The tumour was found normally in mice; one tumour would be sufficient to inoculate 100 mice. The transplantations were generally difficult and it took some time for the tumour to accustom itself to the new race. In one case a tumour worked its way through the ribs.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Sheffield on March 27th, Dr. A. J. Wallace (Liverpool), the President, being in the chair.—A vote of condolence to Mrs. William Walter of Manchester on the death of her husband was moved by Mr. R. Favell, seconded by Dr. D. Lloyd Roberts, and supported by Dr. J. E. Gemmell and Dr. Martin, and was carried.—Dr. Miles H. Phillips (Sheffield) exhibited a specimen of Uterus Bicornis Unicollis, with atresia of the external os and absence of the vagina. The patient, aged 16 years, had enjoyed good health up to October, 1907, when she began to suffer from pain in the right iliac region, accompanied by some febrile disturbance. She had never menstruated. The specimen was removed by operation. Recovery was uneventful.—Dr. Lloyd Roberts (Manchester) showed a Vaginal Fibroma removed from a patient, aged 46 years, who had had six pregnancies. The labours had always been difficult. She complained of pain and difficulty in micturition and an irregular sanious vaginal discharge. The tumour, which had a sessile attachment to the left fornix of the vagina, was removed by enucleation.—Dr. H. Briggs (Liverpool) communicated a case of Acute Complete Inversion of the Uterus treated by manual reduction on the twentieth day after labour. The patient, aged 28 years, married four years, had had two miscarriages previously to the present full-term pregnancy. The labour was slow on account of premature rupture of the membranes and the delivery by forceps under chloroform occupied two hours. During the third stage fundal pressure had been used on account of severe hæmorrhage. For three weeks the patient had been nursed at home by a friend, during which period there had been febrile disturbance, the temperature being from 101° to 105° F., with a definite rigor on the day before admission to hospital, severe abdominal pain with profuse vaginal bleeding, dribbling and incontinence of urine. The catheter had been repeatedly used and a vaginal douche of lysol twice daily. No vaginal examination was made till the nineteenth day, when she was at once removed to hospital. On examination the enlarged inverted uterus lay in the vagina, its mucosa was slightly ulcerated, and the ring of cervix above was faint and sharp. Under ether the well-marked uterine cup became palpable bimanually and reduction was effected by continuous increasing pressure gradually exerted so as to raise the body of the uterus through the thin cervical ring without damage. A douche of sterilised water at 120° was then used. The reduction occupied 20 minutes. For the first seven days intra-uterine douches of sterile water were given twice daily. Convalescence was tardy, with febrile symptoms, the temperature being from 101° to 105°, including six rigors during the first three weeks. The patient left hospital eight weeks after the reduction of the inverted uterus.—Dr. Briggs and Dr. J. F. Edmiston narrated a case of Severe Concealed Accidental Hæmorrhage occurring in a patient, aged 26 years, 5-para, with a history of easy labours previously. At 11.30 A.M. on March 6th, 1908, three days short of the full term, the patient was seized with severe abdominal pain and vomiting. At 7.30 P.M. the collapse became grave; she was pallid, cold, and restless, with a thready intermittent pulse of 152, and a subnormal temperature. The physical signs of a tense, tender, full term uterus were present. Fœtal heart sounds were inaudible. Vaginally the cervix admitted two fingers, there was no bleeding, and the examining finger could reach neither placenta nor blood-clot. The membranes were unruptured and labour pains were absent. In this condition she was admitted to hospital and Dr. Briggs ordered $\frac{1}{4}$ grain of morphine and $\frac{1}{100}$th grain of atropine hypodermically at 9.30 P.M. This was followed by five hours' sleep and at 8 A.M. on March 7th the pulse had fallen to 120. Three hours later the same dose of morphine and atropine was repeated on account of restlessness, and sleep supervened. During the intervals of sleep small quantities of milk and soda-water, or milk and barley-water, were taken. The os now admitted three fingers. Shortly after midnight labour pains became pronounced and a speedy and spontaneous delivery was completed by 12.30 A.M. on March 8th. 2½ pounds of clot and about a pint of liquid blood were expelled. The fœtus, which appeared to have been dead about one week, weighed 7¾ pounds.—Dr. Phillips also related a case of Concealed Hæmorrhage during the Fifth Month of Pregnancy treated by vaginal hysterotomy. Recovery was good. The blood apparently occupied the decidual space and the amount of clot collected filled a two-pint measure.—Dr. Gemmell read a note on Primary Carcinoma of the Fallopian Tube based upon a recent case in which there was a history of profuse watery offensive vaginal discharge in a multiparous woman, aged 45 years. The physical signs led to a diagnosis of multiple fibroma uteri, with chronic inflammatory disease of the right appendage. Laparotomy revealed double chronic inflammatory appendage disease; right hydrosalpinx, left pyosalpinx. Subsequent examination of the specimen demonstrated that the left tube, which was closed at its fimbriated end, sausage-shaped, measuring three inches in diameter at the abdominal end and one inch at the uterine, contained pus and an enormously thickened mucous membrane, forming a papillomatous growth, microscopic sections of which showed the papillomatous growth to be adeno-carcinoma. Both ovaries were normal; the right tube showed simple salpingitis.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in the anatomical department of Queen's College, Belfast, on March 26th.—Professor J. Symington showed, by means of the lantern, a reconstruction to illustrate the Relations of the Deeper Parts of the Brain to the Lateral Aspect of the Skull, and specimens illustrating Dental Anatomy with X Ray Photographs of Developing Teeth, taken by Dr. J. C. Rankin.—Dr. P. T. Crymble demonstrated specimens of the Central or Rolandic Fissure of the Cerebrum, as well as various pathological specimens.—Dr. Thomas Killen and Dr. W. J. Maguire showed specimens of the Spinal Cord and Mid-brain to illustrate the order of medullation of fibres.—Mr. H. H. B. Cunningham showed specimens of Membrana Tympani and Tympanic Recesses.—Professor T. H. Milroy made a communication on Colour Fatigue.—Dr. J. A. Milroy showed a series of slides illustrating the microscopic structure of some of the organs of special sense.—Professor W. St. Clair Symmers and Dr. W. J. Wilson gave an account of (*a*) Agglutination of Organisms of the Typhoid, Colon, and Alkaligenes Groups by the Blood Serum of Cerebro-spinal Fever Cases; (*b*) Cerebro-spinal Meningitis due to infection with the typhoid bacillus, Gärtner's bacillus, and the anthrax bacillus; (*c*) Fermentative Powers of the Meningococcus and Gonococcus; and (*d*) Certain Differences between Young and Old Cultures of Meningococci.—Dr. Wilson also made communications on (*a*) Cerebro-spinal Meningitis due to infection with the micrococcus catarrhalis; (*b*) note on the occurrence of Gram-negative Cocci in Fæces; and (*c*) Pleomorphism exhibited by Gram-negative Cocci of the Catarrhalis (allied to influenza) Class.—Dr. Wilson and Dr. E. H. M. Milligan gave an account of an investigation of the Etiology of Typhus Fever by Blood Culture Methods.—Dr. D. P. Gaussen and Dr. T. Houston gave an account of a case of Streptococcic Septicæmia successfully treated by a vaccine prepared by Dr. Houston.—Dr. Houston and Dr. Rankin gave a demonstration of the Reaction of Meningococcic Serum.—Sir John Byers showed: (1) a Uterus with Tuberculous Pus Tubes removed from a young unmarried woman, aged 25 years; (2) Five Uteri with Fibro-myomata removed by Hysterectomy; (3) a Uterus with a Fibroid Tumour attached to its posterior wall and protruding partially into the Uterine Cavity removed by Hysterectomy (patient aged 50); (4) a Molluscum Fibrosum Tumour removed from the Clitoris; (5) a Fibro-cystic Uterine Tumour removed by Hysterectomy; (6) an Ovarian Tumour; and (7) a Hydrosalpinx and other Tumours of the Female Pelvic Organs. Sir John Byers also showed a series of Stereoscopic Photographs of Obstetric Conditions.—Dr. C. E. Shaw showed a water-colour drawing of Melanoma

Uses.—Sage unites slightly tonic, astringent, and aromatic properties. By the ancients it was highly esteemed; it is at present little used, except as a condiment, but has been given in dyspepsia, also for colliquative sweats. The dose of the powdered leaves is from 20 to 60 grains (1·3 to 3·9 gm.). Dose of the infusion (1 oz. in 1 pint of boiling water), 2 fluid ounces (60 c.c.). According to Cadeac and Meunier (Lyons Med., May, 1891) the *volatile oil of sage is a violent epileptiform convulsant*, resembling in its action the oil of absinthe, but less powerful.

Dose.—From 20 to 60 grains (1·3 to 3·9 gm.).

The features of poisoning in this case are apparently characteristic of all essential oils. There appears strong inhibition of the pneumogastric nerve, resulting in a weak, feeble, and irregular heart beat and dyspnœa, these oils acting through the medulla. Epileptiform convulsions also arise and in this case became stronger before death. (Oil of eucalyptus likewise causes them.) The cyanosis was remarkable, however, and was most noticeable in the hands. Of all organs the *lungs* smelt most powerfully of sage. There was only that amount of ecchymosis in the stomach and intestine which would be expected from any irritant, as a volatile oil would be in such a dose; there was no erosion or perforation. In the *Lyons Médical* for May, 1891 (U.S. Dispensatory), M. Cadeac and M. Meunier report that five centigrammes of *essence* of sage injected intravenously into a dog produced epileptiform convulsions, and that 70 centigrammes (about 10½ grains) injected into a dog weighing 21 kilogrammes caused death after 35 epileptiform fits. The ordinary essence contains a proportion of 1 of oil in 4 of spirit (1 in 5), so that if 70 centigrammes of *essence* caused death in a dog of 21 kilogrammes (46 pounds) it would only be receiving intravenously a dose of about two minims. The woman weighed about 9½ stones (133 pounds), so that injected intravenously we might expect a dose of six minims to be fatal. In this case about 120 minims were taken and proved fatal, which, allowing for the difference between intravenously and per *os*, is a dose probably considerably over the amount necessary to cause death. From 30 to 40 drops by the mouth would generally cause severe symptoms, if not death, judging by the above experiment.

The oil which was the cause of this woman's death had in the first instance been imported from Austria. This is worthy of the remark that the English salvia officinalis only contains a sesquiterpene $C_{15}H_{24}$, whilst foreign salvia contains two terpenes, thujone $C_{10}H_{16}O$, and camphor $C_{10}H_{16}O$. The oil was analysed by two independent analysts (Messrs. Harvey and Wilkin and Mr. J. R. Richardson, Leicester) and was found normal. The specific gravity was 0·9229. Optical rotation + 13·6° in 100 millimetres. Two volumes of 80 per cent. alcohol, soluble.

It is a sad example as to how the public lose their lives in endeavouring to "cure" themselves by using "old women's" remedies and "quack" medicines instead of attempting to obtain relief through the proper and more scientific channels. This genuinely comes under the first head, the deceased having obtained her muddled-up "prescription" through a neighbouring old woman.

Husbands Bosworth, Rugby.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF INJURY TO THE BLADDER DURING AN OPERATION ON A STRANGULATED FEMORAL HERNIA.

BY T. P. LEGG, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE ROYAL FREE AND ITALIAN HOSPITALS; SURGICAL TUTOR AT KING'S COLLEGE HOSPITAL, LONDON.

A WOMAN, 33 years of age, was admitted to the Royal Free Hospital on Oct. 1st, 1904. For six years she had suffered from a femoral hernia for which a truss had been worn. During the last two years the hernia had been irreducible but had given rise to no other symptoms, and she had continued the use of the truss. On Sept. 26th she went for a long walk. On the next day vomiting began, accompanied by intense abdominal pain. The hernia increased in size and these symptoms persisted till she was admitted. For some years she had occasional frequency of micturition. She had been married three years and had two children. The hernia was larger during each pregnancy, and after the birth of the first child she had prolapsus uteri. On examination a strangulated left femoral hernia was found. The swelling measured 2½ or 3 inches in diameter; the skin over it was somewhat reddened. The abdomen was a little distended and peristalsis of the intestine was visible.

Operation was at once undertaken. In opening the sac, which was very thin, the intestine was incised. The wound was sewn up at once by a double row of continuous sutures. The stricture having been divided the intestine was replaced in the abdominal cavity. Whilst the sac was being dissected from its surroundings a cavity, lined by mucous membrane, was opened on the inner side of the sac. No urine escaped, but on passing a catheter per urethram it was quite evident that the bladder had been cut into. A little careful dissection made it possible to free the prolapsed portion of the bladder from the outer surface of the sac as high as its neck, which was then transfixed and closed in the usual manner. The aperture in the bladder was closed by a double row of sutures, care being taken that the inner row did not penetrate the surface of the mucous membrane and that the cut edges of the latter were brought into apposition. The prolapsed portion of the bladder was then replaced in the abdominal cavity and the hernial ring partially closed, a small drainage-tube being passed through it into the sub-peritoneal tissue. The external wound was sutured except where the tube came through.

The abdominal pain and vomiting ceased at once and the bowels were opened on the fourth day. For the first two or three days the urine contained some blood; at the end of a week the urine was normal. Slight suppuration occurred in the wound, but there was no rise in temperature and the highest pulse-rate recorded was 100; generally the pulse was 84 per minute. There was no escape of urine through the drainage-tube. The patient left the hospital on Oct. 22nd quite well except for a small sinus, from which a stitch was subsequently extracted. The wound then healed soundly.

There was nothing to suggest that the bladder was prolapsed through the crural canal and was adherent to the outer surface of the sac till it was opened. No unusual amount of thickening was detected and the wall of the prolapsed portion was not abnormally thick. A large portion of the bladder was prolapsed, because the cavity opened was very large and the catheter passed straight into it. The history of the prolapsus uteri is interesting, but whilst the patient was in the hospital and when seen afterwards there did not appear to be any such descent of the uterus. It is interesting also to note that the hernia became larger during each pregnancy and had been irreducible for two years. Possibly the pregnancies caused the bladder to prolapse through the crural ring and the irreducibility was due to the bladder coming down outside the sac. There was no suggestion that the size of the swelling varied according to the amount of urine in the bladder, and, as already stated, no urinary symptoms except occasional frequency of micturition were present.

Harley-street, W.

NOTE ON A CASE OF TETANUS SUCCESSFULLY TREATED WITH ANTITOXIN.

BY J. BASIL COOK, M.D., CH.B. VICT., D.P.H. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR ASSISTANT MEDICAL OFFICER, KENSINGTON INFIRMARY.

THE patient in this case was a man, 64 years of age, who was admitted into Kensington Infirmary on August 5th, 1907, suffering from tetanus. The history was to the effect that he had to leave his work on July 31st owing to severe pain in the jaw and inability to open his mouth. On admission he presented an absolutely typical risus sardonicus. His teeth were tightly clenched and there were twitchings of the facial muscles. There was marked opisthotonos, the muscular rigidity being so great that by lifting the feet the whole of the body, with the exception of the head, could be raised from the bed. The arms were unaffected. Fluids only could be swallowed. There was a small abrasion on the left foot. The patient was quite conscious, he was perspiring freely, and his temperature was 98° F. He was given 15 grains of chloral hydrate and 15 grains of potassium bromide every four hours. On August 6th antitetanic serum obtained from the Pasteur the illness when double optic neuritis, pyrexia, paralysis of one external rectus and a misleading history of otorrhœa suggested a latent cerebral abscess. Relief of tension thus brought about greatly assisted recovery. In two out of the three cases no pregnancy existed and Dr. Parry-Jones urged that lumbar puncture or trephining must be resorted to when necessary.—The paper was discussed by the President, Dr. C. H. Cattle, Dr. Jacob, Mr. W. Tibbles, Dr. A. J. Sharp, and Dr. Thompson, and Dr. Parry-Jones replied.—Dr. Cattle read notes of a case of Embolism of the Abdominal Aorta occurring in a man, aged 39 years, the subject of mitral stenosis. It was probable that embolism of the right common iliac artery occurred six days before the graver event and led up to it, as pain occurred in the iliac region accompanied by a rise of temperature to 101° F. Later paralysis and anæsthesia of both lower extremities occurred with absence of patellar and plantar reflexes, then livid mottling of the inner side of the right thigh, and both limbs became pulseless. Hæmaturia and albuminuria also ensued and death occurred a day later. The case was discussed by the President and Dr. J. Watson.—Dr. Parry-Jones related a case which had come under his notice and ended fatally ten days after the onset, and Dr. Cattle replied.—Dr. Sharp showed two specimens of Psammoma from the choroid plexuses of the brain with microscopic sections.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on March 25th, Dr. Justin M. McCarthy, the President, being in the chair.—Mr. H. Gilbert Barling and Dr. A. Stanley Barnes showed a man who had been successfully operated on for Cerebral Tumour.—Mr. Barling showed a middle-aged man upon whom he had performed Interscapulo-thoracic Amputation for a mixed round- and spindle-cell periosteal sarcoma developing the upper two-thirds of the humerus and encroaching slightly upon the capsule of the shoulder-joint. The patient has remained free from recurrence. He mentioned that he had resorted to this amputation in three other cases of sarcoma of bone, all the patients recovering from the operation. The first patient suffered from a myeloid sarcoma of the humerus of four years' duration and generalisation of the growth occurred a few months after operation. The second case was that of a girl with a fungating myeloid sarcoma of the scapula. This patient remains well eight years after the amputation. The third case was that of a girl with a periosteal round-celled sarcoma of the supraspinous portion of the scapula. This patient remains well two years and three months after the amputation.—Mr. Barling also showed a boy in whom he had excised the upper third of the humerus for an early Myeloid Sarcoma which had produced spontaneous fracture. It was still practically confined within the limits of the bone. The operation was performed 15 months ago and the patient remains quite well.—Mr. Jameson Evans showed a man whose condition was regarded as one of Infantilism, with some superadded Intracranial Lesion.—Dr. Smallwood Savage showed a specimen of an Unruptured Tubal Molar Pregnancy, diagnosed before operation. Pathologically the right Fallopian tube was seen to be swollen about the middle of its length by a fusiform bulging. The fimbriated extremity was seen to be patulous. The ovary was enlarged by a follicular cyst of the size of an egg. The special point of interest in the specimen was to be seen in the section of the tube at the site of the swelling, for both by the naked eye and by microscopical section the tubal mole was shown to be situated in the tubal wall and outside the lumen. The explanation of this condition was to be found in the trophoblast of the growing ovum, which, by its eroding action on the maternal tissues, had travelled from inside the lumen, at the site of its implantation, into the muscularis and between the external and internal layers of muscle. It is generally held that the trophoblastic action is invariably the essential cause of the rupture of a tubal pregnancy, as it has been shown by the imperfect decidual production in the tube that the maternal resistance to the trophoblast is weak. Good recovery followed.

HUNTERIAN SOCIETY.—A meeting of this society was held on March 25th, Mr. F. Rowland Humphreys, the President, being in the chair.—Dr. J. H. Sequeira gave a demonstration of patients illustrating various forms of Tuberculosis of the Skin. He divided the cases into two groups—those in which the tubercle bacillus had been demonstrated and those which were believed to be due to circulating toxin produced at some distant tuberculous focus. The first group was illustrated by cases of lupus vulgaris of the skin, nasal mucous membrane, palate, and tongue; by scrofulodermia following caries of the teeth and mandible with sinus. He also showed a case of pseudo-elephantiasis of the leg with tuberculous lymphangitis and an interesting case of verruca necrogenica, infected probably from tuberculous meat. In the second class, the so-called tuberculides, he showed a case of lichen scrofulosus in a patient suffering from lupus of long standing; a case of symmetrical necrosing tuberculides—acnitis and folliculitis of some authors; and one of erythema induratum of Bazin.—Dr. W. Langdon Brown and the President discussed the cases.

ERRATUM.—The word "purpose" should be substituted for *operation* in the second resolution passed by the Medico-Legal Society on March 24th, and reported in our last issue (p. 1008).

Reviews and Notices of Books.

An Introduction to Child Study. By W. B. DRUMMOND, M.B. Edin., F.R.C.P. Edin., Assistant Physician to the Royal Hospital for Sick Children, Edinburgh. London: Edward Arnold. 1907. Pp. 348. Price 6s. net.

The Child's Mind: its Growth and Training. By W. E. URWICK, M.A. London: Edward Arnold. 1907. Pp. 269. Price 4s. 6d. net.

WE take these two works together, for they are in a certain sense complementary. By child-study is meant the study of children by the methods of modern science. It has most important bearings upon social and political questions. The real aim of education should be not mere instruction in subjects but the development of the mind. Herbert Spencer reproached the Englishman or studying his horses and neglecting his children but it appears that in 1570 Roger Ascham made use of the same comparison. After Dr. Drummond has dealt with the kind of preparation required by the person who pursues child-study and has given certain cautions in carrying on the study there are interesting chapters on biology and child study dealing with the consciousness of children, evolution, and Darwinism in the nursery. The last is illustrated by traces of our prehuman ancestors still surviving in the nursery and even persisting to a later period, what are called the monkey traits of children, e.g., the movements of the thumb, the furrow or flexion fold on the sole of the foot in children, the turned-in position of the feet at birth, the clasping and climbing power, and many innate and hereditary instincts. As to the methods themselves history and literature help. There is the approach through educational theories and methods but the chief is the direct study of children themselves, and this may be done by (1) biographical studies of individual children; (2) anthropometric methods; (3) experimental methods; (4) direct questioning; and (5) the syllabus method. Dr. Drummond provides such a syllabus for testing the observing powers, memory tests—visual imagery—money sense, vocation, ideals, reasoning powers, and so on (pp. 86–92). Full directions are given as to how to study a baby (pp. 93–108) and these seem to be full and explicit. Then follows a chapter on the weight of babies and a most interesting one deals with some facts of growth. There is a careful account of the senses and the nervous system and the health of the child, and an important chapter on fatigue embodies the results of Mosso's investigations. The instincts and interests of children are discussed in a thoroughly interesting manner, while under "forms of expression" the leading facts of the physiology of speech—or baby linguistics—are set forth. The moral characteristics are dealt with, and finally there is a discussion on religion and the child and on peculiar and exceptional children. Obviously the author is in love with his subject and he sets forth his ideas in a clear, precise, and convincing form.

the Posterior and Middle Thirds of the Left Vocal Cord. 2. A case of Cyst on the Floor of the Nose.

Mr. HERBERT TILLEY: A case showing the result of Killian's Operation on the Right Frontal Sinus, and of an Incomplete Killian's Operation on the Left.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Exhibition of Specimens, &c.—Tuberculous Salpingitis.

A MEETING of this section was held on March 13th, Mr. E. H. TWEEDY, the President, being in the chair.

Mr. J. SPENCER SHEILL exhibited an Abnormal Placenta which showed a raised ring forming a complete circle about half way between the margin and the insertion of the cord, about two centimetres in depth and half that in thickness. The membranes were adherent to the margin of the placenta.

Dr. HENRY JELLETT exhibited a Table for Estimating the Date of Delivery from the Size of the Uterus. It was not, he said, intended for perfect accuracy, neither was it new. It was simply an arrangement of ordinary data to save time in calculating the date of delivery, as estimated by the size of the uterus, in cases in which the patient could not give a definite menstrual history.

Dr. R. D. PUREFOY read a paper entitled "Some Remarks on Tuberculous Salpingitis."—Sir A. V. MACAN said that there was a great difficulty as to the origin of primary tubercle of the tubes. If it did not ascend or descend they could only suppose that it filtered out from the blood. Sterility was one of the earliest effects of tubercle of the tubes, and he was not sure whether it would be much use to leave a small portion of the tube in such cases. He had at one time held the view that if they could not see their way to extirpate completely such affection of the tubes they had better leave them alone, but now he thought that they ought to remove as much as was possible and to trust to the patient's general strength to get rid of what was left behind.—Professor ALFRED SMITH, Mr. SHEILL, and others also took part in the discussion.

SECTION OF PATHOLOGY

Exhibition of Specimens.

A MEETING of this section was held on March 20th, Dr. JAMES LITTLE being in the chair.

Dr. R. TRAVERS SMITH exhibited a specimen showing Perforation of the Œsophagus. The patient was a girl, aged 18 years, who was admitted to a hospital complaining that for three days she had had a sore throat and felt very ill. The sore-throat was said to have begun after the swallowing of a small piece of rasher bone. Nothing could be found in the throat except that the anterior parts of the throat were red and swollen. There was a slight general tumefaction of the neck externally but no particular enlargement of the glands. Her temperature was 104° F. and her respirations were about 35 per minute. On further examination he found a small area of cutaneous emphysema over the lower margin of the ribs on the left side and came to the conclusion that the piece of bone had probably perforated her œsophagus. A number of staphylococci were found in the blood, the emphysema became more marked, and he was able to make out some left pleurisy and a slight pericardial friction rub. On the fourth day in hospital she was unconscious and moribund. At the necropsy the emphysema was well marked; a small amount of pus and fibro-purulent material was found in the left pleural cavity, and there was, perhaps, some air in it; there were also some fibro-purulent pericarditis and emphysema in the abdominal cavity all round the left kidney. In the œsophagus, just below the level of the cricoid cartilage, there was a double perforation, one hole being a little lower than the other. No distinct abscesses had formed. There was no sign of a bone to be found anywhere; it had probably become softened and made its way downwards and was possibly subsequently discharged.

Dr. G. PEACOCKE showed a specimen of Cirrhosis of the Liver from a woman, aged 46 years, who had always lived a temperate life. For 12 months she thought she had been getting stouter but did not complain of illness until a fortnight before admission to a hospital. When in the hospital she was suffering from extreme respiratory distress; her abdomen was enormously distended and tense and the abdominal wall was œdematous; the lungs, too, were œdematous. The apex beat of the heart was heard in the third space and a systolic murmur was heard over it. The urine was very scanty, high-coloured, and slightly albuminous. The distension was due to fluid which had come on with great suddenness. The abdomen was opened and drained, 14½ pints of fluid being measured, apart from a considerable amount which escaped. Drainage was continued for 48 hours, three to four pints being measured daily. She remained with slight elevation of temperature for a few days and then became duller, finally lapsing into coma for 48 hours, and then dying. The surface of the liver was nodular and extremely hard and a microscopic section showed very advanced cirrhosis. The case was interesting from the fact that it showed that the use of alcohol was not necessary to the condition.—Dr. WILLIAM R. DAWSON said that the contention that cirrhosis of the liver and alcoholism were not directly related was borne out by a converse observation. It had been pointed out by the late Dr. Conolly Norman and by Dr. F. W. Mott, of the London County Asylums, that cirrhosis was rare in asylum necropsies, although a large proportion of the cases admitted to pauper asylums were alcoholic.

Professor O'SULLIVAN exhibited a specimen showing a form of Aortitis associated with Sudden Death. Some years ago he had received the heart of a young soldier who had dropped dead on the march. He was apparently perfectly healthy. The appearance of the heart struck him as being very unusual and he observed that immediately above the commencement of the aorta, along the line of the valves, there was an abrupt rise in the surface level which continued for about an inch upwards into the vessel and then as abruptly descended again, forming a sort of table-land across the vessel a quarter of an inch or more higher than the rest of the surface. The left coronary artery was obstructed by the excrescence of the surface, which he took to be the cause of death. The specimen had gone astray but he was able to exhibit a similar specimen from a young man who had been found dead a few days before in a lavatory. The condition of his heart was almost identical with that of the other case. There was very little degeneration compared with an ordinary case of atheroma. The amount of overgrowth of the inner coat of the vessel, as compared with the amount of degeneration, was enormous. The orifice of the right coronary artery was practically closed; the opening of the left coronary artery was also reduced to small dimensions. A small depressed area, about an inch from the sinuses, was stained red and found to have undergone a different degeneration from atheroma. Under the microscope was seen a great rise in the inner coat, composed of a reduplication of the inner tissue, but in the middle coat the elastic tissue was cut and torn, and split by masses of cell infiltration which ran along the course of the vasa vasorum. The natural conclusion was that both cases were syphilitic although there was no direct evidence.

Dr. THOMAS G. MOORHEAD exhibited a specimen of "Surgical Kidney" taken from a woman, aged 42 years. Two days previously to admission to a hospital she had a sudden shivering fit, with pain in the abdomen and vomiting. He found distinct crepitus at the base of the left lung and rigidity of the abdominal wall, which yielded slowly to pressure. Her temperature, appearance, and respiration became typical of acute pneumonia, of which she developed further distinct symptoms later. There was some pus in the urine, and the patient suffered from frequency of micturition, from which he concluded she had also some cystitis. The dulness in the left lung gradually increased, until about two-thirds of the lower lobe had become consolidated. Her temperature ran up to 104° or 105° F., and so remained for a fortnight. Her strength rapidly diminished and she died. Bacterial examination of the pus in the urine gave staphylococcus aureus, and the sputum gave a pure culture of the same. The abdominal organs were all found to be healthy with the exception of the bladder and kidneys. The former showed acute cystitis and the left kidney was enormously large and studded with abscesses. The left ureter was extended and acutely inflamed. The pus from the abscesses gave a pure culture of staphylococcus aureus. The thoracic organs, with the exception of the lung, were normal. The base of the left lung, instead of showing

Wiley and Sons. London: Chapman and Hall, Limited. 1907. Pp. 367. Price 8*s.* 6*d.* net.—The authors of this text-book have evidently taken pains to confine so far as possible the treatment of the subject to that part of it which bears on medical science. They have been mindful also of the important developments of physical chemistry which are related to certain bio-chemical phenomena. Thus, we find sections on the nature of solutions, osmotic pressure, ionisation, colloidal solutions, and so forth. The experimental directions are admirably clear and the experiments are well chosen. The book closes with a capital though somewhat short chapter on alkaloids and drug principles. If there is any fault to be found at all it is the extremely concise way in which the complete subject is treated.

Schema des Rumpfes. (*Outline Diagrams for Clinical Records.*) By Privat-dozent Dr. W. HILDEBRANDT. Munich: J. F. Lehmann. Price 1 mark 20 pfennig.—This is a set of 21 diagrams each on a page measuring 5 by 8 inches and provided with a perforated line for easy tearing out. The design differs considerably from that of the clinical diagrams commonly used in England. No part of the patient's arms is shown, but the closed surface formed by the ribs is supposed to be divided in a vertical line near the vertebral column and flattened out so that the same diagram shows both the front and back of the thorax, with the ribs, sternum, clavicles, vertebral column, and scapulæ; the whole circuit of the pelvis is also shown in a similar fashion, attached to the thorax by the vertebral column. Inside the cover there is printed a scheme of conventional lines or hatching to represent various degrees of dulness on percussion, thoracic mobility, and other physical signs.

Valentin's Practical Chemistry. By W. R. HODGKINSON, Ph.D., F.R.S. Edin., Professor of Chemistry and Physics in the Ordnance College, Woolwich. Tenth edition. London: J. and A. Churchill. 1908. Pp. 476. Price 10*s.* net.—There are some novel features in this work, notably the admirable reproductions of photographs, or rather micro-photographs, of sections of metallic alloys, by Mr. A. H. Coote, B.Sc., and the simplicity of the directions given by the author for the carrying out of simple experiments with the metals and their salts. The plan of the work reminds us of the text-books published in the "eighties," before the days of argon, helion, radium, or of "ions." The reactions of salts bear, therefore, no construction in the light of modern theory. The book, in fact, deals essentially with practical matters, such as the preparation of gases, the reactions of acids, bases, salts, alkaloids, and volumetric analysis. The metals are grouped according to the classic fashion of the older text-books. The information and descriptions may be found in most books of the kind but we have no doubt that Professor Hodgkinson's book is designed to meet the particular requirements of his own pupils, by whom, no doubt, it is appreciated.

The Schoolmaster's Year-book and Directory, 1908. London: Swan Sonnenschein and Co., Limited. Pp. 590. Price 7*s.* 6*d.* net.—This is an invaluable work of reference for those connected with scholastic circles and is arranged in three parts: (1) General information; (2) alphabetical lists of secondary schoolmasters; and (3) list of secondary schools. The first part contains a summary of the past "educational year" and a review of the present scholastic situation. As everybody knows, the unrest in educational matters is not confined to primary schools, although in the secondary ones the question at issue concerns the teaching of ancient languages more than the teaching of the ancient faith. The Year-book is not yet able to record any improvement in the professional organisation of schoolmasters, indeed, one important judgment delivered in the year has given many of them a very scant security of tenure. Medical men can sympathise with a body of men whose profession does not give them protection to which they should reasonably be entitled.

Minor Maladies and their Treatment. By LEONARD WILLIAMS, M.D. Glasg., M.R.C.P. Lond., Physician to the French Hospital, &c. Second edition. London: Baillière, Tindall, and Cox. 1908. Pp. 404. Price 5*s.* net.—It is not very long since we gave a warm welcome to this book on its début and our recollection of its merits was such that the speedy appearance of a second edition has not surprised us. We remembered well that its author was no respecter of tradition *quâ* tradition but the re-reading of his explicit confession of therapeutical faith leaves us a little astonished at the boldness with which he attacks certain established doctrines. Many will agree with him that the "chill" theory of the causation of visceral affections can be no longer maintained; some will uphold his view that the dread of "draughts" is a bogey which has frightened the majority of the public to dwell habitually in the atmosphere of stuffy rooms; but how many will follow him when he bids us to cease from wearing wool or flannel next our skins, as not being absorbent of moisture, and to substitute loose woven linen, or cotton, or silk? Silk underclothing is luxurious raiment for the favoured few but we cannot doubt that a winter garment of woollen material brings more comfort to its wearer than does one of linen, whilst as regards summer wear, when palpable sweating is a serious factor, we can only say that in tropical experience flannels find more favour with most skins than do the cooler-looking "ducks." We have little else to cavil at. In an admirable chapter on indigestion all functional dyspepsias are divided into two provinces—sthenic and asthenic. The author himself speaks of the multiplication of terms in the description of this disorder and his purpose would surely be served by using the labels "acid" and "atonic" dyspepsia. We think that when he suggests the prescription of morphine in the treatment of indigestion in a lackadaisical woman of 30 years of age he should advise the concealment from her of the nature of the remedy. Two other little points we have noticed. His description of "Sir Andrew Clark's pill" on p. 111 implies the inclusion of both strychnine and nux vomica, and in another chapter his phrasing is open to the interpretation that he advocates the wearing of long hair by men who wish to escape baldness. We do not like the word "cardiopath." But these are trifles in the balance against the book's admirable qualities, its concise reasoning, tinged with judicious dogmatism helpful to the student, its therapeutical acumen, its balanced consideration of "diathetical" medicine, and above all its chapters on change of air and general health, which stamp its author as a rational climatologist and no faddist. What he has to say about spa treatment is illuminating and his advice to apply it in the treatment of constipated children, both as a curative and educative method, is only one instance of his resourceful habit of leaving the beaten track of practice in so-called "minor medicine."

Garcia the Centenarian and his Times. By M. STERLING MACKINLAY. London and Edinburgh: William Blackwood and Sons. 1908. Pp. 335. Price 15*s.*—Mr. Mackinlay, himself the son of a famous singer, known to most lovers of music as Antoinette Sterling, has written a book which is pleasant to read about a very remarkable personality. Garcia not only lived into his 102nd year but was a teacher of singing who ranks with Porpora and in the minds of the medical profession will ever be held in honour as the first to demonstrate the movements of the larynx to the eye by his invention of the laryngoscope in 1851. He embodied his observations in a paper read before the Royal Society in 1855. Not much notice was taken of the invention by the medical profession until Türck and Czermak, the former of whom had independently arrived at much the same conclusions as Garcia, took up the instrument from a diagnostic point of of the Conjunctiva and Microscopic Sections of Tissue from the same, and also a series of sections illustrating varieties of Nasal Neoplasms.—Dr. J. W. Browne showed specimens of Sarcoma of the Upper and of the Lower Jaw and a Portion of a Spinal Cord illustrating Intramedullary Hæmorrhage.—Mr. G. L. St. George showed an Acranial Fœtus.—Mr. J. A. Craig showed an Eye with Melanotic Sarcoma of the Choroid.—Dr. J. S. Darling showed specimens of Hæmato-salpinx, Colloid Cancer of the Peritoneum, and of a Peculiar Intestinal Tumour.—Professor Symmers showed the Lungs and Intestines from a Guinea-pig into which he had injected Indian ink into the stomach by a catheter while it was alive; when killed afterwards there was no sign of the material in the intestines but the lungs were very much pigmented. The experiment was indirectly confirmatory of Calmette's and von Behring's that even when supposed to be inhaled the tubercle bacilli reach the lung through the stomach.—Dr. A. Dempsey, Mr. J. O'Doherty, Mr. A. Fullerton, Mr. T. S. Kirk, and others also showed specimens of interest.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on March 26th, Mr. Thomas H. Bickerton, the President, being in the chair.—The proceedings took the form of a clinical evening.—Dr. H. R. Hurter showed a man, aged 35 years, suffering from Acrocyanosis Chronica Anæsthetica (cum gangræna), a condition allied to Raynaud's disease and erythromelalgia.—Dr. R. J. M. Buchanan showed a case of Argyria in a man.—Dr. A. Gordon Gullan showed a man, aged 56 years, suffering from Raynaud's Disease. He had a previous attack eight years ago lasting for 12 months. The symptoms included a typically red congested face and a swollen purple (asphyxial) condition of the fingers, the toes, the soles of the feet, and the ears. Dr. Gullan also showed a case of Myxœdema occurring in a woman, aged 55 years. The disease had developed gradually since the menopause became established at the age of 50 years. The symptoms included swollen face, malar flush, glazed dry skin, large swollen tongue, spade-like hands, subnormal temperature, and infrequent feeble pulse.—Dr. Nathan Raw showed (1) a case of Lymphadenoma occurring in a boy, aged 14 years, without enlargement of the spleen; and (2) a case of Extreme Bradycardia, the average pulse-rate being 26.—Dr. J. Owen and Mr. Douglas Crawford showed two cases of Deformity of the Hands—namely, (1) the "main en griffe" type resulting from cervical caries; and (2) the reverse picture (flexion of proximal, extension of second and flexion of terminal phalanges), in a case of pneumoconiosis.—Dr. N. Percy Marsh showed a child suffering from Meningitis in whom Calmette's reaction was positive; the cerebro-spinal fluid contained lymphocytes and did not reduce Fehling's solution. The treatment consisted in the use of Koch's tuberculin (T.R.) and was followed by recovery.—Dr. G. G. Stopford Taylor and Dr. R. W. MacKenna showed (1) a case of Tuberculous Ulcer treated by Bier's vacuum method; (2) a case of Lupus affecting the gums and hard palate; and (3) a series of Radiographs showing mercury lying in the tissues at varying intervals up to three weeks after intramuscular injections of grey oil.—Dr. A. Nimmo Walker showed a case of Glaucoma treated by Cyclotomy.—Mr. Hugh E. Jones showed a case of Chronic Suppurative Otitis Media with Granulations. The symptoms included headache, giddiness, pain, diplopia, and optic neuritis. A watch was heard on pressure only, the bone conduction being exaggerated. The complete post-aural operation was performed and was followed by the disappearance of all pathological symptoms and return of hearing.—Dr. John Hay showed two cases of General Paralysis of the Insane occurring in women, aged respectively 39 and 48 years, neither of whom had a history of syphilis.—Other cases were shown by Dr. W. B. Warrington, Dr. C. J. Macalister, Mr. R. W. Murray, Mr. R. C. Dun, Dr. Leslie Roberts, Dr. F. H. Barendt, and the President.—Mr. G. G. Hamilton gave a demonstration of Lumière's Colour Photography as applied to fresh pathological specimens. Illustrations were provided by 70 lantern slides, including human and comparative pathology.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 3rd, Dr. W. Langdon Brown, the President, being in the chair.—Mr. Elmore W. Brewerton read a paper on Injuries to the Eye with special reference to Sympathetic Ophthalmitis. He said that the commonest injury without penetration was caused by a blunt instrument such as a tennis ball, which caused immediate loss of sight and hyphæmia. The hyphæma usually cleared up in about a week; but too good a prognosis ought not to be given as traumatic cataract might result and the lens might be dislocated into the anterior chamber. Hæmorrhage into the vitreous was another common cause of temporary loss of sight but the patient usually recovered. Any penetrating wound might produce sympathetic ophthalmitis which might be defined as a plastic inflammation of the uveal tract subsequent to a plastic uveitis in the other eye due to injury. The modern theory of the pathology of sympathetic ophthalmitis was that it was due to the infection of a non-pyogenic organism, not yet isolated, which could not live in the presence of other pyogenic organisms. Many cases were caused by the iris getting entangled in the wound after cataract extraction. The rapid appearance of suppuration in an eye after an injury did not set up sympathetic ophthalmitis. The earliest sign of sympathetic ophthalmitis was the presence of hippus in the sympathising eye and one of the earliest symptoms was an accommodating asthenopia followed by lacrymation and pain which were characterised by marked exacerbations. As regards prophylaxis it was an axiom never to advise an intraocular operation unless it was absolutely necessary. As regards treatment, all injured eyes with no perception of light should be removed, and if a foreign body in the globe could not be extracted the eye should be removed. In doubtful cases the eye could be left in for 10 or 11 days without danger as the organism took about two weeks before it could develop in sufficient power to attack the other eye. If the eye was not quiet three weeks after the injury it should be removed. For the treatment of the sympathising eye mercury should be used till it caused mild salivation. The eye should be fomented and covered up and atropine used to keep the pupil dilated. For the pain dionin should be given and morphine if necessary.—Dr. A. L. Marshall related a case of Rupture of the Aortic Valve. A year ago a man, aged 42 years, who for six years had a soft mitral bruit, fell on the ground while running to catch an omnibus. He experienced no inconvenience whatever but complained of a loud noise in his chest. On examination, the apex beat was found in the fifth interspace inside the nipple line, the impulse was good and not heaving, and a loud diastolic bruit was heard all over the chest wall. The pulse was water-hammer in character but regular and full. The patient gradually got worse, but after four months' rest was able to resume his work which was very harassing. He had a troublesome cough which persisted in spite of all treatment and he could not sleep. Seven months after the accident the apex beat was in the sixth interspace, one inch outside the nipple line, and the impulse was diffuse. The pulse was soft and extremely easily compressible. On raising the arm upwards and outwards the radial pulse ceased. The aortic bruit extended up into the carotids and down to the femorals. He became rapidly worse and there was a large hæmorrhagic infarct of the left lung followed by pain in the chest and extreme shortness of breath and he died nine months after the accident.—Dr. Alexander Morison said that many reported cases of rupture of the aortic valve had been shown to be cases of compensated heart disease which had given way under a severe strain.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 1st, Dr. L. W. Marshall, the President, being in the chair.—Dr. F. H. Jacob and Dr. J. H. Thompson showed a youth, aged 18 years, who had been the subject of Acute Pneumonic Phthisis involving the whole of one lung 15 months before. Complete recovery had taken place, although the febrile temperature persisted for three months and the case at first appeared too hopeless to warrant admission to a sanatorium.—Dr. Jacob also showed an infant, aged 16 months, the subject of Multiple Tuberculous Gummata, the sequelæ of measles a year before.—Dr. M. Parry-Jones (Derby) read a paper on Diachylon Poisoning. The first case described by him was that of a woman, aged 34 years, admitted to hospital as doubtful enteric fever, with a three weeks' history of headache and diarrhœa. The temperature dropped from normal to subnormal and the pulse from 80 to 60. Weakness of leg and wrist muscles without wasting developed into dysphagia and coma but there was no optic neuritis. Alcoholic disease of the liver no doubt contributed to the fatal issue. A second case, in a woman, aged 24 years, proved fatal a few hours after her admission in a helpless semi-comatose condition. A third case, after running a most critical course, recovered in three or four months' time, with loss of memory and partial aphasia. These might in part be attributed to an exploration of the temporo-sphenoidal lobe, undertaken at one stage in be placed within the boot. The cushion is a combination of leather, rubber, and cork, the three being in layers which are sewn together in the front and left loose at the sides and back, the line of suture in the front forming a hinge. The leather covering is on the top, then comes a layer of indiarubber, and then a layer of cork, and by the addition of cork wedges varying in thickness, which can be held in position by an ordinary elastic band, the height of the cushion can be raised to suit the convenience of the wearer. The apparatus is placed in the heel of the boot and is secured there by a sharp stud on its under surface. The inventor claims for the Talmore heel-cushion that it is a great improvement on anything hitherto invented for increasing the height of the wearer; but we are not much concerned in a medical paper with its merits from this æsthetic point of view. If a man or a woman decides to increase his or her height by the use of pads beneath the heels we can conceive that the Talmore heel-cushion would be a good contrivance for the purpose, but our remarks are applied to its employment for more serious purposes. The indiarubber layer is constructed of good soft material and is moulded to take the imprint of the heel of the wearer, being thinned towards the centre of the under surface so that upon pressure the heel sinks into a depression and the weight of the body remains supported in the normal way instead of being thrown forward on to the toes in walking. The foot will slide or tilt forward in such a way as to throw some of the weight of the body on to the toes if the cushion is adjusted at a disproportionate height, but the proper elevation must be determined by trial, preferably in the presence of the surgeon. In cases of slight inequality of length of the limb and certain forms of club-foot the Talmore heel-cushion will be found a convenient and useful little apparatus. It has been commended to our notice by a well-known surgeon and is already in satisfactory use by two patients. The price of the heel-cushions is moderate and they can be obtained from the general agents for their sale, Messrs. E. Penton and Son, 1 to 11, Mortimer-street, London, W., and will shortly be procurable through the usual surgical instrument manufacturers. Mr. Bascombe will answer any questions concerning the use of the apparatus.

BRITISH MEDICAL BENEVOLENT FUND.

AT the March meeting of the committee 23 cases were considered and grants amounting to £216 were made to 20 of the applicants, one case being passed over and two postponed for further inquiries.

Mr. E. Parker Young was re-elected chairman of the committee for the ensuing year.

Appended is an abstract of the cases relieved :—

Wife, aged 45 years, of L.F.P.S. Glasg. who is permanently incapacitated. Applicant has tried to obtain post as housekeeper or companion and neither she nor her husband has any means. Three children, of whom two are partially dependent. Voted £16.

Daughter, aged 51 years, of late M.R.C.S. For the last few years has been obliged to nurse her mother, an Epsom annuitant, recently deceased. Is endeavouring to obtain pupils and meanwhile is dependent on two sisters who both earn a very precarious living. Voted £10.

Daughter, aged 43 years, of late M.R.C.S., L.R.C.P. Only income a few shillings a week and has recently undergone a severe operation. Voted £5.

Widow, aged 49 years, of M.R.C.S. Eng., L.R.C.P. Edin. Husband's means were exhausted by an illness lasting several years, during which applicant nursed him and endeavoured to maintain the family by keeping a boarding-house which has now had to be given up owing to her ill-health. Five children, of whom two are able to help and two are dependent. Relieved five times, £72. Voted £10.

Daughter, aged 58 years, of M.R.C.S., L.S.A. No income; earns a few shillings a week by needlework and occasionally receives slight help from friends. Relieved once, £18. Voted £12.

Daughter, aged 56 years, of late M.R.C.S., L.S.A. Was provided for at father's death but lost everything through the dishonesty of a friend. Only income £10 a year from a charity. Relieved four times, £56. Voted £12.

Widow, aged 68 years, of L.S.A. Practically unprovided for at husband's death and endeavours to support herself by letting lodgings. Five children, but only able to give very slight help. Relieved six times, £70. Voted £10.

Daughter, aged 59 years, of late M.R.C.S. Until recently had a daily teaching engagement, but was obliged to give it up to nurse an invalid sister, lately deceased. No income; slight irregular help from friends. Relieved once, £18. Voted £12.

Widow, aged 50 years, of L.R.C.P., L.R.C.S. Edin. Quite unprovided for at husband's death. Six children who help as far as possible. Relieved twice, £20. Voted £10.

Widow, aged 59 years, of M.R.C.S. No income. Lets lodgings. Six children, of whom two are able to give slight help and three are dependent. Relieved twice, £24. Voted £10.

Daughter, aged 64 years, of late M.R.C.S. No income and health so indifferent that regular employment is impossible. Tries to let lodgings but it is only possible for a few weeks in the summer. Small earnings from needlework. Relieved four times £48. Voted £12.

Widow, aged 67 years, of M.R.C.S., L.S.A. Was left entirely unprovided for and for 20 years held a situation as cook in a boarding house. Health now very indifferent. No children. Relieved twice, £24. Voted £14.

Daughter, aged 62 years, of late L.R.C.P. Edin., L.S.A. Used to be employed as a dressmaker, but lost her situation owing to changes in the firm and is now unable to obtain another engagement. Dependent on a friend who allows a few shillings a week. Relieved three times, £30. Voted £10.

Daughter, aged 52 years, of late M.R.C.S., L.S.A. Applicant's mental condition is such that for some years past she has been dependent on three half-sisters who all have to earn their living, and at present she is confined to an institution. Relieved four times, £44. Voted £12.

Daughter, aged 48 years, of late M.R.C.S., L.S.A. Is an epileptic and unable to earn a living. Slight help from relatives and receives £10 a year from the Hospital for the Paralysed and Epileptic. Relieved once, £12. Voted £12.

Widow, aged 39 years, of L.R.C.P., L.R.C.S. Edin. Has trained as a maternity nurse and requires a little help to enable her to present herself for examination at the Central Midwives Board. Two children, aged 11 and nine, both at institutions. Relieved once, £5. Voted £5.

Widow, aged 63 years, of M.D., C.M. Glasg. Receives £14 a year from the Ladies' Working Guild and is given a little help by her son who is a signalman. Practically incapacitated by chronic rheumatism. Relieved eight times, £94. Voted £10.

Daughter, aged 62 years, of late M.R.C.S., L.S.A. No income. Health too bad to admit of regular employment and is allowed a few shillings a week by a sister. Relieved ten times, £113. Voted £12.

Widow, aged 50 years, of L.R.C.P. Edin., L.S.A. No income. Health indifferent. Is at present engaged as a caretaker without salary. No children. Relieved four times, £34. Voted £12.

Widow, aged 47 years, of M.R.C.S. No income. Earns a little by needlework. Two children, one being dependent and the other unable to help. Relieved six times, £59. Voted £12.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 10th, 1830.

COLLEGE OF PHYSICIANS.

April 5th, 1830.

EFFICACY OF THE GUACO PLANT IN VENOMOUS BITES.

A PAPER by Sir ROBERT KER PORTER[1] on the virtues of the *guaco*, a plant from Caraccas, South America, was this evening read by the Registrar (Dr. Hawkins); it referred chiefly to its remedial qualities in cases of bites received from venomous serpents, the black scorpion, and in hydrophobia. It was stated in the paper, that a native physician had communicated to Sir Robert the result of his experience in its employment, and that its virtues had been known from time immemorial amongst that portion of the black population termed *empiricos*, from their being noted for their exemption from the dangerous effects of such bites. One of these empiricos showed this native physician his confidence in the power of his remedy, by handling one of the most dangerous species of serpents which he had brought with him in a calabash, without apparent precaution of any kind; although, on examination, the animal was found capable of employing its fangs with full effect, the man escaped without injury. On being rewarded for the exhibition, the empirico stated that he derived his preservative from the leaves and juice of the guaco. He subsequently "inoculated" the physician in different parts of the body, by inserting bruised leaves of the plant in the incisions he had made, and giving him some of the juice to swallow. After this preparation, it was found that the serpent had no power, or, at any rate, no inclination to injure him. His servants repeated the same experiment with impunity. The paper went on to state, that the dangerous effects of the bite of any reptile were, without fail, prevented by the use of this remedy, but particularly if swallowed some time previously. The virtues of the guaco were stated to have first become known, by its being observed that a particular species of "*falco*," which preyed on serpents, attacked them successfully after eating some of the leaves, the effects of which were considered as not confined to the cure of venomous bites, but to extend to cases of severe rheumatism of many years standing, and other chronic complaints. Specimens of the plant and juice were on the table of the Hall.

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[1] Sir Robert Ker Porter, known as a painter and traveller, was also British Consul at Caracas (Venezuela) from 1826-1841.

The book ought to prove most valuable to teachers and to medical men.

Mr. Urwick's work is an attempt to set forth in simple, untechnical language some results obtained from a study of the growth of the mind as an organic process and to establish a clear and definite connexion between those processes of learning which the mind possesses and the methods by which it should be taught and trained. The school is intended as a short cut to prepare the pupil to take his place in the society to which he belongs but it does not undertake to prepare for life under any ideal conditions but for life under the actual conditions, hence there can be no ideally best curriculum or school. Education should prepare for the daily work or calling as well as for the sphere of social life. Some of the most interesting chapters are those on learning and the growth of ideas, the growth of ideas in imaginative processes, and reasoning as mind's higher processes. The work is one replete with interest and should be read by every teacher because of its suggestiveness.

Handbook of Meat Inspection. By Dr. ROBERT OSTERTAG, Professor in the Veterinary High School of Berlin. Authorised translation by EARLEY VERNON WILCOX, M.A., Ph.D., Veterinary Editor, Experiment Station Record. With an introduction by JOHN R. MOHLER, A.M., V.M.D., Chief of Pathological Division, United States Bureau of Animal Industry. Third edition, with coloured plate and 260 illustrations. Royal 8vo. London: Baillière, Tindall, and Cox. 1907. Pp. 884. Price 31*s.* 6*d.* net.

AS an authority on this subject Dr. Robert Ostertag holds the first rank and has been quoted on all sides and in almost every work dealing with meat-supply and with slaughter-houses. Earlier editions of his works have been noticed in these columns and we are now pleased to welcome an authorised and carefully produced translation. The author was consulted at different stages of the translation and has made certain alterations, so that the information given should coincide with the actual state of the law on the inspection of meat in Germany. Moreover, Mr. John B. Mohler contributes a very useful chapter describing similar legislation in the United States of America. We are thus able to see that while in Great Britain a large amount of American meat has been consumed, no action whatever was taken to protect the British public—it was Italy that took the initiative. The example of Italy being closely followed in 1881 by Austria, Germany, and France, the United States, to save their trade with Europe, began to enact laws for the inspection at least of such meat as was to be exported to those countries. Then follows the history of the gradual improvement of these laws and of the methods for the recruiting of the staff of inspectors whose duty it is to carry out the laws. It is obvious, however, from the figures given that though the number of inspectors of meat appointed by the Federal Government has of late been greatly increased the staff is still quite inadequate.

The greater part of the work deals in detail and with the aid of numerous illustrations with the various diseases found in animals used for food, including fish. All that bacteriology and the study of the life and habits of parasites can contribute to the great practical purpose of preserving the public from unwholesome food is treated in full detail. This, of course, includes a special study on the important question of tuberculosis and the difficult problem of deciding how far the disease is so completely localised as to allow some of the meat to be sold as food. The gravity of this question may be judged from the fact that the author says: "It must be assumed that tuberculosis may be transmitted to man by the consumption of tuberculous organs." He states that the bacillus in man and in animals is the same and that the disease has been transmitted experimentally from man to cattle, hogs, and sheep. Also, cases are known where men have contracted through the skin tuberculosis from domesticated animals, notably in milking cows with tuberculous udders. Where the tuberculosis is undoubtedly localised the meat is considered harmless. But Dr. Ostertag considers as "probably possessed of a harmful character to a high degree" all cases of generalisation with tuberculous changes in the "musculature, bones, joints, and lymphatic glands of the muscles, and also all cases of fresh generalisation with tumefaction of the spleen and all the lymphatic glands."

There are also many pages devoted to processes of preservation of food and to the detection and prevention of adulteration. Altogether we think that this is a volume that will prove of great practical service to those who are engaged in the endeavour to prevent any but wholesome food being placed on the market.

Medicine in the British Isles. By NORMAN MOORE, M.D. Cantab. Being the Fitz Patrick Lectures for 1905–1906. Oxford: At the Clarendon Press. 1908. Pp. 202. Price 10*s.* 6*d.*

THESE admirable lectures, an abstract of which appeared in our columns at the time of their delivery, will be read with delight by every medical man who cares to know anything of the history of his profession. Dr. Moore is well known as one of the most learned members of the Royal College of Physicians of London and has only recently passed on the torch received from his accomplished predecessor, Dr. J. F. Payne, to the no less careful keeping of Dr. L. G. Guthrie. The founder of the lectures would indeed rejoice could he know by what skilled minds his bequest has been carried out.

Of the four lectures the first deals with medical study in London during the Middle Ages and is mainly devoted to the life and writings of John Mirfield who flourished in the fourteenth century and who was a canon regular and a medical man attached to the Priory of St. Bartholomew, although he was not apparently definitely attached to the hospital. He was a widely read and "a laborious and high-minded man, anxious to do all in his power for his patients and to instruct others how to relieve suffering." The second lecture deals with the education of physicians in London during the seventeenth century and the chief point which strikes the reader is that although anatomy, physiology, and other studies germane to medicine had advanced enormously since the Middle Ages, yet treatment remained much where it did. Dr. Moore gives an amusing account of one Simon Ludford who was ploughed by the College of Physicians and who afterwards tried to obtain a licence to practise from both Oxford and Cambridge without success. Whatever Ludford's medical attainments were his Latin verses were appalling. The copy of Sapphics which Dr. Moore quotes would certainly have been "torn over" had their author been at Eton. The third and fourth lectures treat of the history of the study of medicine in the British Isles and are worthy of the attention of every medical man. Especially interesting as being information unknown to most readers are the sections dealing with the study of medicine in Ireland. We have derived much pleasure as well as profit from reading these lectures and cordially recommend our professional brethren to read them also.

LIBRARY TABLE.

Organic Chemistry, including Certain Portions of Physical Chemistry, for Medical, Pharmaceutical, and Biological Students. By H. D. HASKINS, A.B., M.D., and J. J. R. MACLEOD, M.B. Aberd., D.P.H. Cantab. New York: John habitation, and if it appears to the sanitary authority that this condition is not complied with the landlord may be called upon to carry out the necessary repairs and in default of his doing so they may be executed at his expense by the authority. All this is excellent but both these clauses will be quite inoperative unless the official—again the medical officer of health—who is, in the first instance, to tell the sanitary authority that a particular house is not in "all respects reasonably fit for human habitation," is in an absolutely independent position and free from the least suspicion of partiality or prejudice.

There is reason to believe that an effort will be made to get inserted in the Bill a clause which in the future will prevent the appointment of medical officers of health for a limited period but which will enable a sanitary authority to remove them from office after reasonable notice and with the sanction of the county council or the Local Government Board. If the supporters of the Bill are genuinely anxious that its provisions shall be enforced and that they shall not remain a dead letter, as so many other public health enactments have remained, they will admit the principle of this additional clause. We are fully aware that there are difficulties surrounding the question that do not appear on the surface. There is, for example, the interference with the control of the local electing body, which it must not be forgotten, however, pays only one-half of the salary of the medical officer of health but which claims to have complete control over him. As the Imperial funds contribute an equal portion of his salary there can be no injustice in the State having a voice in the conditions of his appointment. Then there are the so-called difficulties connected with compensation in case it should be found necessary to call for the retirement of a medical officer of health in consequence of the re-arrangement of districts into one or more combinations. Similar difficulties were successfully overcome in connexion with Poor-law appointments by the permanent officials of the middle of the last century, and we can hardly believe that their successors are less capable or less skilful in this direction. They have an opportunity for displaying their skill and their capabilities which ought not to be lost and we have every confidence that if they use it aright they will have the cordial support of all those who have the well-being of the people at heart.

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Unqualified Practice and Secret Remedies.

THE question of the practice of the medical art by unqualified persons, together with the unrestricted sale of "secret" remedies, is becoming a very serious matter as regards the health of the people. Not that these two forms of "commercial activity" are anything new, for quacks of all kinds flourished in the Middle Ages, although perhaps they attained their zenith so far as impudence went in the later years of the eighteenth century. But we think that at the present time they are far more mischievous than of yore and that for many reasons. First, their numbers have increased. Secondly, owing to the spread of education nearly everyone can read, and does read, the cheap press and the cheap monthly magazines. Thirdly, owing to competition the owners and editors of the daily press and of the popular magazines exercise a most indifferent control over the advertisements which appear in their columns. One honourable exception recently existed, but we regret to say is now defunct, and that was our late contemporary the *Tribune* which did do its best to keep out offensive and deceitful advertisements. But the reader who takes up nearly any daily journal will be almost certain to see flaming advertisements of secret remedies which promise far more than is possible of performance. That of Bile Beans for instance, still appears in the public press, and it was of this business, it will be remembered, that Lord ARDWALL, one of HIS MAJESTY'S judges in Scotland, said it "was one founded entirely upon fraud, impudence, and advertisement."[1] In the *Daily Chronicle* of March 30th is a whole column advertisement *headed "Special to the Daily Chronicle."* In *this advertisement it is stated* that an absolute cure for cancer has been discovered, the inventor being a certain Professor STROOP. We have selected these two advertisements at random as they appeared quite recently but there are plenty of others just as mischievous. And not in these islands alone is the evil widespread. In Australia a Royal Commission has recently been held on the matter with the result that a report embodying most stringent recommendations was issued in the later months of last year.

Other countries of Europe are feeling the evil also and we have before us the main provisions of a Bill which has been drafted for consideration by the German Parliament and which has been printed in the journal *Soziale Medizin und Hygiene*. Many of the provisions are very similar to the recommendations of the Australian Royal Commission, the most important of which were given in the letter from our Australian correspondent which appeared in our issue of Oct. 5th, 1907, p. 995. Legislation to prevent or to put an end to quackery has been tried in many countries and has as a rule proved unsuccessful. For no legislation, unless it be of a Draconic nature, is successful unless the population of the country in which it runs is in sympathy with it, and it must be confessed that the population of most countries revels in quack medicines of all kinds. There are, however, certain legislative enactments which would prove of great use, and they are those which have for their object first the purifying of advertisements and, secondly, the removal of secrecy. The following, taken from the draft German Bill, will show the kind of legislation to which we refer:—

Any person who shall cause to be circulated any advertisement or puff dealing with the prevention, alleviation, or cure of any human or animal disease, pain, or injury, and containing wilful mis-statements such as are calculated to give rise to misconceptions as to the value or efficacy of the remedy, article, or method advertised, shall be punishable by imprisonment for a term of not exceeding one year and shall be liable to a fine not exceeding £150; or shall be liable to one of these penalties. The same holds good when such persons shall wilfully make mis-statements having reference to the manufacturer or originator of the remedy, article, or method in question, or having reference to any person responsible for such advertisements, or who shall make mis-statements regarding the "professional" results of one or other of these persons.

The following persons shall be guilty of a misdemeanour and shall be liable on conviction to imprisonment for a term view. From a musical point of view Garcia's period covers all the important musicians and singers of the nineteenth century and many of the latter were his pupils. When he was born Haydn had still four years to live, so that Garcia might well have talked to a man who had been the contemporary of Handel and Bach. Beethoven was in his thirty-seventh year. Mr. Mackinlay's pages will revive memories of the great days of the Italian opera when Garcia's gifted sisters Malibran and Pauline Garcia (still living) charmed all ears, while the well-known names of Jenny Lind, Mario, Lablache, Miss Dolby, and others constantly occur. All lovers of music should read the book and especially medical men. We think, by the way, that Mr. Mackinlay's remark on page 109 that Vive Verdi is synonymous with Vive Victor Emanuel is calculated to lead those who are not conversant with the circumstances astray, for the whole point of the cry—which, by the way, was Viva Verdi—lies in the letters rdi = re d'Italia, and not alone in the ve = Victor Emanuel.

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[1] THE LANCET, Sept. 16th, 1905, p. 861.

JOURNALS AND MAGAZINES.

The Medical Chronicle.—The March number of this magazine is the third and last Dreschfeld Memorial Number. Dr. F. H. Edgeworth and Dr. I. Walker Hall record a case of phosphorus poisoning and some observations on the amino-acids excreted in the urine. Dr. Charles Powell White writes on cholesterol, fluid crystals, and myelin forms, and Dr. W. Mair on gas-containing cysts or air-bladder tumours met with in human pathology. Professor J. Lorrain Smith discusses a case of hæmolymph gland, and Professor J. Dixon Mann contributes a note on colourless fæces without jaundice. Dr. A. Hill Griffith records a case of (?) tubercular intra-ocular growth, and Dr. E. N. Cunliffe one of Still's disease, in which there was reason to consider the condition to be tuberculous. Dr. E. M. Brockbank writes on blood-plates, and Professor Sheridan Delépine summarises his observations on the dirt and pathogenic germs contained in the milk supplied to the town of Manchester during the ten years 1897 to 1906 inclusive.

The Birmingham Medical Review.—In an address delivered before the Midland Medical Society which appears in the February issue of this journal Professor R. Saundby discusses the question of amendment of the Medical Act in respect to its penal clauses and emphasises the danger of throwing the existing conditions of medical practice into the melting pot of Parliamentary discussion. Dr. A. C. T. Woodward writes on the treatment of acute inflammations by Bier's method of passive hyperæmia. Three cases of acute cellulitis are recorded and the author notes that he has had good results in cases of delayed union in fractures and in others of stiff joints and adhesions in tendon sheaths.

St. Mary's Hospital Gazette.—A paper read by Dr. J. Bart Ross before the Hospital Medical Society and published in the March number of this gazette, entitled "Some Glimpses of the Study of Medicine by Englishmen in the Past," gives some interesting excerpts from mediæval medical works. The old physicians appear to have made up for lack of scientific knowledge by a good deal of worldly shrewdness, verging at times upon imposture. The advice, however, given by one, John of Arderne, as to the relations between members of the medical profession can hardly be improved upon in the most recent text-book of ethics.

St. Bartholomew's Hospital Journal.—In the March number Mr. Frank A. Rose records some cases in which an erroneous diagnosis of adenoids was made, and Mr. B. V. Favell gives notes of a case of lepto-meningitis following fracture of the base of the skull. A paper by Dr. C. Addison contains a discussion of social problems connected with population, housing, and so forth, and ends apparently with an aspiration for further State interference in this domain.

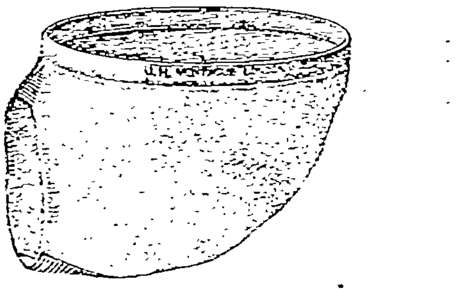
The Middlesex Hospital Journal.—In the March issue is published a paper read before the Hospital Medical Society by Mr. H. F. Woods on the subject of hypnotism. An account of the development of this branch is given and suggestions are made as to the more frequent employment of this method in producing anæsthesia in minor operations, such as tooth extraction, and in midwifery practice.

Guy's Hospital Gazette.—In the issue of March 7th is published a clinical lecture by Mr. Charters J. Symonds on obstructed hernia, a condition which is to be regarded as in reality one of strangulation. A paper read by Mr. Lee Atkinson before the Pupils' Physical Society sets forth a new theory of cancer, based on the view that there is normally present in the blood a principle which inhibits growth and which is usually in equilibrium with the force which makes for growth in the tissues. In cancer this balance is somehow upset. There is much of interest in the paper, even if the hypothesis itself seems scarcely likely to be fruitful. In the following number (March 21st) is contained a clinical lecture by Dr. W. Hale White on jaundice due to portal pyæmia, with some useful comments on the diagnosis of cases of jaundice in general.

New Inventions.

AN ARTIFICIAL PELVIC FLOOR FOR DEMONSTRATION PURPOSES.

EVERYONE who teaches midwifery to nurses must be aware of the difficulty of making them really understand what the pelvic floor is and does. The article illustrated was designed with a view to lessening this difficulty. It consists of a ring of whalebone which fits into the pelvis at the level which is usually described as the plane of the cavity of the pelvis. A hammock-like arrangement of batiste is suspended from the ring and opens forward. At the two extremities of the opening pieces of elastic are inserted, thus allowing of considerable distension of the artificial vulval opening. This improvement was suggested by Dr. R. J. Collie. When placed in the pelvis and folded up the model gives the nurse a rough idea of the pelvic floor in its ordinary condition. When a fœtal head is passed through a pupil cannot but appreciate the action of the pelvic floor in rotating the head, and the distension of the vulva by the various diameters of the head is realistically demonstrated. These pelvic floors are used in the London County Council lectures to midwives.



The model is constructed by Mr. J. H. Montague, 69, New Bond-street, London, W., of the best material and can be obtained for 4*s.* 6*d.* C. J. NEPEAN LONGRIDGE.

THE TALMORE ADJUSTABLE HEEL-CUSHION.

WE have received from the designer, Mr. R. E. Bascombe, Alvington House, Bury St. Edmunds, specimens of a small invention which will be found useful in cases of slight shortening of a limb. The title, in fact, reveals the inventor's purpose of making an artificial addition to the heel. This is done by means of an ingeniously contrived cushion to

Annotations.

"Ne quid nimis."

RICHARDSON *v.* FREMLIN.

FORTUNATELY for the good reputation of medicine cases involving disputes over fees do not often come before public notice, and when they do it is almost invariably a question of a fair professional fee being disputed by the public, members of which too often consider that they have a right to value professional services at their own estimate. Unluckily, cases do occasionally arise in which the patient has been overcharged and a regrettable example of this has recently attracted much public attention. In the case of Richardson *v.* Fremlin, reported in the *Times* (on March 31st and two following days), the plaintiff, a dentist, claimed the sum of £570 3*s.*, an amount alleged to be the sum agreed upon for professional services rendered to the defendant's wife. This large amount was made up of the sum of £389 11*s.* for 185½ half-hours' work for surgical and operative work, in addition to the sum of £180 12*s.* for mechanical work. The actual work done consisted of the restoration of the teeth of the upper jaw by means of a removeable bar which the plaintiff claimed was a work of great and exceptional difficulty and could be done by no other dentist in England. It would appear from the evidence of Mr. Richardson that he explained to Mr. Fremlin his charges and the character of the work which he intended to do. As far as can be gathered from the report, the "bridge" was attached to five roots, and on the preparation of these and the denture the plaintiff alleged that he had spent 185½ half-hours at 4 guineas an hour. The expert evidence for the defence showed that the work done by the plaintiff was such as could be done by any fairly competent practitioner and that a reasonable charge for the work would have been something between 75 and 100 guineas, and it was clearly brought out that the plaintiff had charged for preparing one tooth for the bar the sum of £65 12*s.* 6*d.* In summing up Mr. Justice Grantham stated that the question which the jury had to decide was whether there was a contract, and in his opinion there was some evidence of a contract. Assuming the contract to be for 2 guineas for every half hour, the question was whether that meant every half hour that the plaintiff could succeed in keeping the patient in the chair, or every half hour really taken up with work, and it was also a question for the jury whether all the half hours were properly charged. The plaintiff had suggested that the time which he had had to devote to the patient had ruined his practice, but reference to his day book showed that this was not the case, and that on many occasions he had no other patients, and that he could, if necessary, have devoted twice the time to the patient. In reviewing the case we cannot help feeling that an excessive time was taken in preparing the work. But, granting that the time given by the plaintiff was not one minute less than that which was necessary for the proper treatment of the case, he would, we think, have been acting in a more satisfactory manner if he had given to Mr. Fremlin some more definite idea of the very large amount that would have to be paid for the operation. It seems also to be uncontradicted that in this case the plaintiff led his patient to believe that he was the only man in the whole of England capable of doing the class of work that was being done. Tactics of this sort undermine the confidence of the public in the professional man, and we were surprised to find a gentleman who holds a position on the representative board of the British Dental Association giving evidence in support of the claims of the plaintiff. The jury returned a verdict for the plaintiff for £178 5*s.* in addition to £100 paid into court, and we do not think that many of Mr. Richardson's professional brethren will feel much sympathy with him in recovering some £300 less than his claim. We mention this because Mr. Richardson seemed to think that his action was in some way taken for the vindication of professional rights.

THE REMOVAL OF SUPERFLUOUS HAIRS.

THE distribution of hair appears to many to be an exception to the general law of wise beneficence which characterises the arrangements in this world, for while many of us have to deplore the too early departure of the hair from the scalp others lament even more bitterly the appearance of hairs on the lips and chin. There have, it is true, been "bearded" women who have worn with pride these hirsute ornaments, rarely vouchsafed in so great a degree to members of their sex, and in some countries, such as Spain, a little moustache is considered to enhance a woman's charms. In this country as a rule, however, any visible indications of a beard or a moustache are not welcomed, and the fervency of the wish to be deprived of them is proved by the numerous advertisements which exist with regard to their removal; in fact, there are as many preparations for removing unneeded hairs as there are for re-covering with hair scalps that are prematurely bald. How can superfluous hairs be removed? The simplest answer to this question is to suggest an application which may in some cases do away with the need for the removal of the hairs. Dark hairs are much more conspicuous than fair hairs and if the hairs can be made lighter in colour they will be much less visible. There are many substances which will bleach the hair but the best is certainly peroxide of hydrogen, and for slight cases of hairiness it is quite sufficient. The lotion has to be used at frequent intervals, for it has little, if any, permanent effect, though some have claimed that under its use the hairs grow less freely. In Eastern countries depilatories of various kinds are much used and they nearly all consist of pastes or lotions containing, amongst other ingredients, a sulphide of an alkali or of an alkaline earth; those most commonly used are the sulphides of calcium and of barium. The action of these sulphides is due to the fact that the keratin of the hair is a little more easily acted on by the sulphides than the keratin of the skin. They do, however, dissolve the keratin of the skin, and if they are employed in too strong a form, or if they are left too long in contact with the skin, the part is made very sore and red, and if the process is frequently repeated the growth of hair seems to be stimulated and the last state may easily be worse than the first. The sulphide must be employed well diluted with some innocuous substance such as oxide of zinc, and when the paste is removed it should not leave behind it a redness of the skin lasting for more than a few minutes. If employed with care the sulphides form useful depilatories but the effect is merely temporary and the application needs to be renewed about every week or two. For epilating the scalp in cases of ringworm and favus the x rays have within recent years been much employed, and when used by those well skilled in their employment they have generally given satisfaction. The hair returns usually in a few weeks after the application and grows freely. Attempts have been made to employ x rays for the permanent removal of hairs and there can be no doubt that the rays do possess the power of destroying the hair follicles, as has unfortunately been shown in a few cases where the rays have been used for the treatment of tinea and other conditions. Occasionally the x rays have been used for the destruction of the hair follicles of the chin but the risks are very great and we have known of cases in which ulcers, scars, and marked telangiectases have replaced the hirsuties and hence made the appearance much more

THE LANCET.

LONDON: SATURDAY, APRIL 11, 1908.

The Housing Bill.

As stated in our Parliamentary Notes last week the Housing and Town Planning Bill of the President of the Local Government Board has been read a first time in the House of Commons. The second reading, which was down for April 1st, was postponed. The anticipations of those who expected that the Bill would contain drastic compulsory powers have not been realised, for its main features embody an extension and a simplification of existing powers. Whether this extension and simplification will arouse to a sense of their responsibilities the members of those sanitary authorities which have hitherto been notoriously inactive will depend in great measure upon the extent to which the Local Government Board and the county councils exercise the powers given to them by the Bill to enforce the execution of its provisions and the provisions of existing Housing Acts. The Local Government Board is given power after due inquiry to order a defaulting sanitary authority to carry out such works and to do such things as may be required to remedy the default. But it must not be forgotten that since 1875 the Board has been in possession of the same power to enforce the carrying out of the requirements of the Public Health Act of that year and has been singularly reluctant to exercise it. So reluctant that according to the latest records although, during the five years 1902–1906, at least 13 formal complaints were made by county councils and others of defaulting sanitary authorities in only one instance did the Board make an order upon the authority to carry out its statutory duties. It may well be asked, with this experience before us, whether the powers proposed to be given to the Board in connexion with the Housing Acts is likely to be any more effective than has been that which it already possesses as regards the Public Health Act. It is true that the policy of the Board has always been to effect reforms by persuasion rather than by compulsion, to convince of the necessity for reform rather than to coerce an unwilling authority to do that for which it either does not or will not see the need, and with this policy we are in entire agreement.

The improved conditions which are now to be found in every district are admittedly due to the system of education which the sanitary authority has been undergoing during the past half century at the hands of the Local Government Board and of sanitary officers generally. The fuller powers that are wanted are in the direction of increasing the facilities for this education rather than in adding to the compulsory powers of the Board. Included in these facilities is the appointment of properly trained sanitary officials who, having a special knowledge of the subject, will be able to give advice with a sufficient amount of authority to carry conviction with it. The necessity for the possession of this special knowledge has been recognised in the case of large districts or combinations of small districts to which can be appointed as medical officers of health only those who have a degree in sanitary science or a diploma in public health or State medicine, and during the past few years a very laudable and more or less successful attempt has been made by the Local Government Board to add to the number of these specially qualified medical officers of health by urging upon adjoining sanitary authorities the advantages of combination for the purpose of securing the services of one official devoting his whole time to public health duties. It is to be regretted, however, that the Board has not at the same time taken any steps to insure to the official when appointed a reasonable security against dismissal in the event of the advice which he tenders being displeasing to a majority of the electing body.

There are two clauses in the Bill which are calculated to do an immense amount of good but each depends for its successful application upon the effective initiation of the medical officer of health. Each clause is but an amplification of sections of the Housing of the Working Classes Act of 1890, and there can be no question that these sections have not been enforced as they might have been because of the conditions under which a medical officer of health holds office. If no alteration is made in this respect and he is still subject to reappointment year by year the clauses of the Housing Bill will be as ineffective as the corresponding sections of the Act of 1890. Clause 13, one of those to which we refer, is a repetition of Section 32 of the Act of 1890 with an important difference. In the latter the medical officer of health or other officer of the sanitary authority must convince not only the authority that a particular house is unsuitable for human habitation but he must also prove the same facts before a court of summary jurisdiction which alone has the power to make a closing order. The Bill dispenses with the appearance before the justices and enables the sanitary authority to order that a house shall cease to be occupied. But, as already stated, the first step towards condemnation and ultimate closing has still to be taken by an official dependent for his very livelihood upon the goodwill, it may be, of the owner of the condemned property. In the case of hopelessly uninhabitable dwellings obviously no difficulties arise but there are innumerable stages between the condition of a derelict cottage and that of one which is on the verge of becoming uninhabitable. The medical officer of health has to decide when the borderland has been crossed and it is intolerable that his decision should appear even to be biassed by the prospect of making one or more members of the sanitary authority hostile to his interests. Clause 26, which is an extension of the principle embodied in Section 75 of the Act of 1890, defines houses for the working classes as those with an annual rateable value in London of £40, in Liverpool, Manchester, or Birmingham of £20, and elsewhere of £16, and provides that in the case of such houses there shall be implied a condition that at the commencement of the tenancy they are in all respects reasonably fit for human habitation. Clause 27, which is entirely new, provides that in the case of the houses of the character named the implied condition of the tenancy shall include an understanding that the house shall during the holding be kept by the landlord in all respects reasonably fit for human expresses itself as very hopeful that its adoption will afford some relief to the rates by the prevention of insanity. We have no fault to find with this as a pious opinion but we hope that it does not foreshadow that the control of the institution by the County Council will mean primarily a desire to run it "on the cheap" out of consideration for the ratepayers. The proposed hospital will afford a great and useful experiment which should be favoured by every encouragement, and if there be any sign of the entry of cheeseparing into its administration it will confirm us in our opinion that the control of its destinies would be better in the hands of a body of independent governors looking to the charitable public to support an institution which might reasonably expect a widespread and practical sympathy from many generous persons.

THE METROPOLITAN WATER-SUPPLY.

THE report of the Metropolitan Water Examiner for December, 1907, is of double interest, as after the usual monthly record an elaborate appendix is added which gives very fully and carefully a digest and tabular summaries of the water examinations during the past year. A measure of the work which is entailed by the watchfulness of the Board's examiner is given by the fact that in 1907 the number of samples examined chemically was 3393 and bacteriologically 8950, which involved the use of 306,691 dilution and culture tubes. The chief advance in laboratory method during the year has been the adoption of Dr. A. C. Houston's quintuple preferential test for bacillus coli, and he now gives his results for that organism under the heading "Typical B. coli," which, he says, corresponds to "Flaginac B. coli" of last year. He has not discarded the old method as unsound but finds the quintuple tests more expedient for Board purposes. Whilst congratulating Dr. Houston on the elaboration of a useful method we regret as fully as he does its confirmation of the fact that London is served by a sewage-polluted water-supply. We commend the following digest of the B. coli findings for 1907 to the attention of our readers, many of whom they concern intimately:—

Source samples.	Percentage of samples found to contain bacillus coli *after filtration*, the samples being respectively of (*a*) 100 c.c., (*b*) 10 c.c., (*c*) 1 c.c., and (*d*) 0·1 c.c.			
	(*a*)	(*b*)	(*c*)	(*d*)
New River	9·8	4·0	0·5	0·06
East London (Lee)	10·9	2·7	0·8	—
East London (Kempton Park)... ...	11·5	0·8	—	—
Chelsea	8·1	2·2	0·6	0·1
Grand Junction	15·5	4·5	0·5	0·1
West Middlesex	14·3	6·1	0·8	—
Southwark and Vauxhall	22·7	12·7	3·4	0·5
Lambeth	14·1	5·5	1·4	0·3
Thames-derived water	15·5	6·3	1·3	0·2
Kent (*chalk wells* water, delivered unfiltered)	8·9	1·2	0·4	—

This table shows that with the single exception of Chelsea the unfiltered water from the chalk wells of Kent is considerably purer than any filtered river-supply. Chelsea water gives a much higher "total organic carbon" than the Kent supply, which, except for its extreme hardness, must be awarded the palm of excellence. The badly needed remedy is additional accommodation for storage and settlement, as the report points out in a paragraph which might almost be stereotyped, so often has it been printed. We hope this matter may find a speedy solution, and print the above table with the view of awakening attention to the fact that London water is very far, indeed, from bacteriological perfection. The figures for December are particularly bad, for only 54·4, 72·9, and 29·4 per cent. of the filtered water samples derived from the Thames, Lee, and New River respectively contained *no* typical bacillus coli in 100 cubic centimetre samples, whilst one cubic centimetre samples of these waters before filtration contained B. coli in the measure of 100, 100, and 81·2 per cent. respectively. Such results as these are under existing arrangements the inevitable sequence to a time of flood, and we can hardly hope for better things in the report for January, since the December rainfall was 4·13 inches and the Thames water at Hampton was reported "bad"—i.e., coloured and turbid—from Dec. 1st to the 18th, then "indifferent" until the 22nd, and "good" for 10 days of the month only. We have felt it our duty to dwell upon the least pleasant aspect of London's water-supply but in doing it we intend no disparagement whatever to the hard-working and often devoted manner in which the Board's engineers fulfil their duty, often in very adverse circumstances. None but the engineers can appreciate the difficulties in the way of securing a pure service and we are convinced that they systematically grapple with the task to the best abilities of the appliances with which they are equipped; but if London is to rely on a source of supply which is inevitably sewage-contaminated the onus is upon the responsible officials to provide appliances to render that contamination harmless, and above all to render the purity of the service more independent of flood time and drought time than is the case at present. Their own experts month by month are pointing out the means by which this end may be largely attained.

AFFORESTATION.

IT is announced that the labours of the Royal Commission on Coast Erosion are to be extended to the question of afforestation and the *personnel* of the Commission has been altered with that object. Long experience has taught us that reference to a Royal Commission is no guarantee that a particular question will be brought within the range of practical politics; nevertheless, all who are interested in the public health should welcome discussion of this subject. Although the influence of forest upon climate is likely to be exaggerated, there is no doubt that extensive woodlands tend to render the climate of a country more equable. According to observations made in several German forests it has been found that in the month of July the temperature of the soil beneath the trees was 7° F. lower than in the open field, whereas in December the forest soil was found to be rather warmer than the ground in more exposed places. It is also stated by geologists that trees tend to increase the precipitation of moisture, while Sir Archibald Geikie in his "Text-book of Geology" says that the destruction of forests is alleged to increase the number and the severity of hail-storms. The same writer tells us that in some parts of the world removal of trees has led to depopulation. Thus from 1836 to 1866 the departments of Hautes and Basses Alpes lost 25,000 inhabitants, or nearly one-tenth, of the population, a diminution which has been assigned to the reckless removal of the pine forests, whereby the steep mountain sides have been washed bare of their soil. Apart from the commercial aspect of the matter, the growth of timber on waste lands is also important in connexion with water for town supply and agricultural purposes. If the catchment area which supplies a particular stream is wholly bare of trees a sudden rain storm produces a flood which quickly passes away. But if, on the other hand, the hilltops are covered with vegetation, the woods and undergrowth act as a kind of sponge which parts with its moisture by slow degrees. In effect, the forest acts as a kind of natural reservoir. In these days, when the adequate supply of water to large towns is becoming more and more difficult, any of not exceeding six months and to a fine not exceeding £75; or to one of these penalties:—I. Any person advertising or recommending himself as being able to treat individuals at a distance (*Fernbehandlung*). II. Any person advertising or recommending remedies, articles, or methods directed to prevent, alleviate, or cure venereal diseases, to remove sexual impotence, or to promote sexual stimulation, to prevent conception, or to arrest pregnancy. III. Any person advertising or recommending remedies, articles, or methods for which it is claimed that they serve to prevent, alleviate, or cure human or animal disease, pain, and injury, where the ingredients or composition of the remedies or articles sold, or the essential features of the methods practised, are concealed or veiled from the purchaser or subject. The clauses (II.) and (III.) shall not be applicable to advertisements or recommendations inserted in medical, veterinary, or pharmaceutical journals.

If some such regulations as the above become law in Germany, or could become law in these islands, unqualified practice would receive a great set-back. Advertisement would become an expensive method of obtaining publicity and the necessity for disclosing the composition of the remedies would probably make would-be purchasers buy (for instance) the ordinary iron pills of the Pharmacopœia at about 1*d*. per dozen, instead of Bodger's Blue Boluses at 1*s*. 1½*d*. per box. But there is yet a simpler method of staying the noxious trade of secret medicines and of quack treatment, electrical and otherwise. We have pleaded for it on many previous occasions, for instance, in our issue of May 12th, 1906, p. 1365, and it is this. Any unqualified person claiming to be able to treat disease by drugs or otherwise should have to pay a heavy annual licence. It is beside the mark to say that such a licence would be a Government recognition of quackery, for quackery is perfectly legal now. Brewers, licenced victuallers, and tobacconists all have to pay a licence to carry on their trade, and such licence implies no guarantee of the purity of articles sold by them. If the tribe of quacks and patent medicine vendors had to pay a licence, which should be renewable annually, which should be revocable at the pleasure of the authorities, and which should cost not a paltry guinea but at least £500 per annum, a great step forward in the safeguarding of the health of the people would have been made. We commend this notion to the notice of Professor ROBERT SAUNDBY, a reprint of whose judicial and sensible paper[2] on the Amendment of the Penal Clause of the Medical Act lies before us.

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The Irish University Bill.

MR. BIRRELL, the Secretary of State for Ireland, appears to have produced a scheme for dealing with the Irish University question which bids fair to give sufficient general satisfaction to warrant not only a place on the statute-book but expectation that a settlement of a much-vexed question may be thereby arrived at. Under Mr. BIRRELL'S scheme, by which two new universities will be created for Ireland and one will be superseded, the Irish nation will be in possession of three separate teaching and examining universities, one of which will be rich, while the other two will have fairly substantial endowment. The difficulty in respect of creeds is solved, though solved in a way that cannot bring satisfaction to those who have the best and fullest conception as to the meaning of university education. Trinity College, Dublin, remains untouched, a position which it owes to its distinguished past. That portion of the Royal University of Ireland, now superseded, which had its seat at Belfast will be elevated into the University of Belfast, and a new university having its headquarters in Dublin will be instituted, of which Cork and Galway will be constituent colleges, while the Maynooth and Magee Colleges and the Catholic School of Medicine will be affiliated to it. The objection to the scheme in the eyes of all who have the highest type of university education before them as a model is that education in Ireland will remain parcelled out into water-tight compartments. Trinity College will receive the Episcopalians, the University of Belfast will receive the Presbyterians, and the new University in Dublin, as yet unnamed, will receive the Roman Catholics, and such separation of the holders of different creeds and observances from each other must detract from the universality of education, but the circumstances of Ireland well warrant Mr. BIRRELL making no futile struggle for the ideal. Mr. BIRRELL has done his best. There are to be no religious tests in the new universities and there will be some representation on the senates at Dublin and Belfast, both of Protestantism and Roman Catholicism.

The finest thing that can possibly happen for Ireland is the spread of education, and undoubtedly the Irish University Bill will help to place a liberal education before the middle-class youth of Ireland. The medical profession can hardly fail to benefit in the general improvement which will take place in educational standards and the diffusion of knowledge, and we look forward to seeing thoroughly well attended medical and scientific schools in connexion with all three foundations. If more money is needed to secure this end we hope that it will be freely forthcoming. It was impossible to suppose that the North of Ireland would view with complete approval Mr. BIRRELL'S scheme or the way in which the funds for carrying it out were allocated. The £20,000 annually given to the Royal University of Ireland will now be divided between the new university in Dublin and the University of Belfast, while Belfast will receive a further grant of £28,000 per annum and £60,000 for building and equipment and Dublin will receive £32,000 per annum and £150,000 for building and equipment. The attitude of the Royal College of Surgeons in Ireland towards the establishment of a new and endowed medical school almost at its door could be anticipated. The medical school in connexion with the Royal College of Surgeons in Ireland can hardly fail to be damaged to some extent by competition with the endowed medical school of the new university, and we trust that Mr. BIRRELL will see his way to compensate the College for any injuries which it may receive. Mr. BIRRELL has been approached in this sense already, and there may even now be definite proposals set on foot for safeguarding the interests of the distinguished Irish corporation. In a Bill which has been so obviously inspired by a desire to please everybody there should be no element of discord which can be eliminated.

THE Earl of Cranbrook has become a Vice-President of the Royal Sea Bathing Hospital, Margate.

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[2] Read before the Midland Medical Society on Jan. 29th, 1903.

Society presented to the city council a site of 1000 square yards in Tower-street and at a cost of £282 it has been converted into a playing area which is enlivened and decorated by a fountain and an inclosure containing trees and shrubs. In Musgrave-road the city council purchased two acres at a cost of £2748 and by the expenditure of £1207 a miserable and depressing area has been transformed into a pleasant oasis. The lower part of the area has been made into a playground for children and the upper part into a lawn with flower-beds and trees. Thus at a comparatively small cost there have been placed in the midst of monotonous surroundings two pleasant open spaces where the older inhabitants of the surrounding dingy streets may enjoy greater breathing space and pleasant glimpses of grass, trees, and flowers, and the children will be able to expand their lungs with purer air and exercise their limbs with greater freedom. It is by well-advised policy of the type which has resulted in the provision of these two new lungs for Birmingham rather than by oppressive legislation that the ideal of life will be raised and many of our present infirmities swept away.

CROPPER v. STOKES: A JUDGE'S QUALIFIED APOLOGY.

WE commented strongly last week upon the action of his honour Judge Edge, who inferentially accused Dr. Henry Fraser Stokes, a well-known Highbury physician, of perjury in giving evidence in the case of Cropper v. Stokes. The accusation was a careless and cruel one and was made infinitely worse by the refusal to Dr. Stokes of the right to appeal against the decision given, thus depriving him of the chance of contradicting the opinion of the judge that he was a thoroughly wicked and disreputable person. A qualified apology has been obtained from Judge Edge under considerable pressure. A memorial was presented to him at the Clerkenwell County Court on Monday last signed by influential members of the medical profession pointing out how impossible it was that Dr. Stokes could have committed perjury. Mr. H. F. Dickens, acting for the Medical Defence Union, read the memorial to Judge Edge who said that in the course of his experience he had never heard of a similar proceeding. Judge Edge then said that he was pleased to get the memorial because if he had unintentionally done a wrong he was glad to be set right. He admitted that upon reflection the evidence given by Dr. Stokes before him upon which he had commented so strongly now appeared to have been given under misapprehension but in the belief that it was true. He could not have said much less or made a less strenuous attempt to remove from Dr. Stokes the slur of a particularly grave accusation. The memorial was in his hands two days before it was read in court and his honour's reply was made, we understand, from a written document. But such as this reply is, it forms an apology and we congratulate Dr. Stokes upon receiving it. Fortunately all who know Dr. Stokes knew that the judge had made a grave error.

THE LATE DR. JAMES BELL.

THE death occurred at his Hove residence on March 31st of Dr. James Bell, C.B., D.Sc., Ph.D., F.R.S., who for 19 years—from 1875 to 1894—was the principal of the Somerset House Laboratory after being deputy-principal for seven years. Born at Armagh in 1825, he was thus 83 years of age. He was at first educated privately and later gained the honour of gold and silver medallist in chemistry at University College, London. While holding the position of deputy-principal of the Somerset House Laboratory he was appointed, in 1869, as inspector of lime and lemon juice for the Board of Trade. This appointment he held for 25 years—from 1869 to 1894—and for the same period he was consulting chemist to the Indian Government. From 1875 to 1894 he was chemical referee under the Sale of Food and Drugs Act, and from 1888 to 1891 was president of the Institute of Chemistry. He was made a C.B. in 1889. Dr. Bell published in 1883 "The Chemistry of Foods," a well-known work on original researches. It was adapted as a handbook for the South Kensington Museum and was translated into German.

MARCH AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Range of temperature.	Days with rain.*	Total fall.
	°	°	°	°	°	°		Ins.
Scilly	55	36	50	42	46·0	8	17	3·25
Jersey	53	31	49	37	42·8	12	14	3·25
Plymouth	55	32	48	38	42·9	10	17	4·09
Torquay	54	29	49	38	43·2	11	12	2·95
Weymouth	55	22	47	36	41·6	11	11	2·37
Bournemouth ...	57	38	48	35	41·4	13	15	3·16
Sandown	58	30	49	37	42·7	12	15	2·71
Brighton	50	28	45	36	40·8	9	11	1·72
Bath	57	24	47	33	40·3	14	12	2·72
Harrogate	55	26	44	32	38·0	12	17	3·70
Manchester... ...	56	27	46	35	40·3	11	10	2·29
Nottingham ...	57	22	46	33	38·5	13	14	2·56
London...	57	29	47	36	41·5	11	10	2·07
Paris	57	26	48	33	40·7	15	14	1·84
Brussels	55	27	45	33	39·0	12	15	1·23
Berlin	59	27	45	33	38·9	12	12	1·75
Nice	61	30	53	39	46·0	14	7	3·28
Genoa	65	39	55	45	50·3	10	13	4·66
Florence	64	30	54	40	47·0	14	11	2·97
Rome	64	30	57	41	49·0	16	10	2·25
Naples	64	39	57	45	51·0	12	10	3·31
Palermo	70	36	61	45	53·1	16	12	3·36
Malta	65	48	60	52	56·0	8	8	1·27
Algiers	73	43	62	49	55·7	13	16	5·40
Biarritz...	61	34	53	41	47·3	12	13	6·52
Lisbon	70	41	59	47	52·8	12	7	1·80

* A day with at least 0·04 inch.

Contrary to the usual course of events the temperature in this country made a retrograde movement during March and its general level was not only below the average but also below that of the month immediately preceding. Over the southern regions of Europe, however, although the climate was not at all warm for the time of year, it was less cool than during February. Both at home and abroad rain was of frequent occurrence, the only exceptions being at Nice, Malta, and Lisbon. At Nice the seven days with rain shown in the above table represent the only rainy days which that resort has experienced during the present year. Along the south coast of this country the sunshine was rather above the average duration, the highest figures being 149 hours at Torquay and 150 hours at Sandown, Isle of Wight. The Scilly Isles had exactly the same mean temperature as Nice but while at the French resort the average day was as mild as 53° and the average night as cold as 39° the corresponding figures at Scilly were 50° and 42°. On the south-western coast of England, Torquay, with a mean temperature of 43·2°, was the mildest, but Plymouth was very little cooler, and Sandown, I.W., had a mean of 42·7°. At Biarritz the nights were rather cool, cooler than during February, and the mean temperature, 47·3°, only a trifle higher than the inland resort of Florence. The highest mean temperature and the mildest nights were experienced at Malta, and the diurnal range of temperature was only 8°, the same as that at Scilly. Among the inland unsightly than it was before. It is fully determined now that x rays should never be used for the removal of superfluous hairs from the face. The best method for the permanent removal of hairs from the face remains to be mentioned, and that is electrolysis, but this method, too, is by no means free from danger and in the hands of the ignorant the electrolysis can do much harm. It was first employed by Michel for removing ingrowing eyelashes, and Hardaway first used it for removing superfluous hairs from the skin. It is essential that the needle should be attached to the negative pole, for if the needle is steel and it is attached to the positive pole very unsightly black stains will be produced, and these are permanent; in fact, a tattooing has been performed. It is very important that so far as possible the process should be aseptic; the patient's skin and the needle must be carefully cleansed or suppuration may occur. If hairs too close together are operated on at the same sitting the intervening tissue may slough and a scar may follow; and even when no definite scars result chronic septic processes may follow leading to the production of wrinkles and furrows which detract greatly from the appearance of the face; even keloidal growths have been reported. It will thus be seen that the electrolysis of superfluous hairs requires just as much care and skill as many minor surgical operations. It is, indeed, a surgical operation and it is not right that it should have fallen into the hands of "beauty specialists" and "manicurists." The public is led to think that it is an unimportant procedure but it has possibilities of harm which are undreamed of by the patients and often by the operators themselves. It may well be that a careless or ignorant operator may render a face markedly unsightly which previously to the operation had shown merely a few dark hairs. Unless the hirsuties definitely spoils the appearance of the face it is well for the patient to rest content with milder methods than electrolysis.

AFTER-HEALTH OF UNIVERSITY OARSMEN: AN OLD STORY.

THIS which follows is an old story; it need scare no relative of either of the crews whose gallant struggle last week engrossed so much attention. It is now more than 40 years since F. C. Skey, ex-President of the Royal College of Surgeons of England, wrote to the *Times* to prove that, in his experience and that of many of his colleagues, the constitutions of an appreciable number of the rowers in the Oxford and Cambridge University boat-race had undergone permanent damage from over-exertion during the contest. The letter aroused lively controversy and led in 1873 to the publication by Dr. John Edward Morgan of "A Critical Enquiry into the After-Health of the Men who Rowed in the Oxford and Cambridge Boat-Race from the year 1829 to 1869." The work contains many letters from former oarsmen, most of which testify to the good effects produced upon them by hard rowing. Some writers, however, complain of heart weakness and digestive troubles set up in the first instance, so they believed, by over-exertion during and before the race. The following table has been compiled from Dr. Morgan's accurately obtained statistics. It differs slightly from his own published table. The 17 cases of injury are mainly attributable to heart disease, but are not fully discussed. In drawing a lesson to-day from these details it should be borne in mind that some of the early races were more than five miles long and that full trials were rowed daily for some ten days before the race. Would it be possible for someone to undertake a similar investigation into the physical state of the competing Blues from 1869 onwards? The information would be, we believe, reassuring and very interesting if the deductions drawn from it are not of too sweeping a nature, and if the matter were compiled on a more comprehensible plan. Let us guess that the two crews of 38 years would give us from 350 to 400 different individual men whose history would have to be inquired about, the rough total being arrived at by surmising that nearly half the men take part more than once in the struggle. The effects of the physical and the mental strain upon 400 young men all about the same age and all to a large extent drawn from the same class and all embarking in the same circumstances upon the same contest are certainly worth noting from a medical point of view. All the evidence that would be obtained would not be of equal value and some would be worth very little, but suggestive facts would certainly be forthcoming. Dr. Morgan's statistics have one source of confusion—the same man may be counted in them more than once, so that (for example) the three men who are put down as injured in 1864 may some or all of them have been put down as benefited or uninjured in 1861, 1862, and 1863. Dr. Morgan's figures show 17 cases of injury out of 416 men, but 416 different men did not take part in the races, though 16 men competed in each year.

Effects of Training and Rowing upon the Eights, 1829–69.

—	Benefited.	Uninjured.	Injured.
1829	8	7	
1836 (second University Boat-race)	4	1	0
1839	7	7	2
1840	3	13	—
1841	4	12	—
1842	9	7	—
1845	2	10	4
1846	1	13	2
1849	5	10	1
	8	6	2
1852	5	11	—
1854	5	11	—
1856	1	13	1
1857	5	11	—
1858	9	7	—
1859	12	4	—
1860	8	8	—
1861	5	10	1
1862	4	11	1
1863	2	13	1
1864	7	6	3
1865	8	7	1
1866	8	7	1
1867	11	5	—
1868	13	3	—
1869	13	3	—

THE PROPOSED NEW HOSPITAL FOR MENTAL DISEASES.

OUR readers will remember that the asylums committee of the London County Council has recently had under consideration the munificent offer of Dr. Henry Maudsley to contribute £30,000 towards the cost of the erection and equipment in London of a hospital of 100 beds for the treatment of cases of recent and acute mental disorder. We commented upon the matter in a leading article in THE LANCET of March 7th, p. 728, in which we set forth the reasons which led to the offer being made. These have been accepted as convincing by the committee of the London County Council to which the matter was referred, and it has now recommended that the £30,000 be accepted from Dr. Maudsley and that an equal sum be contributed by the Council which will maintain the institution when completed. The committee fully endorses the scientific and humanitarian advantages which the author of the scheme claimed for it and due to cancer of the brain. This appeared to be secondary to cancer of the stomach, for a lobulated tumour was found in the epigastric region. The gastric cancer was almost entirely latent. Questioning of the patient showed that slight pains had begun two months previously and that she occasionally vomited. Her condition remained stationary until Oct. 24th when the temperature rose to 104° F. and she suddenly became comatose and died in a few hours. On opening the cranium the brain and its membranes appeared normal. In the left internal capsule was a greyish-yellow spot one centimetre in height and one and a half centimetres in breadth with a finely indented contour. Serial sections showed that it extended for a distance of three and a half centimetres, invaded the optic tract, and abutted on the ventricle. The remainder of the central nervous system was normal. Microscopic examination of the cerebral growth showed that it was composed of cells similar to those found in the cerebro-spinal fluid. There was also a large cancer of the stomach with secondary growths in the omentum, mesentery, liver, kidneys, lungs, and mediastinum. In the heart a very rare lesion was found, a fungating cancerous growth of the size of a large pea on the posterior sigmoid valve similar to the growths found in infective endocarditis. Microscopic examination showed that this growth had the same structure as the vegetations of infective endocarditis with the difference that microbial infiltration was replaced by infiltration of cancerous cells. The growth was composed of filaments of fibrin inclosing masses of cancer cells. It is noteworthy that leucocytes were absent from the cardiac growth and also from the cerebro-spinal fluid, although the cancerous cells played the part of infecting elements.

PARISIAN MEDICAL MEN IN THE SIXTEENTH CENTURY.

AT a recent meeting of the French Academy M. Babelon called the special attention of the members to a work by M. Émile Rivière which contained the first portion of a "Histoire de la Médecine à Paris, au XVI^{e}. Siècle, et ses Praticiens." These latter include ordinary medical men, barber-surgeons, medical students, and apprentices to the barber-surgeons. The materials for the treatise are almost all derived from the "Recueil d'Actes Notariés" relative to the history of Paris and its environs from 1513 to 1545. These archives furnish particulars of cases which came under the supervision of the Paris Faculty of Medicine, especially in 1528 and 1541; also of certificates of the occurrence of certain diseases, of indentures of apprenticeship to celebrated barber-surgeons, and of certificates of competency and permission to exercise the profession of surgeon. This portion of M. Rivière's book terminates with a list of 83 practitioners of the remedial arts, most of them citizens of Paris, together with their professional titles such as "docteurs regents"; premiers médecins, or médecins ordinaires du roi; chirurgiens jurés, and others, adding also their Paris addresses and the signs which they were entitled to suspend outside their residences. Among these medical men appears Master Charles Estienne, brother of the celebrated printers and publishers of Paris. This gentleman dwelt, in 1542, in the Rue Sainct Jehan de Beauvois, at the sign of King David, and appears to have had a large practice.

Mr. Arthur Ferguson MacCallan, M.B., B.C. Cantab., F.R.C.S. Eng., chief ophthalmic inspector in the Public Health Department of the Egyptian Government, has received His Majesty the King's Royal Licence and authority to accept and to wear the Insignia of the Third Class of the Imperial Ottoman Order of the Medjidieh conferred upon him by His Highness the Khedive of Egypt in recognition of valuable services rendered by him.

A COMMUNICATION from the Colonial Office dated April 1st states that during the week ended March 28th the Governor of the Gold Coast has reported 2 deaths from plague near Oblogo. There have been neither cases of, nor deaths from, plague at any other place in the colony. The Department of Public Health of Queensland, in a bulletin dated Feb. 29th, states that no case of plague has occurred in Brisbane since Feb. 7th.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

BY the kind invitation of Mr. Johnson, of Messrs. Humber, Limited, I recently had a trip in a 10–12 horse-power Coventry Humber, and I must say that though I have used a car now daily for over eight years I have never more thoroughly enjoyed a drive. The car, which seems an ideal one for a medical man, is only just over 11 feet long and so permits of easy manipulation; and as a leather hood and front wind screen are fitted there is complete protection from rain and wind. The silence of a Humber is proverbial and is secured by the use of a four-cylinder engine which, of course, makes starting a very easy matter, certainly an important point for a man who drives himself. In the old days I well remember frequently letting a Benz that I then had thunder away while paying a professional call, so as to avoid having the bother of opening the back and spoiling either my gloves or making my hands filthy in pulling the fly-wheel round, and it did require pulling; now this little Humber nearly always starts on the switch and only occasionally does it need a turn of the starting handle. I found that by opening the throttle fully and then switching off, the engine invariably started when the electricity was turned on, and I can with feeling say that this is a boon. The engine has a 3¼ inch bore and a 3¾ inch stroke and is usually run at a speed of about 1200 revolutions per minute. Lubrication is by splash in the crank chamber, the oil being delivered by hand pump on the dash-board, a drip sight feed being fitted for the pump spindle as well as for the clutch and gear box. The makers realising the importance of thorough attention to proper oiling and the unfortunate fact that the general public do not pay much regard to it, issue a sheet with each car sent out, showing those points that need daily visits from the oil-can, as well as such as require but an occasional drop. There is little question that well-designed automobiles need little attention beyond periodical and thorough lubrication, and though a great deal is automatically carried out, still there are many parts that cannot be so greased and it is the owner or driver who makes this duty a matter of methodical inspection, counting off each item as it is attended to, who is free from involuntary stops and whose car works the smoothest and is not a frequenter at the motor doctor's. The great thing is to use good oil and to see that it reaches the parts it is intended to. Lubrication pipes are all the better for an occasional clean out with the tyre pump or by taking them down and holding the centre of the pipe over a gas flame, as the heated air cleans by driving out foreign bodies, such as dirt, dust, and thickened dried oil. On some of these cars the oil is forced by pressure from the exhaust, and naturally, if the pressure-conveying pipe is blocked the oil is not speeded on its way. On this latest type (Humber) a pump lubricator is fitted and driven by a band from the two to one shaft, but either form is successful provided it receives occasional attention. The driving band may break or become too slack, simple disorders that once seen can be quickly remedied. The carburettor is the new type of Longuemare and seems to give a perfect mixture at all engine speeds; it has a hand air regulator, which is an advantage as by its use the mixture need never be "too rich." I certainly do ascribe the now general need of taking off the cylinder covers so as to remove soot deposit to the modern automatic carburettor, which so easily gives too rich a mixture, with resulting carbon deposit on the piston or in the combustion head. This deposit readily agency which will operate to prevent water finding its level too soon cannot fail to be beneficial.

RECENT OBSERVATIONS ON THE TSETSE FLY.

As the subject of sleeping sickness attracts much attention at the present time, our readers will be interested to hear the results of an inquiry undertaken by Mr. E. A. Minchin, the professor in the recently established chair of protozoology in the University of London, on the trypanosomes of the tsetse flies and other diptera. Mr. Minchin went to Entebbe in Uganda in April, 1905, and stayed there until December. The commission with which he was specially intrusted was to study the life-cycle of the trypanosoma Gambiense in its relation to the local species of tsetse fly (glossina palpalis), but this investigation proved barren of results or yielded conclusions chiefly of only a negative character. Incidentally, however, he made some observations on another species of trypanosoma occurring in the tsetse fly which he thinks may prove useful as a guide to future investigators. Mr. Minchin's colleagues, Mr. A. C. H. Gray and Mr. M. G. Tulloch, who preceded him in investigations on the trypanosomes of the tsetse fly, found swarms of "wild" trypanosomes in the alimentary canal of freshly caught specimens of these flies. These they at first considered to be stage in the development of the trypanosoma Gambiense to which sleeping sickness was attributable. Mr. Minchin's investigations, however, with those of his colleagues speedily led them to the conviction that the "wild" trypanosomes had nothing whatever to do with the trypanosoma Gambiense and constituted another species to which M. Mesnil had previously applied the name of Grayii—the trypanosoma Grayii. Mr. Minchin made a preliminary study of the anatomy of the glossina palpalis and in this article corrects some errors into which he had previously fallen. Thus he recognises in the alimentary tract a proventriculus, thoracic or sucking stomach or crop, which after the animal has fed contains bright red blood; a true stomach which is the first part of the digestive tract in the abdomen and in which the blood still retains its bright-red tint but becomes thick and jelly-like; and to this succeed the coils of the true intestine in which the ingested blood becomes dark, very fluid, and watery, with fewer red corpuscles and often with numerous square crystals in it. The black blood stops short at the point where the Malpighian tubules arise and where the proctodæum commences. The proctodæum contains no blood but a yellowish fluid in which are suspended numerous coarse granules showing Brownian movements. Thus the abdominal gut exhibited some time after the fly was allowed to feed three regions well defined by their colour—the red stomach, the black intestine, and the yellow proctodæum. The fluid used for examination of the fly for trypanosomes was withdrawn from the pericardial space by means of a capillary tube; it was found that except for bacteria the tsetse fly was very free from internal parasites; no gregarines or other sporozoa were found in the trypanosomes. The trypanosome body is fusiform and transparent, and presents near the middle of the body a nuclear apparatus which he thinks is specialised into two distinct portions—a kinetonucleus regulating the function of locomotion and a trophonucleus controlling nutrition. There is also a basal granule giving origin to the flagellum. The basal granule is a true blepharoplast, which gives origin to a flagellum—a whip-like body that runs along the edge of an undulating membrane—and is here named the marginal flagellum, and becomes free at the anterior end of the body. In all cases alike the trypanosomes are distinguishable by their general build and appearance into slender, stout, and intermediate forms. The slender forms are actively motile and the stout are listless. The slender forms have a long free flagellum in the cytoplasm and the stout forms have a short one. The anterior end of the body is prolonged into a slender filament running for some distance along, or even to the end of, the flagellum. Vacuolation is occasionally to be observed but probably indicates an abnormal condition. There seems to be little doubt that sleeping sickness is due to the presence in the blood of the trypanosoma Gambiense, and it is equally certain that the tsetse fly, named by entomologists the glossina palpalis, is the active agent in conveying the infection, but some obscurity still exists in regard to the precise mode in which that infection is transmitted. It has been shown by Ross, Grassi, and others that in malaria the mosquito is a true host in which the parasite goes through a complicated developmental cycle at the close of which, but not before, the mosquito is able to infect a fresh vertebrate host with the parasite. This mode of infection, Mr. Minchin suggests, may be characterised as the "inoculation cyclical" type. But in the case of infection through the trypanosoma Gambiense the type seems to be a different one, the protozoon being inoculated mechanically by the proboscis of the blood-sucking fly, and it may be observed that the capability of infecting a vertebrate animal only lasts for a period of 48 hours; with a longer interval no infection was obtained. It is interesting to notice also that freshly caught flies may produce infection with trypanosomes without having been fed previously upon infected animals. The experiments made upon monkeys show that many freshly caught flies are free from the infecting agent or that some monkeys are immune. Thus in one case 2299 flies were fed on a monkey over a long period without infecting it, whilst in another case as small a number as 134 flies produced an infection in it. When infection did take place it occurred much more rapidly with the freshly caught flies than with those that had been fed upon animals affected with trypanosomes. In experiments made with flies fed on an infected animal and transferred at once to a healthy animal Mr. Minchin found that he could infect nine out of ten animals each with a single fly. The origin of the trypanosomes that multiply with such rapidity in the blood of vertebrates is unknown but it seems probable that they are derived by the fly from infected vertebrates; but if taken from the intestine of the fly and artificially injected into susceptible hosts they will not infect them. Infection is apparently produced only by the trypanosomes in the proboscis of the fly. But different species of fly contain trypanosomes of very different degrees of virulence. In the second part of his memoir Mr. Minchin records his observations on the development of the trypanosoma Gambiense in the tsetse fly (glossina palpalis) and other diptera. The trypanosomes at first multiply in the digestive tract, and only in this when the digestion of blood is proceeding. The appearances presented are represented by Mr. Minchin in several plates containing a large number of beautifully executed drawings. The above observations are contained in the March number of the *Quarterly Journal of Microscopical Science* for 1908.

SOME RESULTS OF THE "OPEN SPACES" MOVEMENT IN BIRMINGHAM.

DURING the past year or two the Birmingham Open Spaces Society has by its energy and determination forced itself prominently into public notice and has consequently been subjected to both criticism and praise. Now that the results of its efforts are becoming more obvious to the ordinary observer there can be little doubt that they will receive even fuller appreciation than in the past. Anyone who visits Tower-street and Musgrave-road, where recreation grounds have been recently opened, cannot but be struck with the advantages which must accrue from the action which has been taken. In 1906 the Open Spaces

Mr. O'Gorman suggests in chain-driven cars to alter the sprockets and have the small one on the road wheels and the larger one in front, the ratios in the gear box being increased to compensate; thus there are two skids simultaneously and in opposite directions which cancel one another, and in shaft-driven cars he proposes to overcome the difficulty by employing two universal joints and a parallelogram of radius rods. Certainly, even if this makes the car dearer, the saving in tyre wear will make up for the additional primary cost. He also advocates a most important matter—care in letting in the clutch and discretion in the use of the brakes, all points which if attended to help to keep down tyre expense.

While recently touring I came across a fellow motorist on the road who was stuck up by a broken valve spindle. He had a spare one but seemed to have a difficulty in replacing the spring, and as the following wrinkle was not known to him I am giving it in case there are others to whom it may be also new. Compress the spring in a vice, or if you have not one handy an ordinary coach-house or shifting spanner will do. When it is compressed tie it with either a bit of string or wire, so that it cannot expand; it can then easily be put into position, and after the key is put in the wire can be clipped or the string cut. This dodge can, of course, also be used for clutch springs.

PETER OF ABANO.

BY CUTHBERT E. A. CLAYTON,

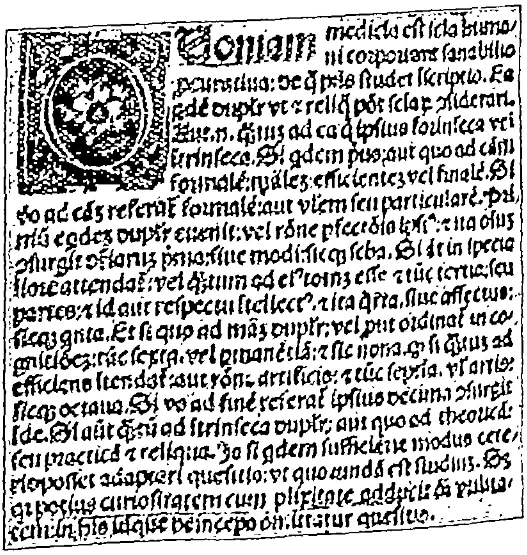
LIBRARIAN TO THE MANCHESTER MEDICAL SOCIETY AND OF THE MEDICAL LIBRARY, UNIVERSITY OF MANCHESTER; SOME TIME IN THE LIBRARY OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

OF the many physicians who flourished during the latter half of the thirteenth century and the beginning of the fourteenth century none gained a more widespread reputation than Peter of Abano, or as he was called Petrus de Abano. Born in 1250 at Abano, a village near Padua, the son of a notary, he soon gave evidence of an exceptional ability for study, and the earliest record we have is that of his leaving for Constantinople in order to devote his energies to the study of Aristotle; it is even said that he travelled into Greece for this purpose. Like so many students of his age he wandered from *studium* to *studium* until he reached Paris, where he settled for some years, devoting himself to medicine and mathematics, a combination rendered necessary by their common relationship to astrology. Astrology was an important part of a doctor's equipment. In addition to these three subjects he applied himself to physiognomy, geomancy, and cheiromancy, but with the advance of years he laid them aside.

The greater part of Peter's work was done whilst in Paris, a period extending from 1292 to 1303. He graduated in medicine, lectured on philosophy, wrote the "Decisiones physionomicæ," the "Conciliator," and commenced the "Expositio problematum Aristotelis." Of course, all these works were in MS. form, printing being an invention of 150 years later. Immediately on the appearance of the "Conciliator"—probably in 1303—the Dominicans accused its author of magic and heresy. Peter, however, defended himself brilliantly, confounded his accusers, and hastened to Rome, receiving from Pope Boniface VIII. a decree of absolution. Year by year Peter's reputation as a physician had spread throughout Europe. In 1306 he returned to Padua at the invitation of the University, where a chair of medicine is said to have been founded for him. Whether he previously, concurrently, or ever held a chair at Bologna, as has been stated, is uncertain, but I think it is improbable. The University at Padua came into existence in 1222, "when gown and town" warfare raged furiously in Bologna, resulting in a partial migration of the staff; such an act would not be lightly forgiven.

In Italy almost supernatural powers were credited to Peter and in 1306 he was brought before the Inquisition on the old charges of magic and heresy. For the second time the Dominicans were his accusers, now undoubtedly strengthened by the fact that Boniface VIII. had been succeeded by one of their own order, Benedict XI. However, it only added to the great reputation of the accused, for with great ability he proved his innocence. Eight years later he came into collision with the Church for holding heretical views on the resurrection of the dead, the existence of the devil, and miracles. Peter's good fortune remained with him until the end, for he died in 1315 before the completion of the trial, and was buried with great pomp in Padua. The inquiry was continued, its subject was found guilty, and it was resolved that his body should be exhumed, publicly burnt, and his property devoted to the use of the Church. What exactly happened is uncertain. The General of the Augustinians wrote: "He lied in his iniquity and received the reward of his error, for I was present when his bones were burnt in the city of Padua for these and his other heresies." Another version is that a faithful servant, informed of the sentence, disinterred the body during the night and transported it to another church necessitating his being burnt in effigy.

The more important literary remains of Peter of Abano are the following: "Decisiones Physionomicæ," "Expositio problematum Aristotelis," "Conciliator differentiarum philosophorum; præcipue medicorum," "Tractatus de venenis," "Quæstiones de febribus" (in a work "De febribus"), "Textus Mesue emendatus," and "Geomantia." He also edited and translated several *Greek* and *Hebrew* works. Unlike Vesalius or Mundinus, he added little to contemporary knowledge and undoubtedly *owed his popularity to* the controversial nature of his writings. His chief book, the "Conciliator," and the one to which he owed his reputation and sentence, was first published at Mantua in 1472, about 20 years after the first book printed with moveable type. I have been unable to refer to a copy of this edition. *The Manchester Medical* Society possesses a copy of the Venice edition of 1496, a folio of 265 leaves, which include the "Tractatus de venenis." It is printed in Gothic type in double columns. The printer was Octavianus Scotus, a native of Modena, who opened his press at Venice in 1480, founding one of the largest printing and publishing houses in that city. The accompanying passage is reproduced from a photograph of a portion of the Prologus:—



⁂ Without the contractions the above passage stands thus in transliteration, and we must express our thanks to Dr. L. G. Guthrie and Miss E. J. Lewis for help in the same:—

Quoniam medicina est scientia humani corporis ut sanabilis procurativa de qua praesens studet inscriptio. Ea quidem dupliciter ut et reliquae possunt scientiarum considerari. Aut enim quantum ad ea quae ipsius forinseca vel intrinseca. Si quidem prius aut quo ad causam formalem, materialem, efficientem vel finalem. Si vero ad causam referant formalem aut universalem seu particularem. Primum equidem dupliciter evenit, vel ratione perfectionis ipsius et ita omnium consurgit differentiarum prima, sive modi sicque secunda. Si autem in specialiore attendant vel quantum ad eius totum esse et tunc tertia seu partes et id aut respectu intellectus et ita quarta, sive affectus sicque quinta. Et si quo ad materiam dupliciter vel prout ordinetur in cognitionem tunc sexta, vel permanentiam et sic nona quae si quantum ad efficiens intendant aut ratione artificis et tunc septima, vel artis sicque octava. Si vero ad finem referant ipsius

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[*] *References*.—Brown: Venetian Printing Press, 1891. Catalogue of the British Museum Library. Dictionnaire des Sciences Médicales, Biographie Médicale, 1824, vol. vi. Janus: 1852, vol. ii., 382. Lea: History of the Inquisition of the Middle Ages. Puschmann: Geschichte der Medizin, 1902. Rashdall: Universities of Europe in the Middle Ages, 1895. Withington: History of Medicine, 1891.

places in the north London was the mildest and Harrogate the coldest, while Manchester and Bath were very little colder than Paris and milder than Berlin and Brussels.

IMPURITIES IN AIR.

THE interesting researches of Professor William Thomson, F.R.S.Edin., into the amount of carbon dioxide in Manchester air and in buildings under different conditions, of which he gave an exposition at the meeting of the Manchester and Salford Sanitary Association, call for more than a bare mention. They grew out of the request of the Sanitary Association for a simple method of estimating the carbonic acid gas in public and other buildings, and the device contrived seems simplicity itself. The air is forced into a bottle with an ordinary pair of bellows and then submitted to a simple chemical test. The results of the analyses of air from various buildings taken sometimes when occupied and sometimes when empty are at times unexpected, and these researches not only widen our knowledge of facts but lead to a better understanding of the principles that should underlie schemes of ventilation. Modern architects, it seems, accept as permissible in buildings 6 parts of carbon dioxide in 10,000 but the variations from this standard are very wide. The lowest example given is from schools at Macclesfield where the range was 1·4, 3·5, and 6·1 in 10,000. In Manchester two boys' schools gave 11·2 and 11·7, and one of the girls schools gave 14·9, while two rooms in another school gave respectively 12·8 and 8·3. In a school at Openshaw the boys room showed 18·2 and the girls' room 11·5. The recently built Technical School came out better, giving 6·5 per 10,000. In a Nonconformist chapel near Manchester the air after service yielded the very great proportion of 44 parts of carbon dioxide per 10,000. In a concert hall 5·2 before a performance became 11·2 after one and a quarter hours, and so on. One interesting and important fact brought out in these experiments is that the sense of comfort and satisfaction experienced does not depend altogether on the proportion of carbonic acid gas present, for though the Technical School is one of the best ventilated buildings in the city many people find the air objectionable from its "lack of invigorating qualities," and this Professor Thomson believes to be due to the method of washing the air that is employed. That this is probably true appears from experiments made as to the effects of breathing dry or damp air, for it was discovered that "thoroughly dried air has a much more powerful oxidising influence on the blood than air that has not been dried, and that this effect is increased by heating the air." He referred to the air of the House of Commons having "a peculiarly flat taste"—though that does not appear to prevent it being much sought after—to its not being invigorating, and to the prevalence of influenza among the occupants. This he considers due to the air being washed in water as it is forced into the House and suggests that it would be much healthier and pleasanter to breathe "if it were passed through strong vitriol or some substance that would absorb the moisture." Other interesting points were brought out. The amount of carbon dioxide exhaled with the breath is usually given as about 4 or 5 per cent., but Professor Thomson found that "it depended on the quality of the air by which he was surrounded." Thus in Manchester a lower percentage of carbonic acid gas was given off than in the country, at the Buxton golf links, 1000 feet, and still more at the Cat and Fiddle, 1700 feet above sea level. But the idea that altitude influenced the amount of gas exhaled was not borne out, as equally good results were obtained at Blackpool. Professor Thomson found that where the air was inhaled through the mouth the expired air was about 0·2 per cent. lower in carbon dioxide than when the nostrils alone were used, and this suggested the idea that if the air were heated artificially still greater oxidation would take place in the body. It was found that when air heated to 140° C. was breathed the exhalation contained 5·4 per cent. of carbon dioxide, while exhalation of unheated air from the same person gave 4·4. The average of a number of experiments gave 4·1 from ordinary air and 5·2 from heated air. It is curious, and not what many of us would have anticipated, to learn that when pure oxygen was breathed the exhaled air gave an average of 4·4 to 4·5, considerably below that found from breathing in country air, so that Professor Thomson concludes that the ideal combination for reviving people nearly drowned or asphyxiated would be obtained from warmed country air and oxygen. Dried and heated air has a much more powerful oxidising influence on the blood than damp air, for the moisture more than neutralises the effect of the warmth. To illustrate practically the application of the exposition to which the audience had listened, a sample of the air of the room in the town-hall where the meeting was held was taken by Professor Thomson's assistant before the people assembled and by Professor Thomson during his address, the first sample containing 6 parts and the second 19·8 parts of carbon dioxide in 10,000. These investigations help to explain some of the influences of climate and locality more clearly than before. As is well known, however, the carbon dioxide is not the only cause of mischief from bad ventilation, the animal matters given forth with the breath being still more deadly. It is much to be hoped that Professor Thomson's paper will be carefully considered and its lessons acted on by architects, school managers, and all who are interested in the sanitary welfare of he people.

DIAGNOSIS OF CANCER OF THE CENTRAL NERVOUS SYSTEM BY LUMBAR PUNCTURE.

AT a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 28th M. F. Widal and M. P. Abrami reported a case in which cancer of the central nervous system had been diagnosed by lumbar puncture, a new and interesting application of this means of diagnosis. A laundress, aged 47 years, was admitted into hospital on Oct. 19th, 1907. Three days before whilst at work her legs suddenly gave way and her left arm became paralysed. She did not lose consciousness and got up in a few minutes with paralysis of the left leg, arm, and face. Examination showed left inferior facial paralysis and complete flaccid paralysis of the left arm and leg. The plantar reflex was of the extensor type. Sensibility was intact. There was nothing to show the cause of the hemiplegia; no symptoms had preceded it. Lumbar puncture yielded perfectly clear cerebro-spinal fluid, the tension of which was not increased. Centrifugalisation gave an unexpected result: instead of the lymphocytes found in various affections of the central nervous system the deposit was almost entirely composed of cells which in size, structure, and appearance of the nucleus had all the characters of cancerous cells. In the fresh state without staining they were seen to be rounded and huge; the smallest were four or five times the size of a polynuclear cell. The greater part of the cell was occupied by a vesicular rounded nucleus containing several very refractile nucleoli. The protoplasm of the cells was clear and in a great number contained numerous vacuoles; others were full of large granules. Some appeared to be in a state of karyolysis. The cells gave the glycogen reaction. In stained preparations numerous cells were found to be in a state of karyokinesis. The cerebro-spinal fluid contained a high proportion of sugar—four grammes to the litre. Clinically the case appeared to be an example of ordinary hemiplegia but the examination of the cerebro-spinal fluid showed that it was by King Edward's Hospital Fund could be made applicable to the requirements of provincial hospitals and to make recommendations to the next conference.

County Hospital Guilds.

Mr. R. H. KINSEY (Bedford County Hospital) discussed the organisation of county guilds for the support of hospitals, as in Bedfordshire, as an alternative to the extension of the work of the League of Mercy in the provinces. He proposed a motion approving of the scheme adopted by the Bedfordshire County Hospital. This institution supplied the hospital needs of an area containing 150,000 people. Every year it treated about 1000 in-patients and 5000 out-patients. The guild gave an opportunity to a large number of people to do good to their neighbours, it increased the annual income of the hospital by gathering in a large number of small subscriptions, and it increased the utility of the hospital by doing supplementary charitable work. Their idea was to secure in every little town and village throughout North Bedfordshire some representative of the hospital who would be constantly bringing its claims before his or her neighbours.

Lord AMPTHILL (chairman of the Bedford County Hospital) said the proposal was simply a measure for coördinating and systematising existing efforts in order to prevent overlapping and to secure that there should be an equal distribution over the whole area of all the public-spirited and philanthropic efforts which were already made. It was a decentralisation of effort and a concentration of control, giving to the smaller organisations all that additional strength which resulted from united effort. The scheme consisted of the division of the area into districts with responsible officers in each, people who had local knowledge and would take care that abuses would not occur.

Dr. FOX said that the time had come when the consideration of the King should be called to the condition of provincial hospitals, and he proposed an amendment on the subject which the CHAIRMAN ruled out of order.

After some discussion the following was adopted :—

> That this conference has heard with interest of the scheme of the Bedfordshire Hospital Guild as a means of increasing local interest in the county hospital and extending its usefulness by promoting more intelligent efforts for the prevention of disease and for the better after-care of convalescents.

The Prevention of Tuberculosis.

The Rev. W. BLISSARD proposed—

> That tuberculosis should be included among notifiable diseases, with a view to the isolation of such patients in publicly provided hospitals.

Tuberculosis, he said, was the scourge of modern civilisation. Hospital treatment for this disease was quite inadequate Tuberculosis might be looked upon as a condition resulting from all those activities which were building up the wealth and the prosperity of the nation. From this point of view he urged that public provision should be made for the accommodation of tuberculous patients, as the position was far beyond that which could be dealt with by voluntary effort and he made a strong appeal to public conscience and public power. The expense would probably be heavy, but unless some such proposal was carried out there would be a loss of lives which, if saved, would be of the greatest use in building up the national prosperity.

Dr. DAVY moved as an amendment :—

> That the consideration of the propriety of the notification of tuberculosis be postponed, and that the Government be asked to appoint a commission to recommend the best way to deal with tuberculosis.

He said the notification of tuberculosis was a very complicated matter. Dr. H. T. Bulstrode, who had lately published the result of a long inquiry into the subject, had suggested that tuberculosis was dying out and would die out as sanitation improved. He (the speaker) was not at all satisfied, however, to leave things as they were. Roughly speaking, some 60,000 persons died from tuberculosis each year in the United Kingdom. People could not be willing to leave the subject alone when they believed that more than half of that death-rate could be prevented by carefully considered measures of prevention. Such measures should be carefully devised by a body of men who would be influential enough to command the respectful attention of the nation. This question affected every part of our national life and could not be dealt with as if it were a question merely of the notification of the disease. He suggested that a body of influential unbiased men, laymen and medical men, should consider the question, and they could only be called together by a Royal Commission.

The amendment was seconded by Dr. HERON and, being accepted by the Rev. Mr. BLISSARD, was carried unanimously.

Medical Men and Hospital Boards.

Dr. J. FORD ANDERSON proposed :—

> That with the view of securing the cordial support of hospitals by medical practitioners, it is desirable that they should nominate representatives for election to boards of management of hospitals in their respective localities and that such nominations should be carried out by an organised professional body, such as a division of the British Medical Association.

Mr. MANSFIELD, M.P. (General Hospital, Northampton), opposed the proposal which on being put to the vote was lost.

On the proposal of Dr. T. W. GRIFFITH (Leeds) it was declared desirable that temporary accommodation should be provided in hospitals for certain cases of unsoundness of mind for purposes of observation.

The proceedings then concluded.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between March 28th and April 3rd by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

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becomes incandescent and ignites the mixture prior to compression, with consequent overheating and loss of power. The frequent taking down of the cylinders for removal of this deposit by scraping is a trouble and the new type of Longuemare carburettor cures by the best method—that is, prevention—the avoiding of too rich a mixture. The perfect cooling of a petrol engine is perhaps the greatest feature in a car, as overheating is the bugbear of all cars. It causes excessive expansion of the incoming charge, so a full one is not admitted. In addition, the excessive heat results in premature ignition and so the mixture is exploded before it is compressed, with the consequence that there is loss of power and, furthermore, the lubricant is burnt up and so the piston may seize or a connecting-rod break—all interesting but unpleasant pathological events. The Humber is well guarded against such disasters. An improved honeycomb radiator with a fan at the back is fitted and there is a positively driven rotary pump of ample proportions fitted with a filter and placed so that it can be easily dismantled for cleaning. I took the car up some really bad hills, ascents to which Shooter's Hill, Netherhall Gardens, and even River Hill at Sevenoaks are nothing, and I must say that it mounted them all easily and, what is more, without the engine showing any signs of "heating."

Probably more stops are due to ignition functional disorders than to any other, and though I know that such an authority as Mr. S. F. Edge does not consider two ignition systems desirable, still as it is not always convenient for a medical man to stop on the road if an electric fault occurs I strongly advise my professional brethren, if possible, to have two separate means of exploding the mixture. The Humber can be fitted both with high-tension magneto and high-tension coil and accumulator, so in the, I admit, unlikely instance of one failing, instead of having to stop, the other can be switched on, which I am sure is an advantage. Of course, the accumulators must be kept charged and the tremblers on the coil adjusted, and so it is as well to make a rule to start the engine up on the coil and accumulators and afterwards to turn on the magneto, and this too makes the starting much more easy and in addition insures that the accumulators are kept charged. The drive is by the now popular cardan shaft and "live" axle and perfect running is obtained by the driving shafts and bevel pinions being mounted on ball bearings, ball thrust bearings being also fitted, and as a result of the firm's long experience in the bicycle trade their knowledge of ball bearings is probably unique and their car bearings have obtained a similar fame to that of their cycle bearings. A leather-faced cone clutch is provided, but in their 30-h.p. metallic discs running in an oil bath are fitted. Perhaps on high power cars the multiple disc may be desirable, but I have always found a leather-faced one satisfactory, provided that it receives an occasional dose of collan oil, and with care the leather should last for many a year, and in addition if it has to be replaced it is easily done. The side brakes are of wood fibre and spring steel working on a flanged brake drum of large diameter and width, and the foot brake is metal to metal, the drum being between the rear gear box bearing and universal joint. The adjustment is by a winged nut which can be turned by hand. All are operated by rods, certainly an improvement on the old-fashioned cable. They are most powerful, and I gave them a good test on a really bad hill and found either of them capable of stopping and holding the car on a gradient of 1 in 6 in both directions. I understand that this car is sold fitted with a Cape-cart hood at about £250, and at this price it is well worthy of the consideration of the profession. It certainly rides most easily, which is, I believe, greatly due to the transverse rear spring.

A matter that is likely to affect all motorists is the proposal of the Royal Commission regarding the future taxation of cars. As Dr. H. E. B. Bruce-Porter, who is the honorary secretary of the committee of medical men using motor-cars, remarks, it is perhaps too much to expect the Government here to treat medical men as they do in Germany, where it is accepted that as the profession do so much gratuitously the medical man should receive some recognition and so his car is exempt from taxation. Still, it does seem but fair to put forward the suggestion that even though a medical man may use his car for a short holiday, still he should be merely taxed at trade rate. I am sure that the public as well as the profession would welcome this acceptance of the work which the profession do, and do without even thought of a fee. In hilly districts a medical man must have a powerful machine, and the proposal is that if it weighs over 15 cwt. he should pay £5 5*s*., whereas under that weight it is but £3 3*s*. It certainly seems hardly fair to have to pay £2 2*s*. a year extra because the neighbourhood is hilly. The motor is not only the pastime of the rich, as those who motor about can see; there are many motorists of moderate means and a heavy tax is bound to decrease the number of cars kept by this class, and surely this will affect what is now becoming, if it has not already become, a great industry—the manufacture of cars. Let us trust that the Government will give this matter deep consideration before it accepts the proposal of the Royal Commission. Mr. Leveson-Gower has propounded an original scheme as a basis for taxation. He quite correctly argues that the motorist should pay according to the mileage he covers, and, as he says, the outer covers of the tyre are to a great extent an index to the distance covered, so he suggests that the tax should be collected from the tyre maker or importer and each tyre bear a Government stamp. It will be a cheap tax to collect and if it becomes law I rather think that I shall get my tyres retreaded more often than I do at present, and I believe my fees for visiting in a road that contains unrolled stones will increase. Perhaps this tax would help in reducing excessive speed, for road racing does more than anything else to wear out tyres, so it will come rather hard on professional men receiving many urgent calls.

Everyone is now fond of talking of the individual known as "the motorist of moderate means," and I take it that the average medical motorist may well claim to come under this category. Tyre bills have always been a formidable item in the cost and upkeep of a car, and it will be welcome news to all that tyre makers are now reducing their prices. The Continental Tyre and Rubber Company, Limited, who at their Hanover works alone employ over 5000 hands, are, as a result of the reduction in the price of raw material and their great facilities for manufacture, making substantial reductions not only in the ordinary motor tyres but also in their armoured studded non-skid type. The advantage of this is that not only may tyres of a larger size than usual be fitted on new cars at no increased cost over that which obtained previously, but also non-skids on the rear wheels. Speaking from experience, I can say that a larger-sized tyre, especially on the driving wheels, is a great economy. Many cars are fitted with the 810 mm. by 90 mm., but with the present reduction 810 mm. by 100 mm. can be substituted, especially as they fit the same rims. It is most surely always better to use tyres of a stronger pattern than absolutely necessary; they last much longer and are not so liable to cut. The use of non-skids, if merely as a sort of moral comfort, is an advantage; the knowledge that skidding is not likely to disturb the harmony of a drive does give greater confidence, especially if the owner is his own driver. I recently had an example of this "psychological effect." A friend in wet skiddy weather drove me from the suburbs of London to the West-end in his car and on our arrival remarked: "I should not have been able to do this without non-skids," when, to his astonishment, he discovered that the non-skids had, unknown to him, been taken off by his man and that he had driven on ordinary round treads. Still, non-skids in traffic are an advantage, and the Continental Red-Black 1908 pattern, in addition to absolutely preventing skidding, greatly reduces the chance of puncture as they are practically covered with steel. The studs are fixed in the tyre without the aid of leather by patent discs, immediately under the head of the rivets, and if only the tyre is kept well pumped up it is impossible for the studs to become loose or torn out; the great thing is to keep the tyre fully inflated.

Some unconsidered points in the wear of tyres have recently been brought out by Mr. Mervyn O'Gorman in a paper read by him before the members of the Royal Automobile Club entitled "A Number of Things and their Effect on Tyres." Undoubtedly, he has shown that both in chain-driven and, to a certain extent, in shaft-driven cars the distance or torque rods do not keep the drive constant when the car moves up and down on its springs, and thus there is an irregular drive to the road wheels and consequent rub and wear of tyres. In some cars, such as the excellent little Humber, the push is taken by the springs, radius rods being done away with, but in these the flattening of the springs gives a further movement backwards to the axle and this movement is additive.

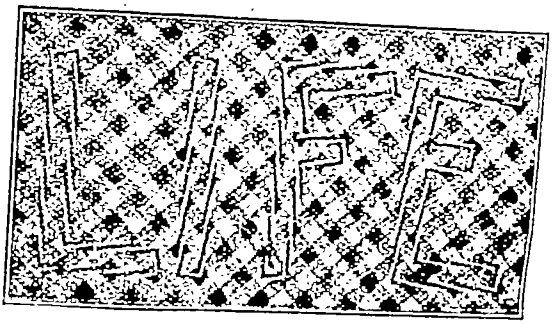
outbreak had taken place. The facts, apparently beyond dispute, that the water had not been in a condition of purity, and that the widow, who went into the witness-box to say so, had herself complained with regard to it, no doubt were accorded serious consideration by the jury who awarded her £650 damages, for which sum judgment was entered by Mr. Justice Grantham, a stay of execution being refused.

The Pistol Again.

The still frequent occurrence of accidents and intentional injuries inflicted by pistols, which evidently have been acquired by their possessors without any difficulty, points to the insufficiency of the late Act of Parliament regulating the sale of such weapons, so far as the protection of the public is concerned. A few weeks ago the suicide of a young lady in a train showed that she was in the habit of practising shooting with a revolver and in her case the existing statute would naturally have been of little avail and perhaps no other one likely to be passed would have been much more effectual. More recently, however, another woman has selected the same manner of committing suicide and in her case the enforcement of the Act might have given her time for reflection and might have deterred her from her purpose. It was not, however, enforced, with the result that Mr. A. H. Watson, a gun-maker in Bond-street, and his salesman were summoned before Mr. Denman recently at Marlborough-street police court. At the hearing it was shown that a lady known as Margaret Leighton or Alcott bought the pistol at 3 o'clock in the afternoon and on the same evening shot herself with it in a railway carriage at South Kensington. She had paid for the weapon £3 7*s.* 6*d.* and had obtained it without being obliged to produce a licence to carry firearms as a preliminary condition, by means of an ingenious tale that she intended it as a present for her daughter who was going to America. The salesman, apparently desiring to save his customer 10*s.*, allowed her to take away the weapon and as a result of the transaction each defendant had to pay a fine of £3 with 2*s.* costs. They had failed to insist upon such precautions as the law at present enjoins, but it can hardly be contended that these would necessarily have prevented the acquisition of a pistol by a person able and willing to pay £3 7*s.* 6*d.* for it. More stringent regulations might render the purchase or possession of a revolver illegal for any civilian unable to show that he required it for some lawful purpose, and the trade which would be diminished thereby can hardly be regarded as one of importance or as one useful to the community.

A NEW VISUAL ILLUSION.[1]

VISUAL illusions are always interesting and this pamphlet with its nine illustrative plates describes a new form of deception in a very lucid manner. Dr. Fraser states that: "In all the hitherto published visual illusions of direction, with the exception of the chequer-board or Münsterberg illusion, the illusory lines or bands are definitely continuous, uninterrupted in character, of black or of white, on a contrasting background. In the illusion of direction here described each illusory band consists of a series of visibly discrete similar parts, all inclined at the same small angle to the line of direction of the series to which they belong. Such visibly discrete similar parts may be conveniently termed 'units of direction.' Where the illusory band consists of alternating black and white 'units of direction,' it may be conveniently regarded as representing a cord consisting of two strands, black and white, twisted together." This arrangement he refers to in the subsequent descriptions of the illusions as the "twisted cord." A twisted cord laid upon a grey or coloured background of intermediate luminosity will, he says, apparently deviate from its actual line of direction at an inclination corresponding in trend (but at a smaller angular degree) to the inclination of the units of direction. This illusion is much increased in degree when the twisted cord is laid upon a chequer-work background of squares of white, black, and an intermediately luminous grey in such a way that it bisects diagonally each member of a series of black and white squares, its black and white units bisecting respectively white and black squares (their contrasts) at a small angle with the diagonal line of the square. Dr. Fraser's description continues as follows: "In such a figure each unit of direction is now, in effect, lengthened by the addition of a triangular area of the same luminosity at each of its ends. These triangular areas are derived or borrowed from the neighbouring squares belonging to the series on which the twisted cord lies, and they lie on opposite sides of the twisted cord." The reader will find that on holding the pages containing the illustrated figures on a level with the eyes so as to foreshorten the characters Dr. Fraser's explanation becomes at once comprehensible. The "units of direction" then remind us of horse-nails but with a head on each end on opposite sides placed slantwise to form the outlines of the letters forming the word LIFE. If one of the examples is looked at in this manner the apparent sinuosity of outline disappears and the convergence and divergence of other examples are greatly modified. To see how great this modification is, it is only necessary to print on a piece of tissue paper the word Life in simple straight characters of the same size as the apparently crooked letters. When the rectangular word on the tissue paper is laid upon the "crooked" word as printed above the superimposition will be found almost exact. The paper well deserves study by those interested in the subject.



THE FIRST INTERNATIONAL FIRST-AID AND LIFE-SAVING CONGRESS.

THE First International First-Aid and Life-Saving Congress which will be held at Frankfort-on-Main during Whitsun week of the present year, should prove to be of great interest, especially as the ever-increasing use of machinery and the altered conditions of the means of transit demand in the interests of the public the fullest consideration of the questions with which the Congress will deal.

As will be seen from the programme, many of the matters to be discussed have already received special attention in the United Kingdom, while the exhibition which will be held in connexion with the Congress will afford an opportunity for this country to occupy a fitting position in a movement of great importance.

The Congress will open on June 9th under the presidency of His Excellency Dr. Count von Posadowsky when there will be a reception of delegates in the Rathaus followed by a supper in the Rathskeller. On June 10th the Congress will meet in "Jügel Haus" and later in the day a banquet will be held in Frankfurter Hof. On June 11th the sectional meetings will be followed by a general meeting and a visit to the opera in the evening. On June 12th the proceedings of the Congress will be continued and a garden party will be held in the evening in the Palmengarten, and on June 13th, after the final meeting of the Congress, a visit will be made to the Hôchst Farbwerke and supper will be given at the Kurhaus at Homburg. The provisional programme also announces that the Congress will be divided into ten sections dealing respectively with medical first-aid in cases of accident, instruction of non-professionals in first-aid, ambulance work in towns, ambulance work in the country and in industrial and small communal centres, ambulance work on land (railway, automobile, &c.), ambulance work at sea and on inland and coast waters, ambulance work in mines and similar places, ambulance decima consurgit inde. Si autem quantum ad intrinseca dupliciter aut *quo* ad theoricam seu practicam et reliqua. Ideo si quidem sufficienciae modus ceteris posset adaptari quaesitis, ut quorundam est studium. Sed quia potius *curiositatem cum prolixitate adducit quam* utilitatem in his idque deinceps omittatur quaesitis.

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[1] A New Visual Illusion of Direction. By James Fraser, M.B., C.M. Aberd., Deputy Medical Superintendent, Central London Sick Asylum. Reprint from the Journal of Psychology, vol. ii., part 3, January, 1908.

We are indebted to the Rev. H. Lucas, S.J., of Stonyhurst College, for assistance in the following paraphrase. The meaning of the text is in one place at least obscure:—

> The object of the science of medicine is the human body, as capable of cure. Like the other branches of learning, it may be considered from two points of view—namely, the intrinsic or the extrinsic. Of these two, the former may have reference severally to the formal, the material, the efficient, and the final cause. The formal cause—i.e., the quality of "curableness," if considered generally, may be regarded either (1) in relation to the perfection itself, i.e., *health*, and so we arrive at the first division, the "prima differentiarum," of the subject, or (2) in relation to the way in which the perfection is to be attained (*modus*). But if taken more specially it may be regarded (3) in its entirety, or (4) as to its intellectual, or (5) its affective side. (This passage is very obscure.) With regard to the material cause, the body (?), this may be regarded either (6) as an object of diagnosis or the knowledge of its present state or defect, or (9) with reference to the normal or permanent state to which it is to be brought. The efficient cause of health is (7) the medical man (*artifex*), and (8) his drugs, rules for their use, &c. (*ars*). The final cause is (10) health.

It will be noted that Petrus skips from No. 6 to No. 9 for no apparent reason. The "four causes" above mentioned are the Aristotelian causes. In the Middle Ages a great deal of ingenuity was expended on treating all manner of subjects in the light of this fourfold causality. Petrus, however, seems to have had an idea that arguments of this kind were not altogether commendable, for it will be noted that the passage which we have quoted concludes, "But as this discussion tends rather to vain and wordy disputation than to any useful purpose, let us here cease from our inquiry."—ED. L.

THE UNITED HOSPITALS CONFERENCE.

THE third United Kingdom Hospitals Conference was held on April 1st and 2nd at University College, Gower-street, London, W.C., under the chairmanship of Mr. CHARLES LUPTON, chairman of the General Infirmary, Leeds. There was a large representative attendance.

Eligibility for Hospital Treatment.

On the opening day, April 1st, Mr. H. C. GOSNELL (City of London Lying-in Hospital) in discussing this question argued that poverty or want of means should not be considered the only test in determining a patient's inability to pay for hospital treatment. Among the middle classes, and particularly the lower middle classes, there were a large number of persons who wore black coats and who showed no external evidence of poverty, yet who were equally as deserving of the benefits of charitable institutions as the labouring classes. As an amendment to the proposal discussed at the last conference—namely, "That inability to pay should be the consideration for the admission of all patients," he moved—

> That in determining the question of the suitability of patients for admission into hospitals, *particularly* with reference to their inability to pay for adequate treatment, poverty or want of means should not be deemed the only test of the patient's *eligibility* for admission, but persons should be deemed eligible whether they belong to what are termed the working or industrial classes or not, if, owing to their obligations being disproportionate to their means, they are unable to pay for the professional services of a medical attendant.

Mr. R. B. DOBSON (Brighton) seconded the amendment which on being put to the vote was lost. The original proposal discussed at the last conference was therefore endorsed by the present conference.

Gratuitous Treatment in Compensation Cases.

Mr. HARRY JOHNSON (Leicester Infirmary) moved:—

> That it is desirable to supply gratuitous hospital treatment to those who are provided for by the Workmen's Compensation Act.

He pointed out that it would be wrong to deprive persons receiving benefit under the Workmen's Compensation Act, which could not exceed £1 per week, of the help which they would otherwise receive. The best way to obtain payment from the working classes was to ask them to contribute during health.

Dr. J. A. MACDONALD (Taunton) urged that the hospital almoner should deal with cases on their merits. He said there were instances in which men who came under the Act received substantial sums weekly from friendly societies.

Mr. J. H. SHAW (Southport) said that the rule of making a patient able to pay or the person whose negligence caused the accident refund the cost of the treatment had, at any rate in one instance, especially in regard to motor-car accidents, worked admirably.

On the suggestion of Dr. FRANK FOWLER (*Bournemouth*) the words "whom the hospital board shall consider unable to pay for medical attendance" were added to the original proposal and the motion as amended was adopted.

Payment for Food and Medicine.

Mr. SYDNEY HOLLAND (chairman of the London Hospital) moved:—

> That where they can afford to do so hospital patients ought to be asked to pay for the food, medicines, and bandages supplied to them.

All hospitals, he said, especially London hospitals, were in a serious financial position. Hospital authorities were making a great mistake in not asking patients whether they could afford to contribute towards their treatment. It was economically unsound to give everything to everybody for nothing, whether *they could afford to* pay or not. At the London Hospital last year 157,000 persons paid sums representing £2000 without any pressure being put upon them. The charitable work of hospitals ought to be restricted to providing for the sick poor that help which they could not afford to pay for themselves.

Mr. W. CARNT (Manchester Royal Infirmary) said a large proportion of the in-patients at his institution paid sums ranging from 2*s*. 6*d*. to 7*s*. 6*d*. per week. By this means £1000 or £1200 a year were added to the income of the Royal Infirmary.

Mr. R. CAPES (chairman of the South London Hospitals Committee) said if the hospital authorities would reduce the number of out-patients by sending trivial cases to the general practitioner they would have enough money for their other requirements.

Dr. HENRY DAVY (President of the British Medical Association) opposed the proposition and said the question of payment raised that of the whole charitable hospital *system* of the country. He preferred the German system of municipal hospitals.

Dr. G. A. HERON (City of London Hospital for Diseases of the Chest) said the sooner reliance on State support of hospitals came the better. This system of payment, small though it was, *struck at the root* of all true charity. There was the greatest difficulty in *separating those* who were necessitous from those who were not. He knew of people in receipt of £800 per annum who habitually used the outpatient department of free hospitals.

Mr. R. G. PATERSON (Glasgow Eye Infirmary) said the working class who supported that institution looked upon treatment as a right and to ask for payment would shut off a large portion of their income.

Dr. E. L. FOX (Plymouth) supported the proposal.

Mr. SYDNEY HOLLAND said his hospital had never lost a farthing support in *consequence of making a charge* nor had the system either increased or decreased the number of patients. The *class that the hospitals* existed for was the class just above the necessitous poor. The clerk in receipt of £200 a year was a proper person for help but he ought to be asked to pay for the food, medicine, and bandages supplied to him.

The proposition was carried.

Investigation of Cases.

Lieutenant-Colonel MONTEFIORE (Charity Organisation Society) moved:—

> That in the opinion of this *conference* the appointment of trained hospital almoners constitutes one of the best methods for checking the misuse of hospitals and for rendering more effective the economic value of an out-patient department.

This on being seconded was carried.

Payment by Patients at Cottage Hospitals.

On the second and concluding day, April 2nd, the proceedings commenced with the adoption of a proposition by Colonel J. G. CURTIS (Deal and Walmer Victoria Hospital) to the effect that some definite steps should be taken to ascertain the ability or the contrary of each patient at a cottage hospital to pay for his or her maintenance.

Hospital Accounts.

On the motion of Dr. FOX the committee was instructed to consider how the uniform system of accounts recommended importance are the measures for preventing diffusion from actually infected to healthy localities, and last of all come the means for combating each local outbreak. It is evident that considerable difficulties will be experienced in attaining the primary object due to the impossibility of discovering definitely every endemic centre, so that all potential ones must be attacked, involving a large number of localities; again, they must be attacked before the infection becomes active. Thus a very large staff is necessary, and as the medical staff can never be increased sufficiently to meet requirements, the necessary measures must be undertaken by the people themselves. Amongst the preventive measures employed we see that rail and road inspection was carried out, whilst there were surveillance over arrivals, isolation, and segregation. The right of refusal to allow persons from infected areas to enter healthy localities was hardly ever enforced owing to the social customs and binding obligations of hospitality of the people. In the face of an epidemic evacuation is considered to be the best and most effective measure but it is rarely carried out by the people effectively; whilst the Hindus will practise it the Mahomedans are taught that it is against their religion and consequently seldom adopt it. Disinfection is rarely effective from the fact that information is but seldom received sufficiently early to allow of its successful application. Insecticides are being tried but the chief reliance is placed on heat. Without doubt inoculation is one of the best and most effective methods of prevention but the people are loth to undergo the operation and its slight inconvenience unless danger is actually present. Owing to the comparative mildness of the epidemic of 1905-06 the operation was less done than in the previous year; 27,924 inoculations in all were performed.

The destruction of rats was held to be very important. The general opinion was pronounced in its favour and recrudescences were held to have been prevented or delayed and also the epidemic to have been mitigated, even when the measure was applied after infection. Captain G. I. Davys, I.M.S., brings forward some remarkable evidence in its favour, for where it was thoroughly carried out no cases of plague occurred; where nothing was attempted severe epidemics followed recrudescence. A good example of this is afforded by the Amritsar district, in the very heart of the infected area, where no recrudescence occurred, all the cases being due to importation. The difficulties in the successful application of this method consist in the innate prejudices of the people, as certain sections object to the taking of life, or in the ignorance and suspicion engendered by any new measure. Thus, with regard to the former, the whole town of Mukerias was baited for these animals excepting two clumps of houses inhabited by Jains; in these only did recrudescence start. To be effective, however, the people themselves must be the active agents, and to insure this the active coöperation of their natural leaders is being enlisted. With regard to the actual medical treatment, everything is done to give assistance to all who wish it but not very much can be done in the way of systematic treatment, as the medical staff are constantly on the move.

North-West Frontier Province.

In the North-West Frontier Province 44 cases of plague occurred in 1906—namely, 41 in the Hazara district, 2 in Peshawar, and 1 in Dera Ismail Khan. Of these 40 proved fatal in Hazara and 1 in Peshawar. A man suffering from plague went from Rawal Pindi and imported the disease into the Hazara district. He died at the village of Ghazi and his relatives, occupying the same house, contracted the disease which spread to three neighbouring villages.

United Provinces of Oudh and Agra.

The returns from the United Provinces of Oudh and Agra show a diminution of mortality for 1906, there being 69,660 deaths recorded from plague during the year, contrasted with 383,862 in 1905, the death-rate being 1·46 and 8·05 respectively. The highest mortality was in March and the lowest in July. The total number of persons reported to have been inoculated with anti-plague vaccine was only 1846, against 6411 in 1905. No persons are reported to have died from plague after inoculation.

Eastern Bengal and Assam.

Coming now to the province of Eastern Bengal and Assam there were several outbreaks of the disease in 1906. For instance, in the month of March there was an outbreak of a pneumonic character in the Pabna district, said to have been imported from Calcutta. A patient died on the voyage up the Brahmaputra; his body was carried home by two friends who themselves contracted the disease and became the centre of infection. Again, in June there were two other outbreaks, both pneumonic and both imported from Calcutta. In these three outbreaks there were 82 cases with 74 deaths. From an inquiry into the history of plague in this province since 1898 there have been seven distinct epidemics, the original cases of which were all imported from Calcutta or its neighbourhood. Nearly all were pneumonic in character with a history of direct infection of the healthy from the sick in every case; there was never any history of distribution by rats or any connexion with grain. There was, however, one exception—namely, in the Dibrugarh outbreak which was bubonic in character and appears to have been connected with granaries and rats and not to have been imported by human agency.

Bengal.

Respecting the province of Bengal, the mortality, which had been steadily increasing of late years, showed a very satisfactory reduction, there being 59,619 deaths in 1906 as against 126,084 and 75,433 during the two preceding years. Thus the number of victims has dropped to less than half of that of 1905. The diseases affected the females more than the males and the rural areas more than the towns. With respect to its seasonal prevalence, there was great intensity of the disease during the first few months of the year, due to the coolness and excessive rains. With the onset of the hot weather there was a sudden drop. With regard to the measures employed for combating the disease, antiplague inoculations to the number of 1777 were performed as against 1544 in the preceding year. No cases of, or deaths from, plague occurred amongst the inoculated. Chemical disinfection was carried out in special cases where it was asked for, and also in several municipal areas where it could be supervised. Disinfection by heat and evacuation of infected houses have become very popular and are generally resorted to by the rural people. In Saran we are glad to see that general instructions on plague and its prevention have been drawn up and distributed broadcast over the district, the method of disinfection being minutely described and evacuation being recommended. At Bhagalpur the disinfection was carried out by the spraying of the insides of the infected houses with kerosene oil by means of the "Success Knapsack Sprayer," which was followed by signal success. Lastly, rat-killing is gradually becoming popular. In Jagdespur, where the work was done systematically, the town enjoyed a complete immunity from the disease, whilst recrudescences occurred with considerable severity in adjoining thanas and all the other towns in the district except Sasaram.

Central Provinces and Berar.

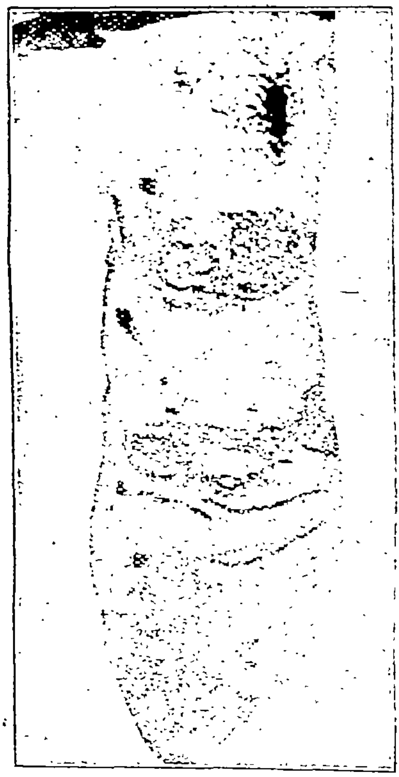
In the Notes on the Annual Statements of the Government Charitable Dispensaries in the Central Provinces and Berar for 1906 we find an important note from the manager of the Empress Mills, Nagpur, on the results of the inoculation of the employees during the outbreak of plague at Nagpur in 1905-06 by Mr. Bezongi Dadabhoy, the manager. This gentleman remarks that during the plague season 1119 persons were inoculated, of whom five were reported dead, but that two at least of these cases must have had the germs of plague before they were inoculated. Amongst the uninoculated, numbering 2665, there were 179 deaths reported. He had invariably found inoculation with Haffkine's vaccine to have a very beneficial effect in reducing the severity of, and mortality from, plague, the only mishap being a few cases of abscesses and consequent illness; the last series of inoculations, however, showed a vast improvement and the results were remarkably good.

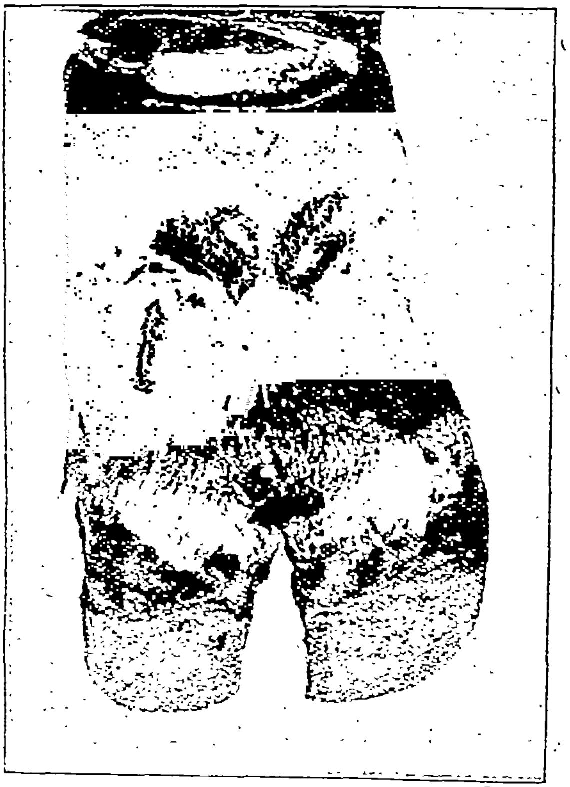
Central Midwives Board.—Special meetings of the Central Midwives Board were held on March 26th and 27th at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. The Board considered various charges—such as uncleanliness, drunkenness, and omission to send for medical assistance in the statutory manner—against midwives, the result being that the names of 18 women were to be struck off the roll. Seven midwives were censured and two were cautioned after charges alleged against them had been considered. The application of an ex-midwife for the restoration of her name to the roll (removed by the Board Dec. 12th, 1907) was refused.

A TYPICAL CASE OF FOOT AND MOUTH DISEASE:

INTERESTING ILLUSTRATIONS.

WE are indebted to Mr. T. R. D. Carruthers, of St. Vincent-street, Edinburgh, for the interesting photographs which we reproduce below. The infected cow was attacked during the recent outbreak of this disease in Edinburgh, and the dark markings on the tongue and at the division of the hoof indicate well the site and appearance of the disease. The photographs were from specimens supplied by Professor J. R. U. Dewar, Principal of the Royal (Dick) Veterinary College, Edinburgh.





MEDICINE AND THE LAW.

Brown v. Butler: Negligence in Supplying Impure Water.

AN action, the hearing of which lasted for several days, ended recently in a verdict awarding damages to a widow, Mrs. Margaret Sophy Brown, in respect of the death of her husband, formerly farm bailiff at the Three Counties Asylum, Arlesey, Bedfordshire. The defendant was sued as the clerk to the committee of visitors of the asylum and the claim was based upon the alleged negligence of the defendant in supplying impure water for the consumption of the deceased with the result that he contracted enteric fever and died. There was a further allegation of negligence with regard to the medical attendance supplied to him under his contract of service, but this portion of the claim was abandoned after the evidence had shown that it could not be sustained. The evidence proved that the water supplied to the inmates of the asylum and to the cottage of the deceased, which was within the grounds belonging to the asylum, was derived from two wells and that it went through a softening process, being afterwards pumped up to water towers whence it reached the consumers. It was part of the widow's case that drains conveying sewage matter from the asylum to a sewage farm passed near one of the wells and were found to be in a very bad state after the death of her husband had taken place, and apparently Sir Thomas Stevenson (who was called for the defence) had found the bacillus coli present in the water, and Mr. G. F. Deacon, C.E. (also a witness for the defence), had attributed the enteric fever to the condition of the water-supply in a report made by him upon the subject. There was conflicting evidence as to the nature and extent of the complaints made by the Browns with regard to the water-supply and as to admissions by officials of the asylum before his death with regard to its defects, but the fact that the plaintiff had been alarmed at the appearance of the water was established, although it was not admitted on behalf of the defence that its turbid condition, to which she called attention, was caused by the presence in it of dangerous matter or was connected with her husband's illness. For the defence it was contended that the deceased had visited Yarmouth for a few days' holiday, returning on July 25th, 1906, and that his illness, of which he first complained on August 22nd and from which he died on Oct. 1st, was, or might have been, contracted there; that no trace of enteric fever contamination was traceable in the water, and that if the water had been contaminated a general outbreak in the asylum would have taken place inevitably and not merely a single case outside it. There was also evidence that cases of enteric fever had occurred in the neighbourhood, this being given presumably in order to show that, should the jury not ascribe the disease which affected the deceased to his visit to Yarmouth, there were still sources other than the water from which it could have been derived. Sir Thomas Stevenson, in his evidence, supported the view that a general outbreak should have taken place had the water been to blame, and explained that his report as to the undesirable condition of the water was due to the presence of the bacillus coli only. He also spoke of Yarmouth as a place in which the deceased would be likely to contract enteric fever. Mr. Deacon explained that a passage in a report made by him in which he said that "I think that there is no room to doubt that the outbreak was caused by the water" was based upon a mistaken belief that a general that "the borough with its sewers all practically unventilated is in a deplorable, not to say dangerous, condition." The town council is, it appears, ever ready to maintain house drainage in an efficient state but "no attempt is made by the sanitary committee to put their own system of drainage in order." This is very wholesome and candid criticism on the part of Mr. H. W. Newton, the medical officer of health, and we trust that it may have the desired effect. At any rate, the responsible officer cannot be accused of neglect to draw attention to the facts. As regards the disposal of house refuse, the medical officer of health can "report nothing favourable," and it seems that the authority is a nuisance creating as well as a nuisance abating body. A refuse destructor is, it is thought, the best remedy. The water-supply of the borough, 17·7 gallons per head, is, the medical officer of health thinks, inadequate, more especially as two of the sources of supply show definite signs of steadily decreasing in amount. The borough should, in his view, be furnished with an adequate and a constant supply. At present the greater portion of the town is on an intermittent supply.

Buckingham Rural District.—Dr. P. L. Benson in deploring the high infantile mortality which still obtains in the country generally thinks that if anything approaching the same mortality (about 15 per cent. of the children born) obtained amongst animals on a farm the farmer would have to relinquish breeding operations. Dr. Benson states that the mortality among chickens is 2 per cent.; pigs and cows, 4 per cent.; and horses, 8 per cent.; but it is not quite clear from the context whether these rates apply to the whole of the first year of life or only to the first few weeks. Dr. Benson is evidently an advocate of milk depôts and in connexion with this subject he refers to some experiments recently carried out under the direction of Mr. Nathan Strauss in Heidelberg, in which five guinea-pigs were inoculated with tuberculous milk in a raw state and five others with such milk after it had been pasteurised. The first five animals shortly developed tuberculosis but the latter remained free from the disease. The death-rate from pulmonary tuberculosis in this rural district for 1907 was 0·65 per 1000, as against a *nil* return for 1906.

St. Anne's-on-the-Sea Urban District.—Dr. Frederick Booth proposes to deal with phthisical patients in a somewhat drastic fashion. He would have them treated in the same manner as patients suffering from acutely infectious diseases like typhus fever or small-pox and isolated for the safety of the public. We wonder what the phthisical breadwinners, with, perhaps, very many years of useful work before them, would say to a proposal on the part of the medical officer of health to separate them from their families for the remainder of their lives or until they were cured. Provision for the families would presumably have to be made out of the local rates. We should have thought that in the vast majority of cases the provision of a separate bedroom or a course of instruction in a sanatorium or isolation hospital or by means of visits from a trained official would suffice. The St. Anne's report makes apparently no differentiation between "open" and "closed" cases of pulmonary tuberculosis. We are afraid that if Dr. Booth endeavoured to enforce his views he would find patients very unwilling to have their malady recognised and hence the opportunities of securing early cases for sanatorium treatment would be few.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8574 births and 5222 deaths were registered during the week ending April 4th. The mean annual rate of mortality in these towns, which had been equal to 16·9 and 17·4 per 1000 in the two preceding weeks, declined again to 16·8 in the week under notice. During the 13 weeks of last quarter the annual death-rate in these towns averaged 18·0 per 1000; the mean rate in London during the same period did not exceed 17·6. The lowest annual death-rates in the 76 towns last week were 9·1 in Leyton, 9·4 in Grimsby, 10·3 in York, and 11·1 in Wigan and in Blackburn; the rates in the other towns ranged upwards to 24·7 in Ipswich, 25·5 in Stockton, 26·1 in Burton-on-Trent, and 26·3 in Merthyr Tydfil. The rate of mortality in London last week did not exceed 16·6 per 1000. The 5222 deaths in the 76 towns last week showed a decline of 182 from the number returned in the previous week, and included 445 which were referred to the principal epidemic diseases, against 410 and 486 in the two preceding weeks; of these, 204 resulted from whooping-cough, 110 from measles, 48 from diphtheria, 41 from diarrhœa, 24 from scarlet fever, and 18 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·4 per 1000, against 1·3 and 1·6 in the two preceding weeks; the rate from the same diseases in London was also equal to 1·4. No death from any of these epidemic diseases was registered last week in Blackburn, Huddersfield, Wigan, Grimsby, or in three other smaller towns; the annual death-rates from these diseases ranged upwards, however, to 3·8 in Hanley, 3·9 in Birkenhead, 4·1 in Newport (Mon.), and 5·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 134, 152, and 203 in the three preceding weeks, further rose to 204 in the week under notice; the highest death-rates from this disease last week in these towns were 2·2 in Birkenhead, 2·3 in Handsworth, 3·0 in Sunderland, and 4·1 in Newport (Mon.). The 110 deaths from measles showed, however, a decrease of 31 from the number in the previous week; they caused death-rates, however, equal to 1·7 in Croydon, 2·3 in Hanley, 2·5 in Burnley, and 4·9 in Stockton-on-Tees. The deaths referred to diphtheria, which had ranged from 66 to 52 in the four previous weeks, further declined last week to 48, but caused a death-rate equal to 1·9 in Tynemouth. The 41 deaths attributed to diarrhœa exceeded the numbers in recent weeks; and the four fatal cases in Warrington were equal to an annual rate of 2·9. The 24 deaths from scarlet fever showed a decline from the numbers in recent weeks, but included four in Liverpool, three in Birmingham, and two in Leicester. 18 deaths were referred to "fever," against 16 in each of the two preceding weeks, and included three in London, and two both in Preston and in Bradford. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 17 preceding weeks from 5591 to 3229, had further fallen to 3121 on April 4th; 315 new cases were admitted to these hospitals during the week under notice, against 378 and 355 in the two preceding weeks. One case of small-pox was under treatment in the Metropolitan Asylums Hospitals during the week. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 317, 320, and 349 in the three previous weeks, further rose to 351 in the week under notice, and exceeded by 19 the corrected average number in the corresponding week of the five years 1903–07. The deaths directly referred to influenza in London were 64 last week and were seven below the number in the previous week. The causes of 45, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified last week in Leeds, Bristol, West Ham, Bradford, Hull, and also in 46 other smaller towns; six uncertified causes of deaths were, however, registered in Birmingham, seven in Liverpool, and four in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·5 and 19·4 per 1000 in the two preceding weeks, further rose to 19·7 the week ending April 4th, and exceeded by 2·9 the mean rate during the same week in the 76 large English towns. Among the eight Scotch towns the death-rates last week ranged from 13·9 and 17·1 in Paisley and Edinburgh, to 21·0 in Dundee and 21·8 in Glasgow. The 694 deaths in these eight towns showed a further increase of 11 upon the numbers returned in the two preceding weeks, and included 97 which were referred to the principal epidemic diseases, against 84 and 114 in the two previous weeks; of these, 35 resulted from measles, 24 from whooping-cough, 20 from diarrhœa, seven from "fever," six from scarlet fever, and five from diphtheria, but not one from small-pox. These 97 deaths were equal to an annual rate of 2·8 per 1000, against just double the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 37 and work by fire brigades, ambulance work on mountains, and ambulance work and sport.

The English committee for the United Kingdom, of which the Duke of Marlborough, K.G., is president, will consist of Sir John Furley, C.B., vice-chairman of St. John Ambulance Association (chairman); Lieutenant-Colonel H. J. Barnes, secretary of St. John Ambulance Association; Dr. W. Collingridge, medical officer of health of the City of London; Mr. Horace S. Folker, vice-president of the National Fire Brigades Union; Lieutenant-Colonel W. G. Macpherson, C.M.G., R.A.M.C.; Mr. G. H. Makins, C.B., surgeon to St. Thomas's Hospital; Commander St. Vincent Napean, M.V.O., R.N., chief inspector of lifeboats; Mr. E. O. Sachs, F.R.S.E., chairman of the British Fire Prevention Committee; Mr. S. Osborn, F.R.C.S. (honorary secretary); and Mr. A. M. Oppenheimer (assistant honorary secretary).

A traffic committee has been formed at Frankfort for the purpose of facilitating travelling arrangements and housing accommodation for members of the Congress.

The exhibition of appliances connected with first-aid and life-saving will be opened on June 6th and will be continued during the whole week of the Congress. Inquiries respecting this department of the Congress should be addressed to the exhibition committee, Bethmann Strasse 3, Frankfort o/M.

Particulars regarding the arrangements for the Congress will be supplied on application to Mr. S. Osborn, Masionnette, Datchet, Bucks, but full particulars have not yet arrived from Germany.

The following papers have been promised from Great Britain as contributions to the Congress: Suggestions to Improve First Aid on Railways, by Mr. James W. Croston; First Aid in the Fire Service, by Mr. Horace Folker; Suggested Rules for Recovering of Coal Mines after Explosions and Fires, by Mr. W. E. Garforth, President of the Mining Association of Great Britain; First Aid and Life-Saving in Coal Mines, by Mr. Albert M. Oppenheimer; and First Aid in the Streets of London, by Mr. S. Osborn, F.R.C.S. Eng.

SANITARY REFORM IN INDIA.

V.[1]—THE PLAGUE PROBLEM.

THE problem demanding solution that has pressed on the Indian Government with the greatest insistence since 1896 is undoubtedly that of plague. This virulent disease has since September of the above-mentioned year been ravaging our Eastern dependency. The difficulties connected with its eradication can be imagined when we consider the peculiar environment which it meets with in the East owing to the crowded insanitary bazaars in which the people live and the care and tact necessary not to offend their social and religious customs. To give some idea of the extent to which plague has flourished in India since its importation there the following facts may be cited. It was carried to the city of Bombay in 1896 from Hong-Kong (where the outbreak occurred in 1893–94), when it burst out as an epidemic in that place in September. From Bombay city it spread over the Presidency where it has continued ever since and has caused, as Professor W. J. R. Simpson tells us, 1,500,000 deaths up to the end of April, 1907. From the Bombay Presidency it has spread gradually to the other provinces of India and has occasioned up to May 31st, 1907, 5,402,245 deaths. The total population in India is about 300,000,000, so that this mortality means about 1 death in every 60 inhabitants. The mortality in the later years has been much greater than that of the earlier, as shown in the following table:—

Year.	Cases.	Year.	Cases.
1896	1704	1902	577,427
1897	56,056	1903	851,263
1898	117,953	1904	1,022,299
1899	134,768	1905	950,663
1900	93,150	1906	332,161
1901	273,659	1907	1,178,989

One of the most serious aspects of the case is the fact that the Punjab is now the seat of a portion of this large mortality, for from the Punjab are drawn some of our most valued recruits; hence it can be easily imagined how the Indian army must suffer. This province has, as a matter of fact, lost nearly 1,700,000 of its inhabitants and this number will at once be seen to be very high when we consider that the Punjab is in size less than one-twelfth of the total area of India, whilst it contains less than one-eleventh of the total population. The plague problem is, indeed, a most urgent and pressing one. The *Times of India* of June 1st, 1907, pointedly remarks:—

> To dismiss this epidemic with the statement that the people of the Punjab have been dying from it for some time past at the rate of 50,000 a week gives but a faint idea of the deserted villages, the crops rotting upon the ground over wide areas for lack of men to reap them, and the breaking up of homes and family life inseparable from such a calamity. ...... Natives of Rawal Pindi who have relations in the plague infected villages will not go to tend their sick; others have left the corpses or belongings of deceased relatives to the mercy of the village rather than risk plague. Firewood is not obtainable to burn the dead, so timber from the houses is being utilised, and many Hindoos are burying their dead.

Professor Simpson well says:—

> The silence of these unharvested fields, together with the figures of mortality, should bring to everyone's imagination a very clear realisation of the awful devastation of the Punjab. ...... The dying millions in India present a problem of the greatest urgency and danger. The plague, if left as it has been within recent years, to take its own course, bids fair in such circumstances to overrun not only India but also to be a danger to the world.

We will now more particularly enter into the subject of plague as it has affected the various provinces of India.

The Punjab.

In the Punjab during the year 1906 there were 120,745 cases of plague reported, of which 104,863 proved fatal. Of these 92 115 deaths occurred in British districts and 12,748 in the Native States. The epidemic, taken as a whole, may be characterised as a very mild one compared with those of the previous four years, the total mortality being much lower than in any year since the general infection over the greater part of the province. This is shown by the figures for the six years 1901–06:—

	Cases.	Deaths.
1901	38,739	20,998
1902	321,938	222,571
1903	341,267	210,697
1904	481,412	402,950
1905	451,791	390,233
1906	120,745	104,863

This low mortality, however, does not encourage the idea that a natural decline in the epidemic had begun, for at the end of 1906 the plague was as bad as ever at the time of year; and it is established by statistics that whilst in the latter half of 1905–06 there was but a small incidence, yet in the first part of 1906–07 the epidemic was as bad as any that had as yet been experienced, if not worse. The total loss that the province has experienced since its first importation in 1897 up to Dec. 31st, 1906, amounts to 1,355,278 lives. As regards the several districts of the Punjab, it is worthy of note that certain of these were escaping the pestilence, although they had suffered in previous years. These districts were those of Hissar, Gurgaon, Shahpur, Jhelum, Jhung, and Lyallpur. With regard to its seasonal prevalence, there seems to be a difference in the seasonal variation in separate parts of the province, inasmuch as the incidence of plague tends to diminish during extreme heat and cold, and especially during the former, so that towards the south with its earlier and longer hot weather the maximum is reached sooner than in the north, the month of maximum intensity being April, although for the whole province it was May; in the south also the freedom during the summer is more distinct, more prolonged, and recrudescence occurs later, opposite conditions to those occurring in the north.

Respecting the type of the disease, by far the largest number of cases are of the bubonic variety, while the fewest are of the septicæmic type. It is satisfactory to note that the people are becoming less suspicious of proffered assistance, although the spirit of self-help is still wanting. The virulence of the disease does not appear to be diminished. With regard to the general plague policy that has been pursued, stress has been laid on the primary importance of preventing, aborting, or delaying recrudescence, inasmuch as it is recognised that the annual seasonal epidemics depend on recrudescence in a large number of places which have been apparently free for some time; from these the disease spreads over the surrounding country. Second to this in members of the medical profession. In this capacity they had strenuously to maintain the highest standard of professional ethics and dignity. Their position as ward-room officers would bring them in daily contact with the best and ablest colleagues in the ship. In this relation they had to maintain a cheerful, but not too hilarious, comradeship with perfect good temper, a measure of dignity (always void of priggishness), and the grace of self-effacement. In short, each would have to be *bonus comes*, which in plain English meant a good fellow. The medical profession was everywhere and always one of self-sacrifice and self-denial. It was therefore a power for refining character. Strictly professional knowledge and experience need not rust, or fall much behind, as was commonly imagined, but it would assuredly do so if the young officer was indolent or casual, or shirked his duties. "Always do the best work you can in the best way you can," continued Sir Dyce Duckworth, who urged his hearers to work diligently at one or two modern languages, and concluded his inspiring address by referring to "one who was once a naval surgeon but rose afterwards to the highest place in the sister service, who was asked at the end of his long and distinguished career, in my presence, if he still believed in *anything*. 'Yes,' he said, '*I do; I still believe in a gentleman.*' I agree with that grand old man," said Sir Dyce Duckworth; "his portrait adorns a neighbouring room here, Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I." If they would maintain that ideal throughout their service they would all reach higher prizes in their profession than any that he had presented that day.

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[1] Nos. I., II., III., and IV. were published in THE LANCET of Feb. 22nd (p. 552) and 29th (p. 661), and March 14th (p. 806) and 21st (p. 833), 1908, respectively.

Correspondence.

"Audi alteram partem."

THE STATISTICAL SIDE OF THE OPSONIC QUESTION.

To the Editor of THE LANCET.

SIR,—The statistical portion of the memoir by Dr. Reyn and Dr. Kjer-Petersen which appears in your issue of March 28th raises a question of such importance that I should like to refer briefly to some considerations suggested by it.

Although the statistical side of the opsonic question has been discussed at a meeting of a London society, Dr. Reyn and Dr. Kjer-Petersen are, so far as I know, the first workers to draw public attention to the fact that the significance of opsonic determinations can only be estimated with the help of statistical analysis. They are to be congratulated on their clear enunciation of this important truth, but it is permissible to doubt whether their method of analysis is capable of solving the very complex problems underlying the experimental data. From the use made by Dr. Reyn and Dr. Kjer-Petersen of the "mean error" and the standard deviation as a criterion of the distribution of deviations I infer that what they mean by the "law of error" is the well-known Gauss-Laplace distribution. Now it is by no means clear that calculations based upon this law are valid for phagocytic counts. Although, for reasons which need not be discussed here, a belief has long been entertained that this Gauss-Laplace law was the final word in the theory of random distributions, statisticians are now pretty well agreed—thanks to the work of Fechner, Bruns, and above all, Karl Pearson—that many distributions cannot adequately be described by means of the "normal curve" and that it is necessary to employ the more general form of which the "normal curve" is a particular case. The application of this process to statistical practice has been rendered possible by the researches of Karl Pearson.

At the London Hospital my colleague Dr. Douglas White and myself have been for some time engaged on this problem and we have found that the distributions of phagocytic counts (for numbers varying from 600 to 1100 cells) are not even approximately "normal," the distribution of the numbers on either side of the mean being highly "skew," the mean and mode not coinciding. It therefore follows that the method of the mean error or any kindred process based on the assumption of a "normal" distribution is not applicable since positive and negative deviations of the same magnitude do not occur with equal frequency. There is, indeed, reason to believe that with an increase in the mean number of bacilli per cell the asymmetry is diminished, but we have no satisfactory evidence that the process used by Dr. Reyn and Dr. Kjer-Peterson is applicable to our data. I think, therefore, that in the absence of more evidence the reasoning of Dr. Reyn and Dr. Kjer-Petersen will not enable one to assign definite limits to the normal range of variation.

There are other points of great interest in this paper to which I should have liked to allude, but this must be postponed. I only venture to trouble you in the matter because a complete statistical analysis of the material at our disposal cannot be ready for a considerable time and I desire to emphasise the urgent necessity of caution in drawing conclusions with respect to this subject. In the mass of papers, both eulogistic and vituperative, which deal with the opsonic method little is to be found having much statistical value. Dr. Reyn and Dr. Kjer-Petersen appear to be the first clinicians who have seriously attempted to grapple with the difficulties.

I am, Sir, yours faithfully,
M. GREENWOOD, jun.,
Director of the London Hospital Statistical Department and Senior Demonstrator of Physiology in the Medical College.
London Hospital, E., April 6th, 1908.

To the Editor of THE LANCET.

SIR,—The article of Dr. Reyn and Dr. Kjer-Petersen on the Opsonins of Tubercle which has just appeared in THE LANCET must be of the greatest interest to workers in this particular field. It is generally recognised that the opsonin technique in the case of the tubercle bacillus presents greater difficulties and affords more sources of error than that which is employed with many other bacteria. This may be partly due to the impossibility of preparing a satisfactory bacterial emulsion without, to some extent, damaging the bacilli in the agate mortar, and partly to the injury that is often done to the contour of the leucocytes by the staining method necessary. Dr. Reyn compares the average count in the case of six normal sera treated separately with a count of the same sera "pooled," and the results are certainly startling. But these observations would have been more instructive had he also published several opsonic estimations of the *same* serum arrived at by different workers and the same counter, and by the same worker and different counters.

The tubercle bacillus is nearly always about 0·2 micron thick but its length varies *from* $1 \cdot 5\,\mu$ *to* $4 \cdot 5\,\mu$ at least. In other words, in the same film we may have some bacilli that are three times as great as others, and to tackle them, presumably, the leucocytes would require to put forth three times the phagocytic effort that would be called for in the case of the smaller specimens. May I venture to suggest that more satisfactory results would be obtained by comparing the sum of the lengths of the bacilli taken up by the leucocytes in each preparation rather than the apparent number of the ingested bacteria? After all what appear to be separate bacilli may often be only portions of one organism, disintegrated in the preparation of the emulsion.

I am, Sir, yours faithfully,
Oban, April 6th, 1908. W. D. ANDERSON.

CORONERS' INQUESTS UPON DEATHS IN SURGICAL ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 21st, p. 851, Dr. F. J. Waldo, the coroner of the City of London and Borough of Southwark, complains that the Registrar-General's statistics of the deaths which occur under anæsthetics are not of much use from a statistical point of view because they do not state the particular anæsthetic under which they occurred. He then proceeds to review his own experience with regard to the number which have occurred chiefly in two large charitable institutions within his district during the past six and a half years. The statements which he makes are also valueless because not only does he fail to specify the different anæsthetics under which they occurred, but has not indicated the total number of anæsthetic administrations which were conducted during the period in those institutions, a number which could be stated by their medical authorities with a very close approximation to accuracy. He then goes

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Accommodation provided for Strawberry-Pickers in the Dartford Rural District, by Dr. R. A. FARRAR.[1]—A vigorous agitation was carried on a year or two ago regarding the degrading and insanitary conditions to which fruit-pickers from the east of London and elsewhere were submitted during their employment in the strawberry season. Attention was called to this matter in an article in THE LANCET of July 16th, 1904 (p. 167). Dr. Farrar, who had already contributed an interesting report to the Local Government Board on the whole question of accommodation of hop-pickers and fruit-pickers, made a special inquiry last year into the conditions obtaining in the extensive rural district of Dartford, where large quantities of strawberries are grown for the London market and where many complaints had arisen in the past. He found that the considerations which had been brought, by means of his former report, to the notice of Kentish fruit growers, coupled with the agitation referred to, had produced a remarkable improvement. Thus the huts as a rule were found weather-tight; in many cases concrete flooring had been laid down; the supply of straw was ample and clean and the farmers had made increased closet provision. A covered cooking shed was generally provided, although in some instances this very desirable arrangement was still wanting. Several farmers had adopted the suggestion of the medical officer of health and had appointed bailiffs or foremen to supervise the camps. Where this was done the camping grounds were generally kept fairly clean and scavenging was attended to. In almost every camp water is laid on by standpipes from the mains of the Metropolitan Water Board, and the provision of washhouses or washing troughs has increased. In the past it has so often been urged that in the case of fruit-pickers and hop-pickers the conditions of labour and the character of the population preclude any successful attempt to improve the conditions of living and housing that Dr. Farrar's report comes as welcome evidence in the contrary sense.

On the Sanitary Circumstances and Administration of the Sanitary Districts in the Staines Registration District,[2] by Dr. E. P. MANBY.—It is surprising to find that no isolation hospital provision is available in this registration district which has a total population estimated to be over 39,000 and comprises such important residential neighbourhoods as Staines, Sunbury, and Feltham. Such provision has been repeatedly urged by the medical officers of health of the districts concerned and is particularly needed in view of the rapid increase of population which is taking place here as elsewhere on the outskirts of London. Dr. Manby refers to various instances in which isolation of the earliest cases in particular localities or houses, if it had been available, would probably have stopped the spread of diphtheria or scarlet fever. He recommends the formation of a joint hospital district by the Middlesex county council in the absence of mutual agreement between the district councils themselves. Many other serious shortcomings of sanitary administration are brought to light by this report. Special attention is drawn to the bad or unsuitable condition of private slaughter-houses, to the need for closer inspection of the structure of new and old buildings, and to the anomalous position in which the Staines rural council has placed its medical officer of health in regard to the assistance given to him by the local inspector of nuisances.

On the Sanitary Circumstances and Administration of Certain Small Urban Districts in the West Riding,[3] by Dr. R. A. FARRAR.—This report relates to certain typical small urban districts which abound in the neighbourhood of Leeds, Bradford, Halifax, Huddersfield, Barnsley, and Wakefield. Though technically "urban" they are in many cases mere agricultural villages with populations of 500 or even less. Most of them acquired their urban status in the early "sixties" after the passing of the Local Government Act of 1858. The object in attaining such status appears to have been merely to evade the county highway rates. The existence of "urban districts" of this kind creates many difficulties in sanitary administration. No one district, for example, can afford to make satisfactory arrangements for public water-supplies or sewerage, or for the sewerage of the mills which are numerous in this part of Yorkshire. And naturally the system does not conduce to the appointment of efficient or experienced sanitary officers. The account given in this report contains many illustrations of the numerous difficulties which have arisen in the particular areas selected for inquiry, and its most satisfactory feature is the formulation of an important scheme for dealing with no fewer than 28 sanitary districts and replacing them by five new districts corresponding with natural drainage areas, the Colne, Holme, Thunder Bridge Dyke, Dearne, and Don valleys respectively. It is to be hoped that the Local Government Board and the West Riding county council will lose no time in putting this scheme into execution.

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There seems to be an unsettled tendency in these materialistic days with regard to medical treatment generally, and the flood of pamphlets, vaunting unfailing remedies for the cure of all human ills, which is blown into one's waste-paper basket from Germany and America, and indeed from all the four winds of heaven, is evidence of this, as well as of the inadequacy of the so-called "drug" treatment. We know too well that there are advocates for the exclusive treatment of insanity by medicines, and the old notion is still urged that unless "medicine out of a bottle" is prescribed there is no "hospital treatment." Indeed, I am frequently asked by advocates of this school of treatment, "What drugs do you use directly to affect the brain?" Some, however, wear their rue with a difference and at all cost advocate no drugs, only the exclusive application of "bed treatment"—not infrequently the cause of sleepless and restless nights, tossing off of bedclothes, and consequent chills. Others there are who advocate a rigid dietary with *the sole object of controlling* the "intestinal flora," veritably

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Accommodation provided for Strawberry-Pickers in the Dartford Rural District, by Dr. R. A. FARRAR.[1]—A vigorous agitation was carried on a year or two ago regarding the degrading and insanitary conditions to which fruit-pickers from the east of London and elsewhere were submitted during their employment in the strawberry season. Attention was called to this matter in an article in THE LANCET of July 16th, 1904 (p. 167). Dr. Farrar, who had already contributed an interesting report to the Local Government Board on the whole question of accommodation of hop-pickers and fruit-pickers, made a special inquiry last year into the conditions obtaining in the extensive rural district of Dartford, where large quantities of strawberries are grown for the London market and where many complaints had arisen in the past. He found that the considerations which had been brought, by means of his former report, to the notice of Kentish fruit growers, coupled with the agitation referred to, had produced a remarkable improvement. Thus the huts as a rule were found weather-tight; in many cases concrete flooring had been laid down; the supply of straw was ample and clean and the farmers had made increased closet provision. A covered cooking shed was generally provided, although in some instances this very desirable arrangement was still wanting. Several farmers had adopted the suggestion of the medical officer of health and had appointed bailiffs or foremen to supervise the camps. Where this was done the camping grounds were generally kept fairly clean and scavenging was attended to. In almost every camp water is laid on by standpipes from the mains of the Metropolitan Water Board, and the provision of washhouses or washing troughs has increased. In the past it has so often been urged that in the case of fruit-pickers and hop-pickers the conditions of labour and the character of the population preclude any successful attempt to improve the conditions of living and housing that Dr. Farrar's report comes as welcome evidence in the contrary sense.

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58 in the two preceding weeks, declined again last week to 35, of which 23 occurred in Glasgow, six in Aberdeen, three in Greenock, and two in Paisley. The 24 deaths from whooping-cough showed an increase of two upon the number in the previous week, and included 11 in Glasgow, four in Edinburgh, four in Aberdeen, and two both in Dundee and in Paisley. Of the 20 deaths attributed to diarrhœa, 11 were returned in Glasgow, six in Dundee, and two in Edinburgh. The seven deaths referred to "fever" corresponded with the number in the previous week, all being certified as due to cerebro-spinal meningitis; five occurred in Glasgow and one each in Leith and Greenock. Three of the five fatal cases of diphtheria were returned in Glasgow and two of the six deaths from scarlet fever in Dundee. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 158 and 133 in the two preceding weeks, further declined to 114 in the week under notice, but exceeded by five the number returned in the corresponding week of last year. The causes of 31, or 4·5 per cent., of the deaths in these eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 23·9 and 27·4 per 1000 in the two preceding weeks, declined again to 26·0 in the week ending April 4th. During the 13 weeks of last quarter the death-rate in the city averaged 25·5 per 1000, the mean rates during the same period being only 17·6 in London and 18·3 in Edinburgh. The 197 deaths of Dublin residents registered in the week under notice showed a decline of ten from the number in the previous week, and included seven which were referred to the principal epidemic diseases, an increase of three upon the low number returned in each of the three preceding weeks; these seven deaths included three from diarrhœa and one each from measles, scarlet fever, whooping-cough, and "fever," but not one either from diphtheria or small-pox. These seven deaths from epidemic diseases were equal to an annual rate of 0·9 per 1000, the death-rate last week from these principal epidemic diseases being equal to 1·4 in London and 1·2 in Edinburgh. The three deaths attributed to diarrhœa in Dublin last week exceeded the numbers in any recent week. The 197 deaths from all causes in the city last week included 25 of infants under one year of age and 69 of persons aged upwards of 60 years; the deaths of infants were fewer than in any recent week. Four inquest cases and one death from violence were registered, and 81, or 41·2 per cent., of the deaths occurred in public institutions. The causes of four, or 2·0 per cent., of the deaths registered in the city during the week under notice were not certified; in London all but one of the 1527 causes of death last week were duly certified, while in Edinburgh the proportion of uncertified deaths was equal to 3·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet Surgeon Alexander Livingston Christie has been placed on the Retired List, at his own request, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets (dated March 27th, 1908).

The following appointments are notified:—Fleet Surgeon: F. J. Burns to the *President*, additional, for three months' course at Meath Hospital, Dublin. Staff-Surgeons: A. X. Lavertine, to the *Suffolk*, on recommissioning; and H. O. Whiteside, to the *Vivid*, additional, for the *Theseus*. Surgeons: R. Thompson, to the *Suffolk*, on recommissioning; and A. B. Marsh, to the *Vivid*. Civil Practitioners: L. B. Mudge to be Surgeon and Agent at Gwythian Detachment; J. R. Dee to be Surgeon and Agent at Walton-on-Naze and Walton Creek.

ARMY MEDICAL SERVICE.

Lieutenant-Colonel Alan E. Tate, R.A.M.C., to be a Deputy-Assistant-Director-General at Headquarters, vice Lieutenant-Colonel M. W. Russell, R.A.M.C. (dated April 1st, 1908).

Colonel James McNamara is placed on retired pay (dated March 29th, 1908).

Lieutenant-Colonel Michael W. Kerin, from the Royal *Army Medical Corps, to be Colonel*, vice J. McNamara (dated March 29th, 1908).

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Lieutenant John F. Taylor to be Surgeon-Captain (dated March 10th, 1908).

IMPERIAL YEOMANRY.

Glamorganshire: Surgeon-Lieutenant Colin C. McCall resigns his commission (dated March 1st, 1908).

VOLUNTEER CORPS.

Rifle: 5th (Irish) Volunteer Battalion, The King's (Liverpool Regiment): Surgeon-Lieutenant John M. Ahern to be Surgeon-Captain (dated March 7th, 1908). 1st Volunteer Battalion, The Prince of Wales's Own (West Yorkshire Regiment): Surgeon-Captain Alexander R. Stoddart to be Surgeon-Major (dated Jan. 31st, 1908). 2nd (Berwickshire) Volunteer Battalion, The King's Own Scottish Borderers: Surgeon-Lieutenant David Skinner is retired, under the conditions of Paragraph 103 of the Volunteer Regulations (dated March 21st, 1908). Galloway Volunteer Rifle Corps: Surgeon-Captain Robert T. Bell Lorraine resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 6th, 1908). 1st Cinque Ports Volunteer Rifle Corps: Peter Millar Waugh to be Surgeon-Lieutenant (dated March 9th, 1908). 1st London Volunteer Rifle Corps: Surgeon-Captain Arthur D. Ducat to be Surgeon-Major (dated March 31st, 1908). 4th (Donside Highland) Volunteer Battalion, The Gordon Highlanders: Surgeon-Major Alexander Nicol to be Surgeon-Lieutenant-Colonel (dated March 10th, 1908). 1st Dumbartonshire Volunteer Rifle Corps: Surgeon-Major John R. F. Cullen to be Surgeon-Lieutenant-Colonel (dated March 4th, 1908). Surgeon-Lieutenant-Colonel John R. F. Cullen resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated March 5th, 1908).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS.)

Welsh Bearer Company: Major Charles Downing (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Welsh Volunteer Infantry Brigade), to be Lieutenant-Colonel, remaining supernumerary (dated March 2nd, 1908).

MEDICAL UNITS IN THE SOUTHERN COMMAND.

The Army Council has decided to locate additional units of the Territorial Force in the Southern Command—viz., one general hospital and one field ambulance at Portsmouth and one cavalry field ambulance at Devizes. Medical training is to be carried out at the R.A.M.C. camp on Salisbury Plain during August.

THE PRIZE DISTRIBUTION AT HASLAR.

At the Royal Hospital, Haslar, on April 6th, Sir Dyce Duckworth, who was accompanied by Sir Herbert Ellis, K.C.B., the Director-General of the Royal Navy Medical Service, presented the prizes and delivered an address to the recently joined surgeons of the Royal Navy who had passed through the course of instruction. The prizes were awarded as follows: The gold medal for hygiene to Surgeon G. B. Scott (St. Bartholomew's Hospital); the silver medal and books for practical analysis, &c., to Surgeon J. McCutcheon (University of Edinburgh); the microscope for tropical medicine, &c., to Surgeon G. Carlisle (Guy's Hospital).

The following is the list of Surgeons who passed out, together with the combined marks obtained at both the London and Haslar examinations.

	Marks.		Marks.
Surgeon Carlisle	4463	Surgeon Babington ...	3537
Surgeon McCutcheon ...	4127	Surgeon Wright	3373
Surgeon Scott	3974	Surgeon Carson	3183
Surgeon Holl	3793	Surgeon Hamilton... ...	2907
Surgeon Petch	3593		

Sir Dyce Duckworth in his address recalled the fact that he had at one time been a member of the service though he had never served afloat, but had a valuable experience under "one of the ablest and kindest inspector-generals of his day, the late Dr. Stewart, well known for his splendid service in combating yellow fever in H.M.S. *Eclair*." He congratulated them all on having entered the King's first and finest service. Referring to the duties which his hearers would soon have to take up, he said that first and foremost they would have to bear in mind that they were medical officers and would have to give proof of their skill and qualities as up as the result of pressing representations made by the commission of inspection which (as described in THE LANCET last year[2]) visited Jeddah and the Red Sea lazarets two years ago is now completed, but it was apparently not in time to be of much use this year for the pilgrims, except towards the end of the Haj. It is said to furnish good water, which is being sold at about 1½d. a tin holding approximately three gallons. There was no dearth of water, however, this year owing to the good rainfall. The clinical character of the disease in Jeddah was very well marked; most of the cases were of a severe form and algidity and cyanosis were specially prominent symptoms. Many cases were fulminant in character; in one instance one of the medical officers himself saw a pilgrim seized with the first symptoms of the disease. These were sudden vomiting and intense watery diarrhœa, the evacuations being shot out "as by a piston," and in a quarter of an hour the man was dead. It will be seen that only 37 cases out of a total 416 are known to have recovered. No doubt, however, several cases that recovered did not come to the knowledge of the authorities.

The recent behaviour of the epidemic along the Hedjaz railway is not easy to follow in detail owing to the scanty nature of the information received by telegram from those regions. The following facts, however, may be gathered from those telegrams. At Hedieh (about 200 kilometres north of Medina) there were no cases between Jan. 25th and 30th and 3 cases and 2 deaths on the 31st. Then followed several days when the records of Hedieh are confused with those of the region between that town and Bir-ul-jedid to the north. Thus, on Feb. 2nd there were 3 cases among men of the 3rd Company of the 2nd Railway Battalion, working between the two named towns; on the 6th there were 7 cases and 1 death "in places beyond Bir-ul-jedid, Hedieh included"; on the 7th 7 cases and 1 death "at Hedieh"; on the 9th 2 cases and 6 deaths; and on the 10th 2 cases and 4 deaths at the same place. Then follows a long silence in regard to Hedieh, and on March 5th a telegram stating that no case had occurred there "for 20 days," followed by another telegram on March 21st to the effect that "there had been no case for 17 days in Hedieh or the neighbourhood."

As to the record of the disease in Bir-ul-jedid itself (where it will be recalled passengers as distinguished from pilgrims did their quarantine) it is still more imperfect. On Jan. 26th 3 cases and 1 death occurred there; on Feb. 3rd no case and 2 deaths, and on the 8th 1 case and 3 deaths; and that is all that is known at present. But greater interest attaches to events at Medaini-Salih, where the improvised pilgrims' quarantine station was established. The *Mahmel* or Holy Caraven arrived there on its return journey on Feb. 24th, coming in two trains, and consisting of an undetermined number of pilgrims (the number has been variously given as 6000, 10,000, and 20,000). It had had apparently 4 cases of cholera with 2 deaths on its journey from Medina to Medaini-Salih. The day after its arrival (Feb. 25th) there were 16 cases of the disease with 5 deaths in the Medaini-Salih camp. Other caravans appear to have arrived there at the same time and all the pilgrims composing them are said to have been suffering from intense thirst. Harrowing scenes seem to have been witnessed on their arrival at the camp; they threw themselves on the vessels containing the water-supply and much of the water was lost in the struggle. The following is the further record of the outbreak in the camp:—

Feb. 26th	9 *cases,*	2 deaths.
,, 27th	10 ,,	5 ,,
,, 28th	21 ,,	4 ,,
,, 29th	1 ,,	7 ,,
March 1st*	0 ,,	1 ,,
,, 2nd†	0 ,,	0 ,,
,, 3rd	8 ,,	3 ,,
,, 4th	5 ,,	3 ,,
,, 5th‡	4 ,,	5 ,,
,, 6th§	1 ,,	2 ,,
,, 7th‖	1 ,,	0 ,,
,, 8th	0 ,,	1 ,,
,, 9th	0 ,,	0 ,,

* And 1 case among a fresh batch of 600 pilgrims.

† But 16 cases and 6 deaths in a fresh batch of 1600 pilgrims.

‡ There were now 10,000 pilgrims in the camp; 96 cases of cholera had occurred to date.

§ The Holy Caravan left. ‖ Fresh caravans still arriving.

Finally, on March 17th it was stated that there had been no fresh case for ten days and on the 21st that there were still no new cases, though 15 convalescent cholera patients remained in hospital and a fresh caravan of 350 pilgrims had arrived only that evening.

The outbreak of plague in Jeddah still continues and the infection has been carried to Yanbo, where it has also caused a considerable mortality. The following figures (for Jeddah) are in continuation of those in my last letter on this subject:—[1]

From Feb. 9th	to Feb. 16th	12 cases,	12 deaths.
,, ,, 17th	,, ,, 22nd	6 ,,	6 ,,
,, ,, 23rd	,, March 1st	11 ,,	11 ,,
,, March 2nd	,, ,, 7th	3 ,,	2 ,,
,, ,, 8th	,, ,, 15th	9 ,,	8 ,,
,, ,, 16th	,, ,, 22nd	4 ,,	4 ,,

Plague seems to have made its appearance in Yanbo on Feb. 13th. It is said to have been imported from Jeddah by the s.s. *Alexandria* which arrived at Yanbo on Feb. 9th, having on board a stoker ill with the disease. The ship was repulsed to Jeddah for disinfection and rat destruction but the infection had already been carried ashore at Yanbo, where the following cases and deaths have since occurred:—

From Feb. 13th	to Feb. 20th	13 cases,	12 deaths.
,, ,, 20th	,, March 5th	11 ,,	10 ,,
,, March 8th	,, ,, 11th	9 ,,	9 ,,
,, ,, 12th	,, ,, 18th	19 ,,	19 ,,

In all, since the beginning of the epidemic in Jeddah, there have been 123 cases of plague and 117 deaths in the two towns of Jeddah and Yanbo.

In addition to the above 4 cases of plague have been imported to the Camaran lazaret, two on board the s.s. *Budric*, and two on the s.s. *Shahallum*, both of which ships were returning from Jeddah, and at the Tor lazaret a single case of pneumonic plague was landed from the s.s. *Abdul-Kader* on March 5th and another from the s.s. *Gharb* on March 15th. The last case was of the septicæmic form, with a hæmorrhagic exanthem; it ended fatally.

Constantinople, March 27th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Ravages of Sleeping Sickness: the Expedition to Rhodesia.

THE Liverpool School of Tropical Medicine, in conjunction with the Government and the British South Africa Company, despatched an expedition in May, 1907, to Rhodesia to study sleeping sickness and the distribution of biting flies which disseminate that disease. Sir Alfred Jones, K.C.M.G., the chairman of the school, has recently received a report from the expedition, dated Madona, Jan. 28th, 1908, specifying that the "fly" glossina palpalis has been found on both sides of the Luapula from Kapwepwi's to Kasiwa's, a village about two days' journey south of Lake Mweru (by Dr. J. O. Spillane and the expedition). It has also been found by Dr. Spillane along the whole of the British coast of Mweru, around the south end of Lake Tanganyika, and also along parts of the larger confluents of the Luapula and Kweru, notably the Mansa and the Kalungwisi. The expedition found it on the Luongo, a short distance from its mouth. From Kasiwa's to Mweru, on the British side, the Luapula is bordered by swampy plains some miles in width, so that the conditions are unfavourable for this fly. On the Belgian side this does not obtain to such an extent, so that the fly is probably present, although the expedition has no definite knowledge as to this. Glossina morsitans, and possibly the closely related pallidipes and longipalpis, is widely spread over the country, however. On the road from Broken Hill to Fort Jameson the expedition found the flies at one spot in the Machinga hills, from the base of these right across the Luangwa to within a day's journey of Petauke and near the Sasare mine. From Fort Jameson to the Luapula they occur from the Luangwa to the base of the Machingas. There is a sudden rise here to the plateau of 2500 feet or so, and on the top of the hills the members of the expedition did not see the flies again until they arrived at the Kasanka river. In this vicinity on to argue for a coroner's inquest in every case of death during general anæsthesia in order to improve the statistics! I venture to think, Sir, that a poorer argument never was put forward upon a matter of importance. He grows dismal at the contemplation of the fact that "the medical man is not compelled by any statutory obligation to report cases of death under anæsthesia to the coroner." What possible use to the community can arise from a coroner's inquest in such cases when the anæsthetic has been administered by a registered practitioner of medicine?

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[2] THE LANCET, July 13th, 1907, p. 117.

[1] THE LANCET, Feb. 29th, 1908, p. 678.

The consent of the patient and his friends having been previously obtained to the surgical procedure, the anæsthetic is a natural method of attaining that desired object, for the surgical procedure cannot take place without it. In the year 1900 the British Medical Association published the report of their Anæsthetics Committee, which had been at work for nine years investigating the details of 25,920 administrations of anæsthetics. This report is signed by a large number of the best known surgeons, physicians, and special anæsthetists of their day, and extends to 134 large quarto pages, yet the general conclusions contain the following paragraph:—

> From a careful study of the whole facts at their disposal the sub-committee feel that owing to: (1) the large number of factors in the problem; and (2) the personal equations of the numerous recorders it is impossible to arrive at uniformly satisfactory statistics on the several points submitted for their consideration.

Dr. Waldo must either be in ignorance of this well-known committee's work or has a very inflated idea of the value of the opinion of an average coroner's jury of laymen who thus rush in to decide the pathological cause of death where savants have feared to tread. We who daily fulfil the nation's requirements by administering anæsthetics at hospitals and in private practice where the surgeon's help is called for may surely be trusted with the nation's confidence to preserve life wherever and whenever it can be done.

Among the most serious and depressing factors with which we have to deal is an unreasoning fear of an anæsthetic which is increased and fostered by the publication of accounts of deaths during anæsthesia from the coroners' courts (in many cases these are shown not to be due to the anæsthetic but to the nature of the patient's illness or the gravity of the operation). The repetition of the verdicts in accordance with the evidence of qualified medical men does nothing to allay the mischief of the publication of the fatality. If a patient is dying from heart disease in a hospital ward humanity leads us to screen him off from view, not to call aloud to other patients, "Look what may happen to you as a result of rheumatic fever."

Our most carefully collected statistics give the death-rate from chloroform at 1 in 3162 administrations, from ether at 1 in 16.302, and from mixtures of these two anæsthetics at 1 in 5558. The public knows that every surgical operation itself entails some risk of fatal complications and cheerfully accepts it, though this can never be put into figures owing to variation in the personal equation of the patient, his environment, and state of vitality at the time. When a fatal result occurs after an operation neither the public nor the law calls for public inquiry into the cause of death because it is a natural and inevitable consequence that a certain proportion of patients will always die from these well-understood causes. The public also know that given the above statistics with regard to anæsthetic administrations it is a natural result that a certain proportion of patients will die partly also from the anæsthetic.

Now let us inquire in what cases according to the present law an inquest must be held. The Coroners Act only says "where the coroner suspects that the death was of a violent or unnatural kind." When a coroner can be informed by two registered medical men who were present at the death what the patient died from it can hardly, in the first place, be held that he could of his own medical knowledge "suspect" another cause. Secondly, a death in a beneficent unconsciousness cannot be held to be "violent."

Thirdly, what is a "natural death"? Webster's Dictionary, under definition 8 of the word "natural," states "produced or coming in the ordinary course of things." In the ordinary course of things, as I have shown, it has been known for the past 50 years that there must be a definite mortality in general anæsthesia, therefore a death under an anæsthetic administered by a registered medical man, who alone is competent by his training to undertake the work, is not an unnatural death but a death which must and will occur "in the ordinary course of things" in a certain small number of instances. A coroner is not thus bound by law to hold an inquest in these cases but may accept the certificate of the registered medical men present at the time as to the cause of death.

I have shown, Sir, that these inquests are not required by law and that the jury's verdict must merely repeat medical evidence and cannot in any way add to our knowledge. I consider that they are not only a waste of public time and money, but also from my own intimate knowledge assert that they jeopardise the lives of a percentage of patients, for the publication in the press of accounts of such inquests only succeeds in terrifying the nervous and actually increases the mortality under anæsthesia by disseminating a falsely exaggerated idea of its risks, which produces a physical condition of pallor and feeble heart action from mental fear at the moment when such a patient's turn comes for an inevitable surgical operation. I am, Sir, yours faithfully,

H. BELLAMY GARDNER, M.R.C.S.Eng., L.R.C.P.Lond.
Late Instructor in Anæsthetics and Anæsthetist at Charing
Cross Hospital; Anæsthetist at St. Mark's Hospital for
Fistula, the National Orthopædic Hospital, and the
Male Lock Hospital; Assistant Anæsthetist
at the Royal Dental Hospital of
London.

April 6th, 1908.

To the Editor of THE LANCET.

SIR,—The discussion at the Medico-Legal Society on the anæsthetic fatality question so fully reported in to-day's issue of your journal will be read with keen interest by everyone who has to do with anæsthetic work and medical education. I would have very much liked to have been present at the meeting, and I cordially agree with Dr. F. W. Hewitt when he says at least by far the largest proportion of deaths are preventable. That some are quite unavoidable a casual perusal of the Transactions of the Society of Anæsthetists will convince most people and also will serve to make clear to them what exceedingly grave cases the anæsthetist has occasionally to undertake. As to the instruction to which Dr. C. Templeman refers as taking place in Dundee, I think anyone who knows the student must admit that instruction *which is not certificated* cannot be relied on as having taken place in individual cases, and sometimes the student can manage to get a certificate without having ever earned it. Crowded as the present curriculum unhappily—if unavoidably—is, the medical student for the most part does what the enactments of the special examining body he is concerned with compel him to do, and nothing more. There is no shadow of doubt that a comparatively large proportion of men qualify (so far as the obtaining of a diploma is concerned) without ever handling ether or chloroform. As Dr. J. F. W. Silk points out, alarming the public unduly is not desirable in their own interest, but at the same time it is surely best that the public should realise that there is a very considerable risk connected with the administration of anæsthetics which it is mere folly to unduly minimise and which should be adequately arranged for. Certainly screaming columns in the halfpenny press are most undesirable. The coroner's inquest must always be a horror to those occupied in giving anæsthetics. But at the same time if the person responsible wishes it, I think in Scotland it is perhaps undesirably easy to return death occurring from or under chloroform as "from natural causes."

Inquests or no inquests, the main question is more teaching, better teaching, and more experience, *with proper guidance*, for the student, tending, as Sir Alfred Fripp put it, to "the leavening up of the whole profession." This question has already been up on several occasions before the General Medical Council. Last year it was referred to the Education Committee and I understand they decided that the various examining bodies should be recommended to make the teaching of anæsthetics compulsory, and enforce the presentation of a certificate in regard to such instruction by all candidates for their diploma or degree. Doubtless as a result of the memorial sent them from the Medico-Legal Society they will take further action in the matter, since so few of the examining bodies have taken the previous hint. It is to be earnestly hoped, however, that, if the instruction of students in anæsthetic work is made compulsory all round, the Council will see to it that their enactment is framed in such a manner as to be effective and not farcical.

It must be borne in mind that there are a number of surgeons and teachers of whom the gentleman I mention the bequest. The resignation was accepted with much regret but with full recognition of Dr. Murray's public-spirited action. Dr. Murray, as the first holder of the Heath chair, has left a record which will always serve as a standard for those who will follow him in the professorship. Mr. H. J. Hutchens, who has been associated with the College since 1905 first as demonstrator and then as lecturer on bacteriology, has been elected to succeed Dr. Murray. Dr. Murray now succeeds Dr. J. Limont in the University lectureship on medical jurisprudence, Dr. Limont, owing to continued ill-health, having, much to the regret of his colleagues, been obliged to resign his appointment. Dr. Murray will give his first course of lectures during the coming summer session.

Chair of Midwifery.

The lectureship on midwifery has been raised to a professorship. Dr. R. J. Ranken Lyle, the present lecturer on midwifery, has been appointed first professor of midwifery in the University of Durham.

Feeding of School Children in Newcastle.

At its meeting on April 1st the city council of Newcastle passed a resolution that a halfpenny rate should be raised to defray the cost of feeding of school children. The subject of the feeding of school children was first considered by the corporation early in 1907. A special subcommittee of the education committee was appointed, consisting of 24 members, including four members of the medical profession and two representatives of the Charity Organisation Society. This subcommittee was assisted in a consultative capacity by its principal medical officer. Active opposition was raised to the adoption of the Education (Provisions of Meals) Act, 1906, by certain members of the subcommittee who maintained that the case for school feeding was not proved. Those in opposition offered investigation which, however, was not accepted by the subcommittee which reported to the full committee that there was an urgent need for putting into operation the Act of 1906. The report of the subcommittee includes the report of the principal medical officer. This latter report is hardly convincing, as the following extracts will show. He says:—

> Of the ten departments visited I found that seven had never made a list of names and addresses of actual cases. I do not, however, wish it to be inferred from this that the general result of the inquiry is to be distrusted. There was evidently a distinct failure to understand that the inquiry was to be based upon the actual number of indigent cases in the school at the moment, many basing their returns on probabilities. ...... One infants' department returning ten as the number could not show me a single such case in the school at my visit, nor could I detect any on inspection.

On Dec. 18th, 1907, the city council voted £1500 for school feeding. It was very soon found that the committee was being defrauded and it decided now to ask for the investigation which had previously been offered and refused. The results of these investigations have not yet been received.

Newcastle-upon-Tyne Clinical Society.

The last meeting of the session of this society was held on April 2nd. Many cases of considerable interest were exhibited, including a case of paralysis agitans in a man, aged 42 years, shown by Dr. George Hall, in which he had been able to trace a family history of tremor in three generations—viz., the patient's mother, one sister, and two children. The responsible officers of the society would do well to organise their meetings so that more advantage could be obtained from the material at the disposal of the members. The meeting on April 2nd was hopelessly confused for want of a little organisation.

Royal Victoria Infirmary.

Dr. A. Parkin and Dr. George Hall have been elected honorary assistant physicians to the infirmary.

April 7th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Vaccination Fees.

SOME months ago the Aberystwyth board of guardians reduced the vaccination fees of the public vaccinators and the medical men refused to accept them as they considered the remuneration inadequate. The matter was eventually referred to the Local Government Board and that authority drew up a scale of fees on the mileage plan. At the last meeting of the guardians the public vaccinators declined to accept either scale of fees. After some discussion it was decided to invite the public vaccinators to meet the guardians in the hope that some amicable settlement might be arrived at.

Medical Inspection of School Children.

A conference convened by the Cardigan county council and education committee was held on April 2nd. It was intended that the conference should give an expression of opinion as to how far it would be possible for the education authority to act in coöperation with the various sanitary authorities in giving effect to recent legislation regarding the medical inspection of school children. It was explained that £380 were now paid to medical officers in the county. The estimated cost of medical inspection was £250, calculated on the basis of 6*d.* per child. After a discussion, in which the medical officers took part, it was decided to recommend that arrangements should be made to appoint the local medical officers for the purposes of medical inspection. Owing to the inaccessible nature of the districts it was considered inadvisable and expensive to appoint one officer for the whole county, but it is intended that a medical officer will be appointed to supervise and to codify the annual reports made by the local medical men.

Notification of Births Act.

At the request of the county council the conference also considered the advisability of recommending district councils to adopt the Notification of Births Act. The medical officers expressed their views in favour of not adopting the Act at present on the ground that it would be practically impossible and useless in a county composed almost entirely of rural districts with large areas. Mr. J. W. Stephens (Cardigan) pointed out that the person responsible for the notification was not clearly defined in the Act and considered that the Government had dealt cavalierly with the profession and thrust upon it duties repugnant to its best traditions. The conference decided to advise the district councils not to adopt the Act.

Cardiff City Mental Hospital, Whitchurch, Glamorganshire.

The opening of this hospital will take place on April 15th next at 3 P.M., by the chairman of the visiting committee, Councillor Morgan Thomas. The guests will be conducted over the institution by the chairman and the medical superintendent, Dr. Edwin Goodall, formerly medical superintendent of the Joint Counties Asylum, Carmarthen, who has been busily engaged in making preparations for the past 12 months. The new mental hospital is situated about three miles north-west of Cardiff and about a mile from Llandaff railway station on the Taff Vale railway. Special conveyances, however, will take the officials and guests between Cardiff City Hall, Cathays Park, and the Mental Hospital. The scientific side of the equipment of the new hospital is considered to be above the average.

Bristol Royal Hospital for Children and Women.

The annual meeting of the subscribers to this institution was held on March 31st under the presidency of Lord Winterstoke. The medical report stated that during 1907 the in-patients numbered 785 (727 children and 58 women), a decrease compared with 1906. The out-patients numbered 4662, as compared with 5500 in the previous year. The financial statement showed that the total adverse balance against the institution was now about £4000. The committee states that as a result of its special appeal for £10,000 (which will be utilised for freeing the hospital from debt, for building a small scarlet fever annexe, and for improvements in the out-patient department) the sum of £5209 has been already received.

April 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Education of Women.

AT the eighteenth annual meeting of the Scottish Association for the Medical Education of Women it was reported that the number of students on the roll during the summer session, 1907, and the winter session, 1907–08, was 114, which shows a slight increase over the preceding session. While the report regarding the work of the past year is satisfactory, a serious crisis has unexpectedly arisen which believed and looked upon as being the *causa causans* of mental disorder. Moreover, there are not wanting those who consider the fine flower of attainment in the cure of insanity to be the application of serum therapy by intravenous injection, which alone they suggest can control toxic agencies and re-establish the normal bio-chemistry of the vital organs.

After nearly 30 years of experience of mental diseases, ranging considerably over 12,000 cases of all forms and varieties of insanity—using these terms in the sense interpreted by Mercier—I am convinced that the proper treatment of insanity must be the study of each case upon its merits and that to advocate any special treatment as the exclusively correct method is to establish the "idol of a cult" which subsequent experience will inevitably demolish as has already occurred in the past. Whilst so much and strenuous importance appears to be laid upon either the "drug" treatment, or the so-called hospital treatment, or bed treatment in open places, I feel compelled to enter a protest against any one method and also to regret that, in my opinion and that of many others, too little importance is being attached to the purely mental influences—viz., the influence of one *mind* upon another, whereby qualities such as insight, tact, common-sense, inspired by a feeling of brotherhood and sympathy, fail to receive due appreciation. These mental influences are qualities which should have a higher recognition in the treatment of the insane, for they alone can suggest lines of thought which will facilitate to him the normal appreciation of the outside world, these alone are capable unobtrusively of controlling disordered volition—both inwardly by encouraging self-control and outwardly by directing conduct along reasonable and right channels. Surely it will be acknowledged that at all times and in all ages of medical knowledge the cure of disease has not been wholly or entirely by physical means, but by a judiciously utilised appeal to reason associated always with the coöperation of the patient. These qualities, in my opinion, have ceased to secure their due and formerly recognised place in dealing with variations of that subtle *something* which characterises and distinguishes man—viz., the possession not only of consciousness but of self-consciousness, the capacity not only of exercising a "will" but of having an outlook into the unknown future of time and life. The impression is left upon my mind that your reviewer is dominated by an "idol."

I am, Sir, yours faithfully,

Claybury, March 31st, 1908. ROBERT JONES.

THE INTERNATIONAL SOCIETY OF TROPICAL MEDICINE.

To the Editor of THE LANCET.

SIR,—I am in receipt of a letter from Professor Nocht, deputy-chairman of the German Society of Tropical Medicine, in which he states that the first meeting of that society will be held on April 15th–16th, 1908, in Hamburg; and that the members of the German society will be very happy to meet members of allied societies from abroad. Professor Nocht has requested me to make this fact known. The opening meeting will take place at 9 A.M. on April 15th in the Institut für Schiffs- und Tropenkrankheiten, Hamburg.

I am, Sir, yours faithfully,

G. H. F. NUTTALL,
Honorary Secretary-General.

Cambridge, April 3rd, 1908.

WHY SILK?

To the Editor of THE LANCET.

SIR,—Silk may be regarded as a type of the material employed for ligatures and sutures which, after burial in the tissues of the human frame, if neither extruded nor removed, persists for many months or even years. The heading of this letter is suggested by perusal in recent surgical literature of the following cases.

In the "Annals of Surgery" for November, 1907, Mr. H. M. Rigby describes the removal by an iliac incision of a calculus impacted in the ureter. The ureter was closed by silk sutures. Symptoms recurred. Another calculus was removed from the ureter and two more calculi were passed per urethram. Each of these last three calculi had as a nucleus a silk ligature. Mr. Rigby now advocates suturing the ureter with catgut. In THE LANCET of March 21st, 1908, in his first Lettsomian lecture, Mr. Charters J. Symonds records five cases of nephrectomy, performed for tuberculosis of the kidney. In four of these cases the behaviour of the ligature was as follows.

CASE 1.—Operation in 1907. The pedicle was secured with silk. "The loin sinus did not close till the ligature came away nearly six months after operation."

CASE 2.—Operation in March, 1907. The pedicle was secured with silk. "The drainage-tube was removed in two days and apparently primary union followed." "About six weeks after operation the loin became swollen and a low form of suppuration developed." In November, 1907, there was "a return of many of the symptoms existing before nephrectomy." "In the absence of bacilli I attributed the symptoms myself to the loin sinus kept up by the pedicle ligature. This was removed under ether."

CASE 4.—Operation in November, 1907. Material of pedicle ligature not stated, but on Jan. 8th, 1908, seven weeks after operation, "the sinus in the loin, though giving little trouble, will no doubt continue to discharge till the ligature comes away."

CASE 5.—Operation in November, 1897. "The ureter, very thickened, was ligatured and the silk brought out through a rubber drain, into which the end of the ureter was drawn. The ligature came away some eight months after operation." I am, Sir, yours faithfully,

Plymouth, March 25th, 1908. C. HAMILTON WHITEFORD.

CHOLERA AND PLAGUE IN THE HEDJAZ AND ELSEWHERE.

(BY THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

SINCE the time of writing my last letter, published in THE LANCET of Feb. 29th (p. 678) the cholera outbreak in the Hedjaz has almost completely come to an end. In Mecca no cases were observed after Feb. 8th. In Jeddah, where 113 cases of the disease with 95 deaths had been recorded in the week ending Feb. 2nd, only 15 cases and 25 deaths were seen between Feb. 3rd and 8th; on the three following days 5 fresh cases and 8 deaths were registered, and after the 11th not a single case or death appeared to have occurred there. In Yanbo, where 18 cases and as many deaths had occurred in the week ending Feb. 3rd, there were 8 cases and 8 deaths between Feb. 3rd and 13th, 3 cases and 3 deaths between the last-named date and Feb. 20th, and 13 cases with 10 deaths from that date to March 11th.

The total number of cases of cholera in the principal towns of the Hedjaz since the beginning of the epidemic on Dec. 13th last down to March 11th is put at 6378 and that of deaths at 5695. But these figures do not include the statistics of the outbreak to the north of Medina and in connexion with the Hedjaz railway. They are also probably considerably below the truth, even for the towns to which they refer. Written reports are now being received from the health officers of some of those towns and these furnish some details of interest which supplement the bare figures hitherto alone received by telegraph. Thus in Jeddah there were two periods of the epidemic. In the first, which lasted from Dec. 27th, 1907, to Jan. 7th, 1908, some 20 deaths occurred; these all resulted from infection imported by four pilgrims' ships arriving at Jeddah from Yanbo (as described in an earlier letter). Then from Jan. 7th to 17th there was a cholera-free period; on the 17th the caravans began to arrive back at Jeddah from Mecca and a second and much more severe epidemic period set in which lasted until Feb. 11th. In all, 416 cases of cholera with 379 deaths were registered in Jeddah. Of this total 182 cases occurred among Indian pilgrims, 64 among Turkish, 41 among Bokhariots, 24 among Soudanese, 21 among Russians, 16 among Yemenis, 15 among Afghans, 11 among Tripolitans, and the rest among Chinese, Egyptians, native Arabs (only 8 cases), Algerians, Javanese, Tunisians, Bosniacs, Persians, Europeans, Albanians, and Somalis. The maximum period of the epidemic fell on Jan. 24th. Very few cases were isolated in the barrack which *does duty* for a hospital in Jeddah. Most of those afflicted seem to have died in the streets and the sufferings of the pilgrims were greatly increased by torrential rains which fell incessantly for 48 hours. It is stated, however, that the infection did not seem to have been spread by water. The new distilling apparatus which the Turkish Government has put

The Consumption of Tobacco.

In 1907 the tobacco monopoly brought in 377 million francs, being an increase of six million over 1906. There were sold 2½ million kilogrammes of cigars, and about the same quantity of cigarettes; 28½ million kilogrammes of cut tobacco, or in all 33½ million kilogrammes of smoking tobacco. In addition there were sold 5 million kilogrammes of tobacco in powder and a little more than a million kilogrammes of cake tobacco. The sale of cigarettes, which in 1872 brought in scarcely 1 million francs, rose to 17 million in 1882, and for some years remained about this figure. Last year, however, it brought in 72 million, and, moreover, during the last three years the consumption of snuff has markedly increased. On the contrary, the sale of cigars, especially those sold at a penny and a penny-halfpenny, has slightly diminished. During last year the individual consumption per head of tobacco in France was exactly 1 kilogramme, of which 122 grammes represented snuff and 878 grammes tobacco for smoking or chewing. The total sum expended in France upon the consumption of tobacco was nearly half a milliard (i.e., 500 million francs), or 12 francs 66 centimes per head. Of this sum the Treasury gains 92 per cent.

April 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis and Pregnancy.

AT a recent meeting of the Berlin Society for Internal Medicine Professor Bumm read a paper on the management of pregnancy in tuberculous women. It was generally acknowledged, he said, that tuberculous disease was aggravated by pregnancy because the disturbances of metabolism incidental to pregnancy rendered the organism less resistant to the specific bacillus. Pre-existing pulmonary tuberculosis therefore tended to make more rapid progress, whilst women having a predisposition to tuberculosis were exceptionally liable to develop the symptoms of it during pregnancy. Tuberculous women ought, therefore, not to marry, or if married they ought not to become pregnant, but as advice to this effect was likely to remain a counsel of perfection it became advisable in such cases to terminate pregnancy by the induction of abortion. The indications for this proceeding have lately become more and more extended, and Professor Bumm, who is the chief of the lying-in department of the Charité Hospital, stated that nearly every week tuberculous pregnant women were sent to him from the medical departments of hospitals, from sanatoriums, and by medical practitioners for the purpose of having abortion induced. This course should, however, be taken only when objective symptoms of tuberculosis were present, for mere suspicion of the existence of the disease based on family history was not a sufficient justification for it. In the late stage of tuberculosis the operation should be avoided as the fatal issue was not only not postponed but might even be hastened by the loss of blood and shock. When pregnancy had advanced beyond the fourth month artificial abortion was quite as exhausting as a normal labour and should therefore be resorted to only in cases of acute laryngeal or pulmonary œdema. Mild cases of tuberculosis, in which the patient's state had become aggravated during the first half of pregnancy, were well suited for the operation, especially when the ophthalmo-reaction was negative notwithstanding the existence of obvious tuberculosis; it has been found that the ophthalmo-reaction reappeared after the occurrence of abortion. The operation should be performed in such a manner that the women do not feel pain and recover quickly, leaving their beds very soon.

Proposed Amalgamation of Berlin Medical Societies.

The Berlin Medical Society has decided to build a house of its own to be called Virchow-Haus. The meetings of the society have hitherto taken place in Langenbeck-Haus, the property of the German Surgical Association which meets only once a year for a period of four days and does not use its premises during the remainder of the year. The necessity of a special home for the Berlin Medical Society is therefore not very obvious. As the funds of this society are not large enough for the expenses of new premises it has been suggested that the other medical societies should join the Berlin Medical Society. The separation of these societies has been for a long time regarded as a drawback. Not less than 68 medical societies have been formed in Berlin and its suburbs, and the majority of the Berlin medical men are members of several of these societies. It has therefore been proposed that the various societies should be amalgamated so that they would form sections of the Berlin Medical Society. The latter would then be the centre where subjects of general interest would be discussed, whilst those of special interest would be left to the sections. If this plan were realised the funds for erecting a special building for the Berlin Medical Society would soon be collected and the house itself would certainly be more useful than if occupied by only one society.

Foreign Body in the Œsophagus.

Professor Hildebrandt showed at a meeting of the Society for Internal Medicine a woman who in January, 1907, had during sleep swallowed a set of artificial teeth. The taking of food became very difficult and she finally was in a state of inanition when in November, 1907, it was found by radiography that the foreign body was situated in the œsophagus just above the cardia. Professor Hildebrandt performed gastrotomy and tried to seize the teeth by forceps passed through the gastric wound. As he, however, did not succeed in this he performed œsophagotomy in the neck, and having introduced large forceps he crushed the foreign body into pieces which were then gradually extracted. Great exertion was necessary to get the pieces out of the œsophagus, and the operation was the more dangerous because the walls of the œsophagus were so thin that when the hand was introduced into it through the gastric opening the pulsation of the heart could be felt. The wound in the œsophagus was then closed by sutures but an opening was left in the stomach through which the patient was fed for some time. Empyema and partial gangrene of the lung occurred afterwards, but the patient, nevertheless, completely recovered.

April 6th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

A Health Bureau for the Schools.

WITH a view to safeguard children against the spread of disease and at the same time to improve the sanitation of houses in the congested quarters of the city, the Board of Education of Budapest is planning the establishment of a bureau of health. Many of the trustees heartily favour the scheme and if enough votes can be secured in the board it will be put to a practical test as soon as the public schools are opened for the full term. The plan is to have the schools visited by medical inspectors who will obtain from the children information as to cases of illness in their homes. The houses in question will then be visited and every effort will be made to guard against the spread of disease and also to improve the existing sanitary conditions. Teachers will be requested to report to the bureau all cases of illness among the pupils and also all houses which they have reason to know are not sanitary.

Leprosy in Bosnia.

Leprosy is said to be on the increase in Bosnia. Till the year 1895 no special precautions were taken with regard to this disease as it was not considered to be contagious. Since that time, however, so many cases have been discovered that the authorities became alarmed and the rebuilding of an ancient "mosche" (temple) at Visegrad on the sea shore for the internment of lepers was resolved on. From the Serajevo Hospital, which has a special building for the reception of leprous patients, it has been recently reported that the prevalence of the disease has greatly decreased in the districts in which Austrians and Hungarians have settled in great numbers.

Spinal Anæsthesia.

At a recent meeting of the Nagyvárad Medical Society Dr. Imre Fischer, surgeon to the Jewish Hospital, read a paper on Spinal Anæsthesia. He said that the objections which were usually made to the use of spinal cocainisation were as follows: (1) that unpleasant after-effects resulted; (2) that there were immediate and remote dangers which were considerable; (3) that cocaine was uncertain in its they are very plentiful and stretch over to the Luapula and up north past Chitambo's through the country to the east of Bangweulu. They may be said to be found in most of the Luapula division. The expedition has found three cases of sleeping sickness, all with a history of having worked in the Katanga mines. All had markedly enlarged glands and appeared perfectly healthy. The fly glossina morsitans was present in the village in which at least one case lived. Considering the thousands from this country who have worked in the Katanga mines it is likely that there are many more cases scattered through North-Eastern Rhodesia as the labour was not drawn from any one particular district. All the work goes to show that the transmission is mechanical. While this is not sufficient to account for the rapid spread of the disease in view of the great difficulty experienced in getting positive results, it is a fact which cannot be too strongly emphasised. There is a tendency to regard glossina palpalis as the only infecting agent. That this is not so has been shown by the work in Uganda where successful transmission experiments were made with glossina fusca. Again, the work on cattle trypanosomes shows that while one or two species are normally concerned in the extension of the disease, it is quite possible to effect this by the use of not only other species of tsetses but also other distinct genera—e.g., stomoxys and tabanids. This surely is sufficient to demonstrate that at present all biting flies, and particularly all species of glossina, must be regarded with suspicion. In this connexion one must refer to the report that some observers in the Congo Free State implicated stegomyia fasciata. This has to be proved. While, perhaps, the task of controlling the spread of sleeping sickness would become impossible if every biting insect had to be considered it is not so with regard to the tsetse flies. The question of the etiology of the disease is in a more unsatisfactory condition than the treatment, at all events from the prophylactic view, and it is most important that some definite effort should be made to find exactly what flies, tsetse and others, are capable of carrying the virus. As to enlarged glands, a fairly large percentage of the natives (roughly from 30 to 40 per cent.) have palpable glands which come chiefly under one group of Dutton and Todd's classification, though there are also many of another group of glands. On puncture the result was found to be uniformly negative. This occurrence of enlarged glands rather complicates the diagnosis, for it means that the statement "every negro with enlarged glands must be considered, until the contrary is shown, to be a case of trypanosomiasis" cannot be accepted for North-Eastern Rhodesia and, presumably, for Nyassaland as well. Consequently, a trained medical officer is the only person who can look for the disease satisfactorily since puncture is necessary. The British South Africa Company should have special medical officers to travel through the country looking for cases and getting them isolated at once. Whether it will be necessary for like measures to be adopted in Nyassaland is uncertain as yet. The chief danger for the Protectorate lies in the spread of the disease to the north end of Lake Nyassa. Trypanosomiasis is endemic on Tanganyika at Vua in the Free State, a short distance above the Congo-Rhodesia border, and between the people on either side of this there is unrestricted communication. Glossina palpalis is found right round the southern end of Tanganyika, so that it is extremely probable that cases of the disease are present in that part of the country. Whether the disease is to be found in German East Africa is not known. At the north end of Nyassa glossina fusca has been found and this, we know, can carry the disease. If once a case reaches a place where these flies occur an epidemic might easily be started. Natives of the Protectorate are carrying loads from Karonga to Kasama, and as large numbers of natives from the Awemba district of North-Eastern Rhodesia have worked in the Katanga, cases probably exist amongst them, and the possibility of their infecting negroes from Nyassaland must not be overlooked. It therefore seems that the north end of Nyassa is the part which requires most attention from the authorities of the Protectorate. It would also be well to bear in mind that natives of the Protectorate have been working in the Katanga and some are only returning home now. Some of these may be infected. In connexion with the foregoing report the British South Africa Company has taken elaborate measures, through Dr. Spillane, to combat the spread of sleeping sickness, with which measures the sleeping sickness expedition of the Liverpool School were possibly not acquainted at the time when their report was sent. Dr. Spillane's report is dated Fort Jameson, Jan. 20th, 1908.

April 7th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Convocation of the University of Durham.

IN accordance with the University regulations a convocation of the University was, as is usual at the end of the winter examinations, held at the College of Medicine, Newcastle-upon-Tyne. In the absence of the warden, Dr. F. B. Jevons, subwarden of the University, presided. Sir Isambard Owen, Principal of Armstrong College, presented the Bishop of Newcastle for the degree of D.D. *honoris causâ*, and in doing so briefly sketched Dr. Straton's career, and concluded by saying that the University of Durham desired to offer the Bishop its cordial and respectful welcome. Ordinary degrees in medicine, surgery, and hygiene were then conferred, and the examiners for the summer examinations in the various faculties were subsequently appointed. Convocation was followed by a luncheon given in the council room of the College of Medicine by the president and members of the College to which the Bishop and many other guests and officials were invited. The various examinations in the Faculty of Medicine were concluded and the lists published on April 3rd.

Alterations of the Dates of Examinations.

The examinations just concluded were the first to be held under the new arrangement which permits of the examinations being held immediately at the end of the winter and summer sessions instead of as heretofore in the middle of the months of April and September. Under the old *régime* the benefit of the vacations was largely destroyed for both the teaching staff and the students and the alteration of the dates of the examinations whereby they are to be held in future at the end of March and the end of July is universally welcomed as being to the advantage of all parties.

Heath Chair of Comparative Pathology and Bacteriology in the University of Durham.

The late Dr. George Yeoman Heath, a former president of the College of Medicine, to whose generosity and attachment to his profession the College is also indebted for the Heath wing and the Heath Surgical Scholarship, left a sum of money to be invested of which the income was to be devoted to the endowment of a chair of comparative pathology and bacteriology. The professorship was founded in 1893 and Dr. George R. Murray, already then well known for his work on the thyroid gland, was elected first Heath Professor. The work of the new appointment was begun in very small quarters but the success which attended Dr. Murray's teaching and administration soon necessitated the provision of further accommodation. This in turn proved insufficient for the needs of the work. In 1905 a beginning was made with the building of the present Heath wing. Dr. Heath's original intention was that a residential college should be built. It was, however, felt that there was not a sufficient demand for a hall of residence among the Newcastle students of medicine. The council of the College, therefore, with the consent of the trustees of the bequest, applied to the Court of Chancery for leave to build laboratories instead of a residential hall. The Court granted the application, accepting the suggestion of the trustees and council that the building should consist of students' rooms on the ground floor, physiological laboratories on the first floor, and laboratories of comparative pathology and bacteriology on the second floor. Into these admirably arranged and well-equipped laboratories Dr. Murray removed his department at the commencement of the winter session 1906. In spite of the interest which Dr. Murray has always had in his department and of the success which has attended his administration and teaching, he has always held that Dr. Heath's real hope was that a time would come when the holder of the Heath Professorship would be a man who would give his whole time to the department. The question of finance stood in the way. But having satisfied himself that he had overcome that difficulty and that he was now able to realise what he believed to be Dr. Heath's wish Dr. Murray placed his resignation in the hands of the council of the College at its meeting on March 4th, explaining his interpretation of the intention of members of the Anti-Opium League, especially those who have no knowledge of local conditions. The Asiatic temperament must be taken into account and requires very careful treatment in matters of such importance as the regulating of an appetite for a mental excitant such as opium. The pleasant sensations that follow a morphine injection are not likely to remain long a secret to those who, having been rudely divorced from their habitual use of opium, are searching about for some means of satisfying the almost irresistible craving which their systems feel for it.

March 10th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Kew Lunatic Asylum.

THE Government of Victoria has decided that the Kew Asylum grounds shall be sold and the asylum eventually removed. The present building has been long condemned by the official visitors as overcrowded and structurally deficient. A site has been purchased at Heidelberg which is a very picturesque suburb about eight miles from Melbourne. The present building will be retained for benevolent cases until other provision is made.

The Site of the Melbourne Hospital.

The question of a suitable site for rebuilding the Melbourne Hospital continues to be a fruitful topic of controversy. The choice was considered to lie between rebuilding on the present site or moving to what is known as the "pig market"—a larger area about a mile farther from the city. The Premier recently introduced a new factor by offering the hospital committee an area of 15 acres in what is at present a reserve surrounding the Government House set apart for the Governor-General since the inauguration of the Commonwealth. This site is ideal from the standpoint of natural beauty but it is situated on the south side of the river Yarra and would have three other general hospitals within a radius of one and a half miles. It is objected that if the present site is abandoned the new hospital should be moved to the north, as the northern suburbs contain the great bulk of the poorer population. Another objection which has been strenuously urged is that the Government House reserve should be retained for a pleasure ground. The medical staff of the hospital decided some time ago by a substantial majority in favour of the "pig-market" site, but on the Premier's offer being made a number altered their view and a majority is now in favour of moving across the river. The popular objection to this course appears to be so strong, however, that it is possible that the offer may be withdrawn. Meanwhile the hospital committee accepted it subject to the agreement of the Wilson Fund trustees, whose gift of £100,000 carries the right of approval. This approval was withheld and the Premier called a conference of various public bodies interested in the question. No result was arrived at by this meeting and it is now announced that the hospital committee will itself come to a definite conclusion. Had this been done at the outset a great deal of time and discussion would have been saved, for public opinion was prepared to support the committee in anything decided upon until it weakly accepted the suggestion to cross the river.

Mortality among Boarded-out Infants.

During the recent heat wave in Melbourne it was reported by a female inspector that several infants in the care of a registered nurse were in a dying condition. They were removed to the depôt for neglected children and five of them died there within a week, while another succumbed a few days later. The cause of death in each case was given as colitis or entero-colitis. The nurse in question had no fewer than 12 children under her care. The police inspector reported favourably on his knowledge of the conduct of this place and the coroner eventually concluded that there was no evidence for committal and intimated that the authorities might take further action. The Chief Secretary has directed a prosecution.

Municipal Dispensaries for Sydney.

A movement has been made in the city council of Sydney to establish municipal dispensaries. A motion was carried instructing the city solicitor to prepare a clause in the next amending Bill giving the council power to establish dispensaries in the city.

The University of Sydney.

The medical school is expanding so greatly that it has been found necessary to remodel the present school and also to make considerable additions to the building. The new wing will consist of a stone building three storeys in height, the exterior of which will correspond with the existing block, and the cost will be £20,000. The school as rebuilt will be connected by a handsome cloister with the Pathological Museum. On the ground floor of the new wing there will be a bacteriological class-room, laboratory, and preparation-room, with a lecture-room for pathology. The first floor will include class-rooms for materia medica and surgery. A new museum of anatomy will also be provided.

A Remarkable Case.

A curious case of mental aberration from overstrain has occurred in one of the suburbs of Melbourne. An old lady, aged 81 years, had been for some two years entirely bed-ridden. She was nursed by a daughter, a woman aged 53 years, and mother and daughter were so attached that neither would permit any other attendant, although such was available. A neighbour noticing an offensive smell communicated with the police, who discovered that the old lady had been dead for more than a week. The daughter was in a dazed condition and could give no account of the occurrence except the statement that she thought her mother was asleep. Relatives had called at the house three or four days previously and had been informed that the patient was sleeping and was not to be disturbed. When visited by the police the daughter had apparently not taken her clothes off for at least three days, nor was there any evidence that she had partaken of any food during that time. She has since entirely recovered her mental balance.

Vital Statistics.

The estimated population of Sydney district on Dec. 31st, 1907, was 550,600. The birth-rate for the year was equal to 26·32 per 1000 of the population, which is the highest rate recorded for many years. 10·1 per cent. of these births were illegitimate. The death-rate was 11·45 per 1000; the infant mortality rate was 96·3 per 1000 births. The death-rate was unusually high among children, which is accounted for by the effect of a dry season and the prevalence of epidemic whooping-cough.

The Danysz Microbe.

A conference of the chairmen of State boards of public health was held in Sydney to consider the advisability or otherwise of permitting the liberation of the Danysz rabbit microbe on the mainland. The conference consisted of Dr. Frank Tidswell of New South Wales; Dr. W. P. Norris, Victoria; Dr. W. Ramsay Smith, South Australia; Dr. J. S. C. Elkington, Tasmania; and Dr. Lovegrove, Western Australia. The questions referred for consideration were: (1) whether the microbe found amongst rabbits on the mainland is identical with that suggested by Dr. Danysz for the destruction of rabbits; and (2) whether it is advisable to continue the experiments in the mainland with the Danysz microbe. With regard to the first question the conference concluded "that the microbe suggested by Dr. Danysz is specifically identical with the microbes isolated from rabbits captured on the mainland of Australia." As to the second query the conference concluded that under natural conditions the virus would not injuriously affect animals other than rabbits failing the influence of some circumstances at present unforeseen. After having considered all the evidence the conference found that while there was no reason to apprehend injury to animal life in general neither was there any reason to expect any effective destruction of rabbits by the use of the virus. The importation of the virus being now prohibited by Commonwealth law the conference recommended that the prohibition should be maintained. This means that the Government will not undertake any further experiments, nor will it permit private persons to do so. The scheme may practically be regarded as defunct.

Sydney Hospital.

The annual meeting of subscribers to the Sydney Hospital was held on Feb. 18th under the presidency of Sir Harry Rawson, the State Governor. The past year was the most active and progressive in the history of the institution. 4935 in-patients were treated, of whom 376 died; the proportion of deaths, after deducting those occurring within 24 hours after admission, was 5·7 per cent. 2246 operations were threatens not only the existence of the association but even the future of the medical education of women in Edinburgh. Minto House, which since 1894 has been the headquarters of the association and of the Medical College for Women in Edinburgh, has been sold without consultation with the association and has to be vacated at the close of the ensuing summer session. The association has placed itself in communication with the University Court and the Carnegie Trust and has reason to believe that some satisfactory solution of the difficulty will be discovered.

Forfarshire Medical Officership.

After much discussion the Forfar county council has decided to appoint a new medical officer of health at the salary of £300, inclusive of outlays. He is to reside in Forfar or the immediate neighbourhood, and with the consent of the Secretary for Scotland he is to be allowed to engage in consulting but not in general practice.

Honorary Degree at the University of Aberdeen.

The degree of Doctor of Laws was granted on April 7th to Dr. William Dobinson Halliburton, F.R.S., Professor of Physiology, King's College, London.

Hospital Sunday in Glasgow.

The total amount received on Hospital Sunday last year in Glasgow was £5026, being £52 less than in the previous year. The sum divided among the infirmaries was £4800, and the same course was followed in making the division as in previous years—namely, in proportion to the number of fully occupied beds in each infirmary. The allocation was as follows: Royal Infirmary, 593 beds, £2068; Western Infirmary, 543 beds, £1893; and Victoria Infirmary, 241 beds, £839.

The Relief of Incurables.

The directors of the Association for the Relief of Incurables in Glasgow and the West of Scotland in their thirty-third annual report state that during 1907 the association had under its care 399 persons—128 in Broomhill Home, 32 in Lanfine Home, and 239 assisted by the outdoor relief department. Not a few applicants had to be refused on account of the scarcity of vacancies. During the past 33 years the association has permanently aided 2012 persons, of whom 755 were cared for as in-patients and 1221 as out-patients. The permanent character of the relief afforded may be gathered from the fact that last year there were in Broomhill Home 26 inmates who had each been there for more than 15 years, and in five instances for more than 80 years, the actual average being 22·4 years. Many of the patients are very helpless, some even requiring to be fed. In the maintenance account there is a heavy shortage. The income for this purpose was £5534 and the expenditure was £7877, leaving a deficiency of £1843.

Glasgow Dental Hospital.

The first public distribution of prizes in connexion with this hospital took place last week. During the session there have been 46 students in attendance on the lectures. Hitherto both the school and the hospital have been maintained largely by the fees of the students. In no year since the foundation of the hospital have the public subscriptions reached £100. As the hospital is a public charity and only incidentally serves in some manner for the training of dentists it ought to receive more support from the general public.

April 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Insane Returned Emigrants.

A GRIEVANCE of peculiar type (and of specially deplorable origin) to which Irish ratepayers are subjected in the matter of maintenance of pauper lunatics who are not properly chargeable to the district has often been the subject of discussion. The annual report of Dr. F. C. Ellison, resident medical superintendent of the Castlebar Asylum, gives prominence to the subject. Dr. Ellison points out that the number of emigrants who have returned to Ireland suffering from insanity is very serious. They are nearly all females. At the present date over 80 of the inmates of his asylum, or about 11 per cent. of the total number of its occupants, are persons who developed insanity elsewhere than in Ireland. The great preponderance of females among these points, he considers, to the overwhelming mental strain to which young girls must be subjected when they leave their quiet country homes and enter the turmoil and trials of life in American cities. Sometimes the return is voluntary but in other cases it is carried out by compulsory deportation; and the unhappy emigrant victims of insanity are destined thenceforward to remain a burden on the local rates. The facts and figures produced in Dr. Ellison's report form a most powerful argument against the system of emigration.

Health of Belfast.

At a meeting of the city corporation held on April 1st the chairman of the public health committee admitted that "the death-rate from all causes was rather high during the past month." The death-rate was 27·4; the death-rate from chest diseases was 12·2 (the normal rate being, say 7·0) which the medical officer of health says is "largely due to climatic conditions" and "over which they had practically no control." But an attempt should be made to explain why Belfast is so different in its high general death-rate and in its mortality from chest diseases from other similarly situated cities. Four cases of typhus fever were notified during the past month.

April 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Dislocation of the Carpus.

AT a meeting of the Surgical Society held on March 18th M. Delbet gave a short *résumé* of three papers which had been handed to him by M. Ferron, M. L. Bazy, and M. Picqué. The subject dealt with was dorsal dislocation of the os magnum without dislocation of the semilunar, to which, however, were sometimes attached fragments of the scaphoid and of the cuneiform if these happen to be fractured. Fracture of the scaphoid is common and occurs in quite half the cases; as a rule, these injuries are brought about by a fall upon the hand in extension. After the accident the hand is generally found to be in a position midway between flexion and extension, but one constant symptom is an increase in the antero-posterior diameter of the wrist situated on a lower plane than is the case with fracture of the lower extremity of the radius; flexion and extension of the hand are extremely limited. In a certain number of cases phenomena due to nervous compression have been observed, being in most cases caused by interference with the median nerve; as to treatment, massage is quite insufficient and a cutting operation is usually necessary. The result of simple reduction is not, as a rule, as good as that seen in other dislocations. Reduction should only be attempted in quite recent cases, the practitioner being prepared to operate in case this fails.

Statistics as to Students.

It is probable that the number of students for the current year will be considerably smaller than formerly and the following figures may be quoted in support of this argument. Students of law have this year increased by 1000, following an increase of 3000 in the last seven years. Students of medicine have decreased by 1200 and students of pharmacy by 800. The public will now perhaps commence to appreciate the fact that the career of medicine, owing to its disabilities, is becoming much less attractive than before.

The Therapeutics of Colloidal Silver.

At a meeting of the Therapeutical Society held on March 25th M. Hirtz gave an account of four cases of broncho-pneumonia which had recovered very rapidly under injections of colloidal silver. Within 24 hours after the injections the amelioration in the general condition was very marked and the temperature had dropped; no other drug was employed.

Scarlet Fever.

Scarlet fever, which had been decreasing for some time past, has now broken out anew in a virulent form in the barracks of Paris. The epidemic commenced in the suburban district; then the troops in the barrack of Neuilly were attacked and some of them died. There have been 30 cases and three deaths. All the necessary measures to secure the safety not only of the soldiers but of the general population have been taken.

M'Farlane (Z., C.), Charles Aloysius M'Guire (Z., C.), James Graeme M'Kinna (Z., C.), Charles Mackinnon (B., Z., P., C.), Guy Dalzell M'Lean (Z.), John Malcolm Macpherson (Z., C.), Thomas Martin (Z., C.), Osborne Henry Mavor (Z.), William Montgomery (Z.), Neil Morison (P.), Andrew Muir (B.), Michael Murphy (B., P., C.), Andrew Shennan Neilson (B., Z., P.), John Boyd Orr, M.A. (Z., C.), James Purdie (Z., C.), John Clark Pyper (Z., C.), James Francis Quigley (Lambhill), (Z., C.), James Francis Quigley (Rutherglen), (B., P.), Hugh Young Riddell (P.), Edwin Robertson (Z., C.), James Hinton Robertson (Z., C.), James Inglis Robertson (Z.), Samuel Rutherford (B., Z., C.), Frank Shearar (Z.), Neil Islay Sinclair (B.), John Finlayson M'Gill Sloan (Z., C.), Hendrik Cornelius van der Watt Smit (Z., C.), James Smith (B., Z.), Alexander Robert Boag Soga (Z., C.), Roderick Alexander Steven (B.), Lawrence Tweedie Stewart (B., Z.), Ronald Stewart (Z., C.), William Patrick Andrews Stewart (Z., P.), Archibald Hugh Taylor (Z., C.), William Taylor (Z., C.), John Cameron Thomson Teggart (Z., C.), Ernest Graham Young Thom, M.A. (Z., C.), Edward Napier Thomson (C.), Tom Waterhouse (C.), George Milroy Whish (Z., C.), William Herbert Nairne White (B.), William Whitelaw (B., Z., P., C.), William Brockie Wilson (Z., C.), William Long Wilson (B., P.), William Ferguson Wood (C.), Walter Percy Yates (B., P.), and Fergus Hay Young, M.A. (C.).

Women.—Janet Rankine Anderson (Z., C.), Agnes Barr Auchencloss (P.), Muriel May Curtis (B., C.), Jane Malcolm Davidson (Z., C.), Jane Kerry M'Elroy Hunter (Z., C.), Maggie Logan Kirkwood (Z., C.), Barbara Macgregor (P.), Janet Morrison M'Kechnie (Z., C.), Ellen Brown Orr (B., Z.), Isabel Jane Stark (P., C.), Petrina Stewart (Z.), Mary Buchanan Thomson (P.), and Margaret Walker (B., P.).

The following have passed the Second Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (A.), Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

Thomas Adam, M.A. (P., M.), David Rutherford Adams (A., M.), Andrew Clark Anderson (P., M.), Donald Arbuckle (A., M.), James Currie Auchencloss (A.), Charles Auld (A., P.), Robert Blackie Austin (P., M.), John Bruce Baird, B.Sc., (A., P., M.), Charles Stewart Black (M.), John Broadfoot (A., P., M.), Alexander Hogg Brown (M.), James Buchanan (A., P., M.), James Alexander Stewart Burges (P., M.), Thomas Simpson Campbell (A., P., M.), William George Clark (A., P., M.), Robert Hunter Deans (A., P.), James Thomson Dick (A., P.), Donald Downie (P., M.), Peter Drummond (P., M.), Robert Drummond (A., P., M.), Alexander Moffat Dunlop (M.), James Dunlop, M.A. (A., P.), William Deanburn Dunlop (A., P.), Andrew Scobie Findlay (A., P., M.), Nicholas Gebbie (A., P., M.), Robert Gilchrist (A., P., M.), Joseph Graham (A., P.), John Gray (A.), Albert William Gregorson (A.), Archibald Campbell Haddow (A., P., M.), George Haddow (P.), Allan Byars Hamilton (P.), James Jack (A., P., M.), Thomas Joseph Kirk (M.), Alexander Leishmann (M.), James Macallan (P., M.), Donald Christopher Macdonald (A., P., M.), Ian Macdonald (A., P.), Malcolm Angus MacDonald (A., P., M.), William Macewen (A., P.), Alastair Macintyre (A., P., M.), Balfour M'Kean (A., P., M.), John Gladstone Mackenzie (P., M.), Thomas Jones Mackie (A., P.), William Maxwell M'Kie (M.), Murdo Mackinnon (P., M.), Andrew Bruce MacLean (A., P.), William Alexander Maclennan (A.), Archibald M'Leod (P., M.), Murdoch Hugh M'Leod (M.), Alexander Thomas M'Whirter (A., P.), Francis William Martin (M.), Angus Millar (A.), Campbell Lamont Miller, M.A. (A., P., M.), Robert Stewart Miller (P.), John Mitchell (P., M.), John M'Intosh Morgan (M.), John Mowat (A.), Andrew Ross Muir (A., P., M.), Clark Nicholson, M.A. (M.), John Paterson (P., M.), Thomas Paterson (P.), Richard Reid Kirkwood Paton (P., M.), John Penman (A., P., M.), Arthur Poole (P.), Arthur Stanley Richmond (P.), Daniel Wright Ritchie (A., P., M.), Robert Charles Robertson (A., P., M.), John Ivison Russell (A., P.), Joseph Henry Napoleon Felix Savy (A., P.), James M'Alpine Scott, M.A. (A., P., M.), John M'Naught Scott, M.A. (A., P., M.), James David Speid Sinclair (A.), William Sneddon (M.), George Rae Spence (P., M.), John Stewart Richmond Steel (A.), Edward Ernest Stewart (A.), John Stewart (A., P., M.), Thomas Louis Grenet Stewart (P., M.), Gilbert Innes Strachan (A., P., M.), Andrew Edgar Struthers (P., M.), William Oswald Taylor (A., P., M.), Stephen Veitch Telfer (A., P., M.), Harold Edward Whittingham (A., P., M.), James Williamson (Holytown) (M.), George Jackson Wilson (A., M.), and Henry Yellowlees (P., M.).

Women.—Christina Barrowman (M.), Louisa Emma Dodge (P.), Honoria Somerville Keer (M.), Florence Ann Gallagher (P., M.), Jeanie Douglas M'Whirter, M.A. (M.), Agnes Mary M'Michael (A., P., M.), Mary Amelia Pilliet (A., P., M.), Margaret Muir (M.), Florence Elizabeth Sexton (A., P., M.), and Jemima Wallace (A.).

The following have passed the Third Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

Archibald Aitchison (M.), William Shanks Alexander, M.A. (P., M.), John Allan (P., M.), James George Anderson (P., M.), William Anderson (P.), William Hunter Stirling Armstrong (M.), Alexander Ballantyne, M.A. (P.), David Barbour (P.), Edgar Barnes, M.A. (M.), Arthur Munby Bayne (P.), Douglas Morris Borland (P.), Morris William Browdy (P., M.), David Young Buchanan (P., M.), Carl Joseph Barrett Buchheim (P., M.), John Adam Gib Burton (P., M.), James Cairns (P., M.), John Cameron (P.), Andrew Hood Clark (P., M.), Alexander Beck Cluckie (P.), James Lang Cochrane (P., M.), Charles Duguid, M.A. (P., M.), James Kirkwood Dunlop, M.A. (P., M.), Donald Fisher (P.), Thomas Loudon Fleming (P.), Thomas Scott Forrest (P.), William Leonard Forsyth (M.), Robert Gale (P., M.), William Ernest Gemmell (P.), Alexander Gordon Gilchrist (P., M.), Robert Dunlop Goldie (P., M.), George Stevenson Gordon (P., M.), Alexander Thomas Arthur Gourlay (P.), Edward O'Driscoll Graham (M.), John Granger (P., M.), Kenneth Charles Gordon Gray (P., M.), John M'Lean Hendry (M.), William Howie (P.), Bentley Moore Hunter (P., M.), James Walker Jones (P.), John Parlane Kinloch (P., M.), David Neilson Knox (P., M.), William Thomson Lindsay (P., M.), William M'Adam, M.A., B.Sc. (P.), Daniel Conway M'Ardle (M.), William Charles Macartney (M.), Robert M'Carlie (M.), William M'Connell (P., M.), Alexander Macphail Macdonald (P.), Donald M'Intyre (P., M.), Robert Buchanan Forbes M'Kail (P., M.), George Macleod, M.A. (P., M.), Campbell Macmillan (P., M.), John William M'Nee (P.), John Hart M'Nicol (P., M.), Allan M'Pherson (P.), Murdo Mackenzie MacRae (M.), Thomas Marlin (P., M.), William Aubrey Layard Marriott (P., M.), Hyacinth Bernard Wenceslaus Morgan (P.), Findlay Murchie (M.), Frederick Lewis Napier (P.), William Niccol (P., M.), Charles Mill Nicol (P., M.), David Purdie (P., M.), John Robertson (P., M.), Hugh George Robinson (P., M.), Alfred Roemmele (P., M.), William Rutherford (P., M.), William Wilkie Scott (M.), William Alexander Sewell (P., M.), James Johnston Sinclair (P., M.), James Stewart Somerville (P., M.), William Stevenson (P.), Alexander Stewart (P., M.), Arthur Ford Stewart (P., M.), David Campbell Suttie (P., M.), Robert Sweet (P., M.), Duncan Macnab Taylor (P.), Walter Telfer (P.), Aidan Gordon Wemyss Thomson (P.), Charles Herrman Wagner (P.), George Wallace (P., M.), James Brown Whitfield (P., M.), Henry Joseph Windsor (P., M.), John Youngson Wood (P.), David Yellowlees (P.), and Douglas Young (P., M.).

Women.—Euphemia Adamson Hay (P., M.), Mary Cochran Mitchell (P., M.), Jessie Deans Rankin (P.), Margaret Eason Robertson (P., M.), Olive Robertson (P.), Margaret Elizabeth Rutherford (P., M.), Jeanie Hinshaw Stewart (P.), and Ethelwyn Mary Walters (P., M.).

The following passed with *distinction* in the subjects indicated:—

First Examination.—In *Zoology* and *Chemistry*: Samuel Blumenfeld, Norman Veitch Lothian, James Hinton Robertson, and William Brockie Wilson. In *Zoology*: Janet Rankine Anderson, Charles Averill, James Henry Dible, Maggie Logan Kirkwood, James Ronald M'Curdie, Charles Aloysius M'Guire, Thomas Martin, John Boyd Orr, M.A., John Clark Pyper, William Taylor, and William Whitelaw. In *Physics*: John Campbell, James Francis Quigley (Rutherglen), Mary Buchanan Thomson, and Margaret Walker. In *Chemistry*: Robert Patrick Archibald Kirkland and George Milroy Whish.

Second Examination.—In Anatomy and Physiology: Robert Hunter Deans and Thomas Jones Mackie. In Anatomy: James Thomas Dick, Malcolm Angus MacDonald, and William Macewen. In Physiology: John Bruce Baird, B.Sc., and Harold Edward Whittingham. In Materia Medica and Therapeutics: James Buchanan.

Third Examination.—In Pathology: William M'Adam, M.A., B.Sc., George Macleod, M.A., Hyacinth Bernard Wenceslaus Morgan, and Charles Mill Nicol. In Medical Jurisprudence and Public Health: James George Anderson and David Campbell Suttie.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin*: Dr. A. Albu, *privat-docent* of Medicine, and Dr. Karl Bruhns, *privat-docent* of Dermatology, have been granted the title of Professor.—*Breslau*: Dr. Julius Schmidt has been recognised as *privat-docent* of Medicine.—*Florence*: Dr. Galileo Pierallini has been recognised as *privat-docent* of Pathology.—*Halle*: Dr. Max Kauffmann has been recognised as *privat-docent* of Neurology and Psychiatry.—*Naples*: Dr. Salvatore Aiello has been recognised as *privat-docent* of Neurology and Psychiatry.—*Paris*: Dr. A. Lebeau has been appointed Professor of Toxicology.—*Strasburg*: Dr. Walter Berg has been recognised as *privat-docent* of Anatomy.—*Tomsk*: Dr. Pokrovski of St. Petersburg has been appointed Professor of Pathological Anatomy.—*Turin*: Dr. Emilio Megnier has been recognised as *privat-docent* of Children's Diseases and Dr. U. Calamida as *privat-docent* of Laryngology and Otology.

RETIREMENT OF MR. J. WARD COUSINS AND MR. HENRY RUNDLE FROM THE STAFF OF THE ROYAL PORTSMOUTH HOSPITAL.—At a meeting of the governors of the Royal Portsmouth Hospital held in the board room of that institution on March 27th the resignations were accepted of Mr. Ward Cousins after 48 years' service and of Mr. H. Rundle after 34 years' service. Both gentlemen were elected honorary consulting surgeons and cordial votes of thanks were accorded to them for the valuable services which they had rendered to the hospital. As was remarked by one of the speakers, the improvements at the hospital are monuments to Mr. Cousins's zeal and interest in the institution.

HEALTH REPORT OF THE MID-WARWICKSHIRE COMBINED SANITARY DISTRICT.—The Mid-Warwickshire combined sanitary district includes Yardley (rural) in Worcestershire and Crick (rural) in Northamptonshire. In the middle of last year it possessed a total population of 161,710, having increased by 7600 in the course of the year. The greatest part of the increase has been in the Yardley district, which is distinguished also by the fact that, according to Dr. George Wilson's report, it shows the highest birth-rate for the district (26·7 per 1000) and almost the lowest death-rate (11·3 per 1000), being eclipsed in the latter respect, however, by the Rugby urban district with a death-rate of only 9·6 per 1000. The average death-rate for the whole district was 11·9 per 1000 and the average birth-rate action, both as to producing surgical analgesia and also as to the duration of the analgesia; and (4) that attempts at introducing cocaine sometimes failed. In all of Dr. Fischer's cases the technique of the injections was similar to that adopted by most continental surgeons. The steps were as follows: 1. A preliminary hypodermic injection of one centigramme of morphine was administered. 2. Careful preparation of the lumbar portion of the patient's back was carried out over an area extending as far as the middle of the crest of the ilium. The patient should be in the sitting posture if possible, with the body bent forward in the cyclist's "scorching position." The fourth lumbar spine was then found by drawing a line from the highest point of one iliac crest to the same point on the opposite side. 5. The needle was introduced just below and to one side of the tip of the fourth lumbar spine and was directed upward, forward, and toward the median line for a distance of between 2 and 3¼ inches. When the membranes were penetrated a distinct diminution of resistance was noticed. The spinal fluid usually began to drip from the needle as soon as it entered the spinal canal. At first it might be blood-stained but it soon became clear. If after reaching the canal no fluid escaped its flow might be hastened by inducing the patient to cough. A stylet might be passed into the needle to remove any obstruction that might be present.

The Preservation of Milk with Hydrogen Peroxide.

Most methods of rendering milk sterile are objectionable since they require the addition of substances injurious to health or else render the milk less digestible. It has, however, been found that if peroxide of hydrogen is added in the proportion of 0·40 part per 1000 the milk will keep for many days and the number of germs present will actually decrease to a very low number. When pathogenic germs, such as those of enteric fever, cholera, dysentery, or tuberculosis, were added to the milk they could not after the lapse of some time be detected by the most searching bacteriological examination. The taste of the milk is in no wise altered and numerous experiments have shown that the digestibility is the same as before.

An Epidemic of Typhus Fever in Budapest.

Typhus fever has made its appearance in some districts of Budapest. In the space of a very short time more than 100 cases occurred, and so rapid has been its spread that some public buildings have had to be closed. The source of the epidemic has been discovered and measures have been taken to suppress it.

March 28th.

NOTES FROM CHINA.

(FROM OUR OWN CORRESPONDENT.)

Appendicitis in China.

IN the course of an inquiry which I have recently undertaken into the incidence of appendicitis in China I was impressed with the general agreement among medical men practising in all parts of the Empire as to its extreme rarity. Medical men in charge of native hospitals dealing with large numbers of patients yearly speak of it as a disease which they almost never meet with. The only hospitals yielding any returns of it are those which treat foreign patients. The inquiry could not elicit any definite consensus of opinion as to the cause of the universal freedom of the Chinese. Observers at home seem inclined, for the most part, to attribute the cause to a faulty dietary system but a different view is required here. Sir Frederick Treves in his "*System of Surgery*" says, as regards the apparent exciting causes: "Among the most common may be mentioned dyspepsia, the want of efficient masticating teeth, the bolting of food, the eating of indigestible food such as nuts, constipation, diarrhœa, injury to the groin region, excessive exertion, exposure to cold." These points are the commonest features of Chinese life. Dr. John MacGowan of Amoy, who has lived during many years in China, in a recent article in the local press wrote, without reference to appendicitis: "Foreign physicians who have opened hospitals and treated large numbers of those who have consulted them have come to the conclusion that the large majority of the population are below par and are suffering from indigestion. Salted turnip, which is a popular condiment persistently eaten through all the months of the year, is very responsible for this latter ailment. But it is cheap and so the evil has got to be endured. It would be an interesting question to discuss what effect this general and widespread indigestion has upon the character of the people and upon the course of their history." Dr. MacGowan speaks of the Southern Chinese but his experience is borne out by Mr. D. Christie of Mukden in Manchuria, who after 25 years among the Chinese of the North, writing independently, says: "If dyspepsia, indigestible food, and bolting without masticating have any share in the causation of appendicitis, we should have plenty of it here." Dental caries is common among all classes. Dr. P. B. Cousland, of the London Missionary Society, says: "For 20 years I had charge of hospitals and dispensaries in the Swatow district, the beds in the former ranging from 60 to 180. I never operated on a case of appendicitis nor saw any of my colleagues do so." His experience is similar to that of the majority of practitioners in China and, taken in conjunction with the observations of Dr. MacGowan and Mr. Christie, seems to point to the incidence of appendicitis as being one of anatomical peculiarity, as, for example, the racial possession of a longer mesentery than is the case among Anglo-Saxons, when, owing to the natural shortness of the mesentery, the appendix is liable to kink and to twist. Two outstanding features of the Chinest dietary as compared with ours are the smaller amount of sugar consumed per head and the general absence of tinned foods. Meat is very rarely indulged in by the poor and agricultural classes, though it is eaten daily by the middle and upper classes who, nevertheless, eat much less of it than do Europeans. Rice is the main article of food and is prepared in two ways—either quite dry, with all the grains separated from each other, or in the form of a watery sweetened compound called "congee" by Europeans. This latter form is usually reserved for times of sickness. Coffee is never taken and the tea in use is a much milder infusion than would find favour at home. The ban on human dissection by the Government and on post-mortem examinations by relatives leaves me unable to speak at present with any definiteness on the possible anatomical solution of the question so far as Chinese immunity is concerned, but just as the physical features of Chinese faces differ invariably from those of Europeans the analogy might reasonably be inferred as to difference in the anatomical features and relationships of a Chinese appendix, thus rendering it less prone to inflammatory attacks.

Shanghai and the Opium Question.

There has been a good deal of feeling in Shanghai, with regard to the suppression of the opium trade, as to the attitude of some people at home and the late questions in the House of Commons on the subject. The British Government is doing all in its power to reduce the English trade—only harm can result from a too rigid insistence on its immediate and total suppression. It should not be forgotten by philanthropists at home that the whole practical question of suppression is fraught with much difficulty. The Shanghai municipal council is being asked to adopt the unconstitutional procedure of arbitrarily closing the opium shops in the middle of the financial year, without reference to the body of ratepayers. Though it is willing to do all in its power to abolish these places it is not easy to adjust quickly a total loss of over £7000 per annum from licences alone. It has been suggested that the Anti-Opium League in China in return for the support which it has received from the Member for Nottingham East and others, might memorialise the Home Secretary to introduce total prohibition of alcohol in Nottinghamshire. Correspondents from various parts of the Empire, in writing to the Shanghai papers, point out the increasing use of morphine injected hypodermically, and I have recently come across a case of a Chinese who takes one drachm of morphine a day by this method. Not infrequently cases come to hospital with their bodies dotted all over with the prick marks of injection needles. Perhaps the worst feature connected with the suppression question is the crop of opium "cures" which have sprung up—most of them prepared by foreign druggists and nearly all containing morphine as the chief ingredient. A Chinese trying to fight the craving for opium by means of these "cures" would become a hopeless victim to the morphine habit. While I am, of course, entirely in sympathy with any movement in favour of the eradication of the opium habit, I would urge those members of our profession at home who may be called upon to express their opinion about it to deprecate any undue haste on the part of taking evidence on this Bill, but for the most part it has related to the sale of dips and insecticides used in agricultural or horticultural operations. Mr. Jesse Boot, managing director of Boots' Cash Chemists, appeared as a witness on Thursday, April 2nd. He contended that the term "chemist" was not a professional but a trade title. He, however, expressed himself in favour of including in the Poisons and Pharmacy Bill a provision compelling every limited liability company dealing in drugs to employ qualified chemists in every shop or department.

Vivisection (Abolition) Bill.

Mr. Hodge has introduced into the House of Commons a Bill to provide for the total abolition of vivisection. It was read a first time.

Public Health (Markets in Rural Districts) Bill.

A Bill has been introduced into the House of Commons by Mr. Burns, the President of the Local Government Board, "to make the provisions of the Public Health Act, 1875, with respect to the provision and regulation of markets, applicable in rural districts." It has received a first reading as a matter of form.

The Protection of Newly Born Children.

Lord Robert Cecil intended to present a Bill in the House of Commons on Monday "to provide for the better protection of the lives of new-born children." However, the adjournment of the House prevented him from carrying out his intention. The Bill will in all probability be introduced on the first convenient opportunity.

Coroners' Inquests (Railway Fatalities) Bill.

The text of Sir Francis Channing's Bill to amend the law as to coroners' inquests in the case of fatal accidents on railways has now been made public. It was introduced into the House of Commons at the beginning of February and is designed to facilitate the attendance of a representative of the Board of Trade at the inquest.

HOUSE OF COMMONS.

Wednesday, April 1st.

The Milk-supply of London.

Sir Frederick Banbury asked the President of the Local Government Board whether he was aware that the medical officer of the City of London recently reported in some detail upon the unsatisfactory condition of the milk supplied within the City, with suggestions for preventing the contamination of such milk; whether he had received a copy of that report with certain representations from the corporation based thereon; and whether he intended dealing with the subject in his Bill.—Mr. Burns replied: I have received a copy of the report referred to. As I stated in reply to a previous question on this subject, I trust that the effects of the Bill which I hope to introduce will be to secure more satisfactory control over the milk-supply of the country.

Anthrax in Human Beings.

Mr. Ashley asked the President of the Local Government Board whether his attention had been called to the report of the inquest held in the City Coroner's Court on March 11th on the death of Mary Ellen Pooley from anthrax; and whether, having regard to the fact that a death from anthrax was investigated in the same court on Feb. 8th and to the recommendations of the jury, in which the city coroner concurred, that cases of anthrax ought to be included in the list of diseases compulsorily notifiable to medical officers of health, he would take steps to give effect to that recommendation.—Mr. Burns answered: My attention has been called to the report of this inquest. As I have stated in reply to a question by the honourable Member for the Ashford Division, it is competent for a sanitary authority, with the consent of the Local Government Board, to make cases of anthrax in human beings compulsorily notifiable in its district.

Tuberculosis in Ireland.

Mr. Devlin asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the prevalence of tuberculosis amongst children attending the elementary schools in Ireland; whether he had any figures or reports bearing upon the subject; and whether he would consider the advisability of ordering an inquiry into this matter, with a view to taking some effective means of mitigating the consequences of the disease amongst these children.—Mr. Birrell furnished the following written reply: My attention has not been specially called to the prevalence of tuberculosis among school children in Ireland, but I am, of course, aware of the regrettable prevalence of the disease in the country generally, and am fully alive to the importance of dealing with the subject. The Commissioners of National Education have no statistics as to the number of children affected with tuberculosis. They inform me that they have taken what steps they may to prevent the spread of tuberculosis by the exhibition of notices in the schoolrooms calling attention to the danger of the disease. The Tuberculosis Prevention (Ireland) Bill, which is in course of preparation, will provide for the compulsory notification of the disease and will contain other provisions for dealing with the evil. In view of the proposed legislation a special inquiry into the case of the school children does not seem to be necessary.

The Children's Bill.

The adjourned debate on the Children's Bill was resumed and after discussion the motion for the second reading was agreed to.

Thursday, April 2nd.

Meat Inspection.

Captain Faber asked the honourable Member for South Somerset, as representing the President of the Board of Agriculture, whether, seeing the loss which was now borne by breeders and butchers through the frequent slaughtering of fat cattle on account of disease, he could see his way to recommend substantial compensation to them and also a uniform system of inspection of meat by qualified men.—Mr. Burns (the President of the Local Government Board) replied: I presume that the disease referred to in this question is tuberculosis. If so, I would point out that the slaughter of animals suffering therefrom is seldom effected at the instance of local authorities; their duties are in the main confined to the examination and seizure of unsound meat intended for the food of men, and hence they do not commonly arise until the animal has been slaughtered. I cannot make any promise with regard to compensation, but I may state that the Local Government Board has issued more than one circular with a view of securing uniformity in the methods of inspection and seizure of meat, and they believe that the views expressed in those circulars are usually acted upon by local authorities.

A Staffordshire Inquest.

Mr. T. F. Richards asked the Secretary of State for the Home Department whether his attention had been called to the death of a man named David Pearson at Tipton, in Staffordshire, upon whose body an inquest was held and a verdict returned of death from natural causes, accelerated by excessive drinking and exposure; whether he was aware that it was alleged that a noxious drug had been given this man; whether, in the circumstances, the authorities had taken the necessary steps to elicit the true cause of this man's death; and whether he intended to take any steps towards making further inquiries into this case.—Mr. Gladstone answered: I have no information as to this case save that contained in the newspaper report which the honourable Member has kindly sent me, but I am making inquiries and will communicate the result to him.

Vivisection and Dog Licences.

Mr. Ellis Griffith asked the Secretary to the Treasury whether it was customary for the authorities of laboratories licensed for vivisection to pay the tax on the dogs which they keep for that purpose; if so, would he state the number of licences issued by the Inland Revenue to such authorities during the last two years; if it be the fact that no such taxes were paid what was the ground of such exemption; and whether applications for such exemptions were made in those cases as provided by Subsection 1 of Section 5 of the Dogs Act of 1906.—Mr. Runciman said in reply: Licence duties are paid on all dogs used for the purposes stated, but no separate record is kept of the precise number of licences thus issued.

A Mysterious Death.

Mr. Gulland asked the Lord Advocate whether he had made inquiries into the circumstances attending the recent death of a boy at Stranraer, which had been attributed to poisoning due to chocolate sweets eaten by him; and if so, whether the inquiries threw any light on the cause of death.—Mr. Shaw replied: Full inquiries have been made regarding this case. The contents of the boy's stomach and intestines have been subjected to analysis without the slightest trace of poison being found. The answer to the second part of the question is in the negative.

Meat Inspection in Scottish Burghs.

Mr. Watt asked the Secretary for Scotland whether he was aware that it was the practice of some local authorities in Scotland to let the burgh slaughter-house to yearly tenants, who reimbursed themselves by the collection of dues from butchers for the use of the slaughter-house, and that these tenants performed the duty of meat inspectors; and would he say what control the local authorities had over the yearly tenants of the burgh slaughter-houses to insure the proper discharge of their duties as official meat inspectors; and would the local authorities demand that these tenants should have the qualifications for meat inspectors specified under Recommendations, Meat—B, by the Royal Commission on Tuberculosis, 1898.—Mr. Sinclair replied (by written answer): I am aware that in several burghs the slaughter-house is let to a local butcher who in some instances reimburses himself by the collection of dues; that in one or two instances known to the Local Government Board the tenants are understood to report diseased or unsound carcasses to the sanitary officials; but that, in the majority of burghs with public slaughter-houses, the sanitary inspector and veterinary surgeon visit daily or at such other intervals as may be necessary for effective supervision. So far as I am aware the local authorities do not demand that the tenants of their slaughter-houses shall possess the qualifications specified by the Royal Commission on Tuberculosis.

Post Office Medical Officer at Coventry.

Mr. James O'Connor asked the Postmaster-General whether he was aware that the medical officer of the post-office at Coventry was about 85 years of age and that many of the staff at Coventry attended other medical men at their own expense, owing to their dissatisfaction with the medical officer's treatment; and whether, in view of his advanced age, steps would be taken to appoint another medical officer.—Mr. Buxton furnished the following written answer: I am having inquiry made and will communicate the result to the honourable Member.

A Seizure of Food in London.

Mr. Courthope asked the President of the Local Government Board whether a quantity of preserved kidneys imported from America had been seized in the City of London as unfit for human food; what quantity of boric acid or other preservative they contained and what quantity of such preservative per gallon and per pound was considered deleterious to health; and when the promised regulations dealing with the importation and sale of unsound food would be issued.—Mr. Burns (by written answer) replied: The answer, as regards the first point in the question, is in the affirmative. Two samples were submitted to the public analyst. In the first case he reported that the fluid in which the kidneys were preserved and the kidneys themselves each contained 2·1 per cent. of boric acid, which was equivalent to 1470 grains per gallon of the fluid and 147 grains per pound of the kidneys respectively. In the other case the analyst's report showed that the kidneys contained 1·46 per cent. of boric acid (equivalent to 102·2 grains per pound), whilst the fluid contained 1·7 per cent. of boric acid (equal to 1190 grains per gallon). The answer, as regards the third point, depends on a number of considerations which cannot conveniently be discussed in reply to a question. I may, however, say that the presence in imported kidneys of proportions of boric acid so large as those given above is decidedly objectionable from the point of view of public health and I am advised that it is wholly unnecessary. I propose to give special attention to imported preserved kidneys in the regulations referred performed at Sydney and 520 at the Moorcliff branch. The finances are more satisfactory. The present Government paid a subsidy of £35 per bed on 295 beds. The total expenditure was £24,812, while the income amounted to £21,909. The cost per bed was £73 11*s.* 6*d.* A new wing was completed at a cost of £23,000.

March 4th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the first professional examination held on March 23rd, 24th, 25th, 26th, 27th, 28th, and 30th, the following gentlemen were approved in the subjects indicated :—

Chemistry and Physics.—William Somerset Birch, King's College; Kenneth Bleckly Clarke and John Stanley Cocks, Guy's Hospital; William Dale, Birkbeck College; John Rhys Davies, University College, Cardiff; Alfred Evan Lewis Devonald, King's College; William Kelsey Fry, Wandsworth Technical Institute; Harold Stanley Groves, Guy's Hospital; William Samuel Hazell, University College, Cardiff; Hugh Granville Hockridge, St. Bartholomew's Hospital; Edmund Basil Jardine, University College; Evan Lawrence Jones and Kenneth John Taylor Keer, Guy's Hospital; Gordon Burnham King, University College; Allan Osborne Knight, Middlesex Hospital; Edmund Thomas Howard Lea, Westminster and King's College Hospitals; Edward MacMahon Mahon, Guy's Hospital; Reginald Victor Martin, St. Mary's Hospital; Charles Harold Medlock, Guy's Hospital; John Millard, Intermediate County School, Towyn, and Birmingham University; Alan Vivian Moberly and Montague Pern, Guy's Hospital; D'Arcy Power, St. Bartholomew's Hospital; Walter Alexander Reynolds, St. Mary's Hospital; John William Thomas, Leeds University; Watkin Watkins, University College, Cardiff; Hamlet Mark Whelan, University College, Cardiff; John Herbert Wiles, Polytechnic Institute; and Leslie Douglas Wright, Guy's Hospital.

Chemistry.—Harold Cane Godding, Guy's Hospital; James Stanley Higgs, St. George's and King's College Hospitals; Samuel Hutchinson, University College; George Gerald Jack, Technical Institute, Wandsworth; Hubert Dennis Shore, Guy's Hospital; and Henry Stanley Young, Birkbeck College and St. Thomas's Hospital.

Physics.—Alfred Beuthin Danby, Guy's Hospital; John Baptist Gregory Dotto, St. Bartholomew's Hospital; Frank Mainwaring Hughes, London Hospital; Guy Algernon Pratt, Guy's Hospital; Marcus Holroyd Patton, Guy's Hospital and Birkbeck College; Walter Graham Reynolds, St. Mary's Hospital; Anthony Wellesley Monckton Sawyer, University College; Abdel Khalek Selim, Guy's Hospital; Harold Tuxford, Middlesex Hospital; and William Cuthbert Whitworth, Guy's Hospital.

Biology.—Charles Beresford Alexander, Liverpool University; Edgar Bernard Argles, St. Mary's Hospital; Stephen Leonard Baker, London Hospital; Hugh Woodward Barnes, King College; Cyril Armand Bernard, Liverpool University; Henry Cecil Billings, London Hospital; William Herbert Blakemore, Manchester University; Thomas Pennington Bremner, Liverpool University; Bertram James Brewitt and Roger Orme Bridgman, St. Bartholomew's Hospital; William Hackett Broughton, Manchester University; Charles Grinling Bunn, B.A. Cantab., Cambridge University and Charing Cross Hospital; Charles Frank Burton, London Hospital; Guy Kenneth Butterworth, St. Mary's Hospital; Alfred Fisher Camp, University College, Reading; Kenneth Bleckly Clarke, Guy's Hospital; Henry Dyer Scott Close, St. Thomas's Hospital; Alfred Beuthin Danby, Guy's Hospital; John Rhys Davies, University College, Cardiff; Eustace Gregory Edward Ellman, St. Mary's Hospital; Frank Rex Fletcher, London Hospital; Victor William Russell Forbes, Charing Cross Hospital; Edward Dance Fountain, St. Mary's Hospital; Frank Cane Godding, Guy's Hospital; Samuel Sowray Greaves, Leeds University; Francis Henry Guppy, St. Bartholomew's Hospital; Owen Gwatkin, Manchester University; William Samuel Hazell, University College, Cardiff; Shai Kwong Ho, St. Thomas's Hospital; Henry Sydney Colchester Hooper, London Hospital; William Edward Ison, St. Bartholomew's Hospital; Thomas Henry Jackson, Charing Cross Hospital; Edmund Basil Jardine, University College; Evan Lawrence Jones, Guy's Hospital; Ralph Jones, Charing Cross Hospital; William Ben Glynn Jones, Liverpool University; Gordon Burnham King, University College; Claude Kingston, University College, Bristol; Allan Osborne Knight, Middlesex Hospital; John Llewellyn David Lewis, Guy's Hospital; Farquhar MacGillivray Loughnane, St. Thomas's Hospital; Josiah Sherlock Marrington Arthur Haigh Lyne-Evans, St. George's and University College Hospitals; William Fidler Mason, Leeds University; Percy Uredale Mawer, St. Bartholomew's Hospital; Owen Colville Murphy, Middlesex Hospital; Lionel Everard Napier, St. Bartholomew's Hospital; Henry Barton Owens, Robert Charles Parry, and Henry Ray Parsloe, London Hospital; John Rowland Payne, University College, Cardiff; Leonard Robert Pickett, Tonbridge School; Oswald Pitt, Manchester University; Stanley Owen Rashbrook, London Hospital; Geoffrey Bower Richardson, St. Bartholomew's Hospital; Joseph Edward Rivers, Manchester University; Alexander Elder Saunderson, Liverpool University; Anthony Wellesley Monckton Sawyer, University College; Bernard Edward Patrick Sayers, Middlesex Hospital; Frederic Simpson, Charing Cross Hospital; Lindsay Olive Smith, London Hospital; Thomas Joseph Taunton, Technical School, Brighton; Arnold Rothwell Taylor, Manchester University; Harold Topham, Leeds University; Arnold Viney, St. Thomas's Hospital; Clement Arthur Webster, Manchester University; Leslie Gordon White, Leeds University; and Stanley Wickenden, Guy's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery of the Royal College of Surgeons of England the following candidates were approved in the subjects indicated :—

Chemistry and Physics.—Richard Guy Ash, Charing Cross Hospital; Stanley Samuel Beare, Middlesex Hospital; John Benson, Merchant Venturers' Technical College, Bristol; Walter Sydney Bevis, Portsmouth Grammar School; Oscar Bullock, Municipal Technical College, Brighton; Reginald Northey Curnow, Birkbeck College; Cecil Lucas Donne, Middlesex Hospital; Reginald Gilbert Farrington, Guy's Hospital; Robert Daniel Gregg, Liverpool University; William Ewart Hallinan, University College, Cardiff; Albert Henry Herbert, Birmingham University; Kenneth George Hoby, Guy's Hospital; Ernest Sharman Huckett, Portsmouth Grammar School; George Dennis Iles, Leeds Technical Institute; William Lowe Jackson, Charing Cross Hospital; Frederic Amos Jaques, Guy's Hospital; Percy Hills Orton, Guy's Hospital; Arthur Hugh Spencer Palmer, Merchant Venturers' Technical College, Bristol; Haydn Peters, Technical College, Swansea; Reginald Wood Powell, Guy's Hospital; John Hampden Ross, Royal Albert Memorial College, Exeter; Edward Bernard Ryley, Municipal Technical School, Hull; Isidore Gittleson Samuels, Royal Albert Memorial College, Exeter; Reginald Alfred Slade, University College, Bristol; and Basil William Tyson, University College, Cardiff.

Chemistry.—Harold Barrett, Birkbeck College; Arnold John Chapman, Birkbeck College; John Eric Rhys Evans, Municipal Technical College, Brighton; Thomas Leonard Fiddick, Guy's Hospital; John Knowles, Charing Cross Hospital; Ronald Victor Payton, Municipal Technical School, Birmingham; William Macqueen Potter, Birkbeck College; Frederick Gordon Pulford, Charing Cross Hospital; Wilfrid Aubrey Rowe, Charing Cross Hospital; Frank Percival Sturdee, Northern Polytechnic Institute, Holloway; Samuel Lloyd Wallis, Wandsworth Technical Institute; and Edgar Olyve Yerbury, South-Western Polytechnic Institute, Chelsea.

Physics.—Kenneth Charles Brough, Birkbeck College; Graham Cotterell, Science and Art Institute, Walsall; James Kenneth Crawford, Leeds Technical Institute; Henry Oswald Dumayne, Birkbeck College; Arthur Raymond Goddard, Middlesex Hospital; Lawrance Richards Haydon, Charing Cross Hospital; James Stacey Robinson, Municipal Technical School, Birmingham; Arnold Victor Shilton, Birmingham University; and Malcolm Lloyd Williams, Science and Art Institute, Walsall.

UNIVERSITY OF LEEDS.—At examinations held recently the following candidates were successful :—

DEGREES OF M.B. AND CH.B.

Second Examination, Part I., Anatomy and Physiology.—J. P. Brown, J. B. Fisher, W. S. Hart, H. N. Ingham, H. V. Lamb, H. S. Raper, C. R. Richardson, B. A. Slocombe, G. V. Stockdale, N. S. Twist, and R. Ward.

DIPLOMA OF L.D.S.

First Professional Examination.—H. R. Bentley, G. S. McKay, and C. F. Salt.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.—At the third examination held in March for the Degree of Bachelor in Medicine the following candidates were successful :—

Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology.—Jabez Ethelbert Dainty (second-class honours); Wilfred Barkes, John Akilade Caulcrick, and Harold Alexander Cooper, College of Medicine, Newcastle-upon-Tyne; Henry Frederick Iliewicz, London Hospital; Charles Marks, College of Medicine, Newcastle-upon-Tyne; *Theresa de Gournay Miller*, London School of Medicine for Women; and Joseph Albert Sacco, William Sacco, Robert Henry Smallwood, William Robert Bistob Unthank, Charles Leslie Wigan, and George Huntly Wood, College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF GLASGOW.—The following have passed the First Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

Mark James Aitken (B., P.), James Angus (B., P.), Robert Richmond Archibald, M.A. (B.), Charles Averill (Z.), Robert Brown Bain (P.), Alexander Baird (B., Z.), Johannes Gerhardus Becker (Z., C.), Simon Harry Bloom (P.), Samuel Blumenfeld (Z., C.), Adam Brown (Z., C.), Robert Archibald Brown (P.), William Brown (Z., C.), John Scouler Buchanan (Z.), Edmund Tytler Burke (Z., C.), Norman Cameron (B., C.), John Campbell (P.), John MacDougall Clark (P., C.), George Cochrane (B.), Robert Corbett Corbett (Z.), Daniel Augustine Cush (B., Z.), George Dalziel (B., P.), Alexander Hugh Davidson (Z., P., C.), William Tennent Gairdner Davidson (Z., C.), James Henry Dible (Z., C.), William Beatson Drummond (Z., C.), Joseph Dunbar (Z., C.), Robert Findlay (Z., C.), John Maitland Forsyth (C.), William Forsyth (Z., C.), William Fraser (Z.), John Erskine Fyfe (Z., C.), Leander Lowrie Fyfe (P.), John Joseph Gibb (B., P.), Alexander Muir Gibson (Z., C.), Alexander Glen (Z., C.), Charles Hope Haddow (B., P.), John Reid Haldane (C.), James Stewart Hall (B., C.), James Hamilton (Z.), Daniel Christopher Hayes (B., Z., P.), Alexander Gibson Henderson (C.), Peter Henderson (B., Z.), John Galloway Hendry (B., Z., P.), John Wishart Welsh Hewitt (Z., C.), Thomas Pollock Inglis (Z.), Andries Johannes Joubert (Z., C.), Charles Joseph Kirk (C.), Robert Patrick Archibald Kirkland (Z., C.), Johannes Arnoldus Kruger (C.), William Joseph Brown Lavery (Z., C.), Frank Lawrie (Z.), Norman Veitch Lothian (Z., C.), John Aloysius M'Connochie (Z., C.), John Fergusson M'Creath (Z., C.), James Ronald M'Curdie (Z., C.), Norman

JAGO, W. I., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Warneford, Leamington, and South Warwickshire Hospital.

LAWRIE, D., M.B., M.S. Glasg., has been appointed Assistant Medical Inspector of Schools for the Glastonbury District of Somerset.

NASH, J. T. C., M.D., C.M. Edin., D.P.H. Cantab., has been appointed Medical Officer of Health to the Norfolk County Council.

ORTON, G. HARRISON, M.D., B.C. Cantab., has been appointed Medical Officer in Charge of the X Ray Department at St. Mary's Hospital.

PAGE, H. M., F.R.C.S. Eng., has been appointed Honorary Anæsthetist to Guy's Hospital.

PARKER, GIBSON, M.D. Lond., D.P.H. Cantab., has been appointed Chief Assistant Medical Inspector of Schools for Somerset.

PRICE, FREDERICK W., M.B., C.M. Edin., has been appointed Physician to the Out-patient Department at the Hampstead General Hospital.

SHIPWAY, F. E., M.B., M.S. Cantab., has been appointed Honorary Anæsthetist to Guy's Hospital.

STEVENSON, T. H. C., M.D State Med. Lond., has been appointed Chief Medical Inspector of Schools for Somerset.

WRIGHT, A. B., M.R.C.S., L.R.C.P., has been appointed Honorary Senior Surgeon to the Royal Hospital, Portsmouth.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM, QUEEN'S HOSPITAL.—Third Surgeon to Out-patients. Salary £50 per annum.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and apartments.

BRIDGEND, GLAMORGAN COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, attendance, and washing.

BRIDGWATER HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

CAMBERWELL HOUSE ASYLUM, London, S.E.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and laundry.

CAPE TOWN, SOMERSET HOSPITAL.—Junior House Physician and Two Junior House Surgeons. Salary £200 per annum, with quarters and rations.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

CHELTENHAM GENERAL HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and lodging.

EDMONTON URBAN DISTRICT COUNCIL EDUCATION COMMITTEE.—School Medical Officer. Salary £250, rising to £300.

EGYPTIAN GOVERNMENT, KASR EL AINY HOSPITAL.—Resident Surgical Officer. Salary £250 per annum, with quarters, servants, washing, coal, and light.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge road, London, S.E.—Honorary Anæsthetist. Also House Physician for nine months, and House Surgeon for six months. Salary in each case at rate of £60 per annum, with board, residence, and washing.

GLASGOW, CORPORATION OF, PUBLIC HEALTH LABORATORY.—Junior Assistant Bacteriologist. Salary 3 guineas per week.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Second Resident Medical Officer. Salary £50 per annum, with board and lodging. Also Third Physician to Out-patients.

HORNSEY TOWN COUNCIL.—Assistant Medical Officer of Health, &c., unmarried. Salary £225 a year, with rooms and board.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, also Assistant Casualty Medical Officer, both for six months, and unmarried. Salary in each case £20, with board and residence. Also House Physician, unmarried, for six months. Salary £20, with board and residence.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £80 per annum, with board and residence, &c.

LAMBETH INFIRMARY, Brook-street, Kennington-road, S.E.—Fourth Assistant Medical Officer. Salary at rate of £100 per annum, with residential allowances.

LANARK, MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £150 per annum, with board, &c.

LEEDS, HOSPITAL FOR WOMEN AND CHILDREN.—House Surgeon for six months. Salary at rate of £50 per annum, with board, &c.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—House Surgeon. Salary at rate of £50 per annum.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing allowance.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES, Manchester.—Assistant Medical Officer. Salary £100 per annum.

MANCHESTER, UNIVERSITY OF.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

MARGATE, ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon. Salary at rate of £80 per annum, with board and residence.

MIDDLESEX HOSPITAL, W.—Second Assistant to the Director of the Cancer Research Laboratories. Salary £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Clinical Assistant (female) for the Out-patient Department.

NEWCASTLE-ON-TYNE, HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Salary £100, with board, lodging, and laundry.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer, Salary £80 per annum, with board, residence, and laundry.

NORTHAMPTONSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—School Medical Officer. Salary £300 per annum and travelling expenses.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon, also Assistant House Physician. Salary in each case £60 per annum, with board, lodging, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, both for six months. Salaries at rate of 50 guineas per annum, with board and residence.

PRESTON, COUNTY BOROUGH OF.—Schools Medical Officer. Salary £250 per annum.

PRESTON, LANCASHIRE EDUCATION COMMITTEE.—School Medical Superintendent. Salary £500 per annum, rising to £650, with expenses.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, London, N.—House Surgeon and House Physician; also Junior House Surgeon and Junior House Physician. All for six months. Salary of two former at rate of £75 per annum, and of two latter at rate of £40 per annum, with board, residence, and laundry.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Four Examiners in Anatomy and Four Examiners in Physiology. Also for the Conjoint Examining Board in England, Three Examiners in Anatomy, Two Examiners in Physiology, Four Examiners in Midwifery, and Two Examiners in Public Health.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination for not less than 15 Commissions.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon. Salary £100 per annum.

SALISBURY INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.

SINGAPORE, STRAITS SETTLEMENTS, MUNICIPAL HEALTH DEPARTMENT.—Assistant Municipal Health Officer, unmarried. Salary $4200, rising to $4800.

SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £150 per annum, with residence, board, and washing.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Honorary Assistant Physician.

SOUTHEND-ON-SEA, BOROUGH OF.—Medical Officer of Health. Salary £550 per annum.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

SOUTH UIST (Southern Division).—Medical Officer. Salary £77 10s.

STAFFORD, STAFFORDSHIRE COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, lodging, and attendance.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £40 per annum, with board, washing, and residence.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 a year, with board and apartments.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Honorary Registrar and Pathologist.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

BEATTON.—On March 31st, 1908, at The Cliffe, Bradford, the wife of Dr. Gilbert T. Beatton, of a son.

BURROWS.—On April 5th, at Manor Park, London, to Dr. and Mrs. W. Edgcumbe Burrows—a son.

WELLS.—On April 2nd, at Orleans Lodge, Twickenham, the wife of Arthur G. Wells, M.B., B.S. Lond., M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

HAMMAND FRASER—MCMULLEN.—On April 2nd, at Brixton Independent Church, S.W., David Hammand Fraser, M.A., M.B., B.C., to Annie Isabel, second daughter of William McMullen, L.R.C.S.I., of Brixton-road, S.W.

MCBRIDE—HULBERT.—On April 2nd, at St. Stephen's Church, Ealing, Walter, second son of P. McBride, M.D., F.R.C.P.E., and F.R.S.E., to Lilian, daughter of Maurice C. Hulbert, J.P.

VAN DEN BERGH—MACDONALD BROWN.—At Hampstead, on April 7th, Enid, only daughter of J. Macdonald Brown, Esq., J.P., M.D., F.R.C.S., of 2, Frognal, Hampstead, to Henry Edward, third son of J. Van den Bergh, Esq., of 26, Lyndhurst-road, Hampstead.

DEATHS

IN MEMORIAM.

WAKLEY.—On April 5th, 1907, at 5, Queen's-gate, S.W., Thomas Henry Wakley, F.R.C.S. Eng., eldest son of the late Thomas Wakley, M.P., and for over 20 years Joint Editor of THE LANCET, aged 86 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

23·7 per 1000. The infantile death-rate, which was 109 in the preceding year, fell during the past year to 88. Dr. Wilson states that in his opinion the Notification of Births Act will have little or no beneficial effect in the rural and small urban districts, and he has not felt warranted in recommending its adoption to any of the district councils for which he acts.

National Union of Public Health Authorities.—A meeting of the provisional council of the above union was held on March 26th at the Grand Hotel, London, for the purpose of considering the rules of the association and the transaction of other business. The draft rules prepared by the chairman and the honorary secretary, after being carefully considered and in a few respects amended, were adopted and ordered to be submitted to a conference of the union to be held on May 28th at Caxton Hall, Westminster.

The Death of Dr. Henry Collier Lecky.—Mr. H. C. Lecky, M.B., B.Ch., D.P.H. Oxon., who since April, 1806, had been in charge of the Brighton bacteriological laboratory, died at the Sussex County Hospital, Brighton, on March 31st. He was only 30 years of age and since the departure from the town of Dr. Arthur Newsholme had been the acting medical officer of health. He was one of the six selected candidates for the position of medical officer of health of Brighton and his death at so early an age is exceedingly sad.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. Gustav von Hüfner, professor of physiological chemistry in the University of Tübingen, aged 66 years.—Dr. Dudley D. Saunders, formerly professor of medicine and medical jurisprudence in the Memphis Hospital Medical College.—Dr. Daniel B. St. John Roosa, professor of ophthalmology and otology in the New York Post-Graduate Medical School.—Dr. I. P. Mierzêievski, formerly professor of neurology and mental diseases in the Military Medical Academy of St. Petersburg.

A Memorial to the late Dr. Alfred Lloyd Owen.—In accordance with a very general feeling that some memorial should be erected to the late Dr. Alfred Lloyd Owen, a small committee was formed to further this object. It was felt that the most fitting place in which to perpetuate his memory was within the walls of the Royal Portsmouth Hospital, in which he took the warmest interest and where his chief work of a public character was done. A tablet in alabaster with Irish green marble border has recently been placed in the main corridor of the hospital. The inscription reads—

In remembrance of
Alfred Lloyd Owen, B.A., M.D.
Born Aug 18th, 1845. At Rest July 4th, 1907.
Assistant Surgeon 1870–1874. Surgeon 1874–1906.
Consulting Surgeon 1906–1907
To this Hospital.
A wise Surgeon. A valued colleague.
A follower of all that is good and true.
A man of quick sympathy and high integrity.
Beloved by a wide circle of friends.
Whom he *attracted* by his own capacity for friendship.
Fortiter. Fideliter. Feliciter.
This tablet has been erected by *his friends who* knew and appreciated his good qualities.

Worcestershire Association for the Prevention of Consumption.—The fifth annual report of the Open-air Sanatorium at Knightwick, near Worcester, has been issued by the committee. During 1907 82 cases were under treatment and the accommodation at the institution has been extended considerably. Three new double shelters and a new dining and recreation room with sliding sides have been erected. A new water-supply has been installed, comprising a river pumping station, settling tanks for 5000 gallons, and filter. The drainage has been overhauled and new electric plant installed. It is not surprising that the committee is appealing for increased support. Interesting statistics are given under the heading "Five Years' Experience," showing that of all the "early" cases treated during that period in the sanatorium 90 per cent. are in good health and 82 per cent. are at work. The medical superintendent gives a full account of the routine treatment; the Frimley plan of providing light manual work for selected patients has been employed with benefit. The superintendent states that discharged patients often find difficulty in regaining employment on account of their supposed infectivity. It is much to be regretted if the public are so over-frightened on this point as to deter patients from incurring the "brand" of having undergone sanatorium treatment.

Donations to Hospitals.—The result of Messrs. Raphael Tuck's Postcard Chain Competition, by which among other institutions hospitals have largely benefited, has now been announced. 50 institutions have received prizes, the first six being the Royal United Hospital, Bath (Art prize of the value of £1000); Torbay Hospital, Torquay (cheque for £250), Victoria Hospital, Frome (cheque for £100), Royal Victoria Eye and Ear Hospital, Dublin (Art prize £100), General Hospital, Chester (cheque for £50), and Great Ormond-street Hospital, London, W. (cheque for £50). The complete list of prizes can be obtained in pamphlet form from Messrs. Raphael Tuck, Moorfields, City, London.

Literary Intelligence.—Messrs. J. and A. Churchill will publish shortly new editions of the following books. The eighth edition of a Manual of the Practice of Medicine, by Dr. Frederick Taylor. Besides much additional matter a new feature of the book will be the inclusion of skiagrams.—*The second edition of a* Manual of Ophthalmic Surgery and Medicine, by Mr. W. H. H. Jessop. There will be numerous new illustrations.—The fifth edition of a Short Practice of Midwifery, by Dr. H. Jellett. The work has been considerably enlarged by the inclusion for the first time of coloured plates.—The eighth edition of Qualitative Analysis and Practical Chemistry, by Dr. Frank Clowes.—Also new works, entitled a Manual for Midwives, by Dr. C. J. N. Longridge of Queen Charlotte's Hospital and examiner to the Central Midwives Board. All the 50 illustrations have been specially drawn for the book.—The Thermal Treatment of Aix-les-Bains, by Dr. H. Forestier, physician to the Bathing Establishment of the Thermal Hospital, Aix-les-Bains.

Royal Dental Hospital, Leicester-square, London.—The fiftieth annual general meeting of governors was held at the hospital on March 26th, the Hon. W. F. D. Smith, M.P., being in the chair. The committee of management reported that the total number of patients during the year was 20,643, their attendances being 53,470, and that the total amount received for the general maintenance fund was slightly under that of the previous year—viz., £5146, against £5250. The sums received from King Edward's Fund, the Hospital Sunday Fund, and the Hospital Saturday Fund amounted together to £1002. A legacy of £1000 had been received for the general purposes of the hospital and £225 from the executors of the late Mr. John L. Toole. £1000 had also been bequeathed to the hospital by the late Mr. A. J. Woodhouse, formerly a vice-president of the hospital, to found a scholarship in dental surgery to be called the "Alfred James Woodhouse Scholarship." As regards expenses the year ended with liabilities to tradesmen of £586 and of £790 for the instalment of principal and interest due on the mortgage of £47,400, on which the fixed yearly payment is £2975. The committee earnestly appeals for funds to discharge these liabilities. The bankers are Messrs. Barclay and Co., 1, Pall Mall East, S.W.; the treasurer is Mr. F. A. Bevan, and the secretary is Mr. J. F. Pink.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Resignation of the Prime Minister.

GENERAL sympathy with Sir HENRY CAMPBELL-BANNERMAN was expressed at Westminster when the announcement was made that his very serious illness had necessitated his resignation of the post of Prime Minister. The event was foreseen, although its formal announcement was not expected until Parliament should have in the usual course risen for the Easter vacation. Mr. ASQUITH has been sent for by HIS MAJESTY, who is at Biarritz, and as Parliament could not usefully continue to sit during the rearrangement of ministerial offices both Houses have adjourned until Tuesday, April 14th.

The Official Directory of Nurses Bill.

Lord AMPTHILL has given notice of his intention to move the rejection of Lord BALFOUR of BURLEIGH'S Official Directory of Nurses Bill, when the second reading is moved. This, however, will not occur until the House of Lords reassembles after the Easter Recess.

Poisons and Pharmacy Bill.

The Joint Committee of both Houses of Parliament has been whole plant is stated to produce in time a considerable alleviation of the attacks and when smoked in the form of cigarettes immediate relief is said to be experienced. The continued use of the cigarettes induces sleep, followed by a slight sensation of heaviness in the head. They smell pleasantly of coumarin. In Germany the plant is erroneously known under the name "punaria ascochingae." The dried and powdered whole plant is made into tablets weighing five grammes each and the latter are attached to pieces of wood charcoal and placed on a coal fire. The patient inhales the vapour from the burning tablet, with the result, it is said, that at first a slight cough is induced, but afterwards the respiration becomes deeper and the asthma disappears.

A BAD STARTER.

To the Editor of THE LANCET.

SIR,—I think that "Anxious Guardian" would find that in mathematics, the "Medical Preliminary Examination" of the Educational Institute of Scotland is a much easier examination than that of the College of Preceptors. The offices of the Institute are at 40, Princes-street, Edinburgh.—I am, Sir, yours faithfully,

April 6th, 1908. A MEDICAL STUDENT.

THE "NATIONAL HEALTH" MILK PASTEURISER.

THE construction of this apparatus, though perfectly simple, renders the pasteurising process effective and speedy. It comprises (1) an inner vessel or a milk container; (2) an outer vessel provided with a circular base projecting an inch beyond the body of the apparatus; (3) a shallow conical internal vessel having a double bottom perforated; (4) a second shallow cone for directing the water flow; and (5) a vertical circulating cylinder with openings at the top. The action is as follows. The milk being placed in the inner container the circulator is filled up to the centre of the openings at the top. The burner is started and at once a uniform circulation commences. As the water in the base boils it is forced upwards through the annular space formed by the shallow conical vessel immediately above, and this action is repeated through the second cone which then directs the water flow to the top where it streams through the perforations and descends down the outer surface of the milk container, finally returning to the heating base to go through the same circulatory process again. The object of this circulatory system is to prevent the boiling water from becoming directly mixed with the heated water circulating round the milk in the inner vessel, thus reducing the tendency of the proteins of the milk to coagulate while raising it quickly to the heat required for complete pasteurisation. The action, in short, is that the water surrounding the milk container is kept in rapid circulation by coming into contact with the water in violent ebullition in the ebullition chamber, causing an upward current on the outside of the circulating cylinder and a downward current against the outside of the milk container. The apparatus, which we found to work in complete accordance with these statements, was submitted to us by Mr. W. Lawrence of 19, Brackley-terrace, Chiswick, London, W.

CARE OF FEEBLE-MINDED GIRLS.

THE Birmingham Laundry and Homes of Industry is a society which devotes itself more especially to the protection and care of feeble-minded women and girls. It accomplishes a large amount of good work yet it fails at the critical point, just as all such societies must fail whilst the law regarding the feeble-minded remains unchanged; for the society has no legal control over those who are not capable of judging for themselves and consequently it finds that now and then, when its persuasive powers fail, it is forced to dismiss from its homes certain individuals who long for things which the homes cannot give and whose lives after they leave the homes are sure to lead to disaster both for themselves and the community at large. It is to be hoped that when the report of the Royal Commission appears it will urge the adoption of the only plan with regard to the feeble-minded of both sexes which offers any hope of an ultimately good result.

WANTED—A HOME.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me where a girl of 17 years, the child of epileptic parents, can be taken care of? She is untidy, careless, and wayward; in fact, seems developing the usual symptoms of such cases. The parents are only able to afford a small sum weekly, though they are of the better class.

I am, Sir, yours faithfully,
H. P. GILBERT.

The Elms, Whitley Park, Reading, April 7th, 1908.

CLOTHING EXHIBITION.

AN exhibition was opened at the Royal Agricultural Hall, London, on April 6th, which is officially termed "The First Clothing and Outfitting and Allied Trades Exhibition and Market." It has been organised by the International Trade Exhibitions, Limited, London, and its primary object is to promote commercial relations between buyers and sellers, whereby in a period of ten days may be viewed a collection of productions and manufactures which would ordinarily entail upon the buyer considerable journeying and expense. Although the exhibition is strictly for the wholesale trades referred to the management has decided to open it to the general public each day after 3 P.M. The exhibition remains open until 10 P.M. and will finally close on April 16th.

◆

M. H.—We believe that the institutions in question will carry out treatment as laid down by the practitioner and under the supervision of the practitioner. In this event there is nothing unprofessional in making use of them.

Nemesis does not give us the reference to the case in which he considers that he was hardly treated. We can scarcely imagine it to have been on all fours with the case of Dr. H. F. Stokes.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

MEDICAL SOCIETY OF *LONDON*, 11, *Chandos-street, Cavendish-square, W.*

MONDAY.—8.30 P.M., *Clinical Meeting.* Dr. P. Weber, Dr. O. K. Williamson, Dr. F. S. Palmer, Dr. W. H. Willcox, Dr. StClair Thomson, Dr. C. W. Chapman, Dr. S. Thompson, and others: Cases, &c.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. J. Strachan: On Dendritic Growths of Copper Oxide in Paper. Mr. F. Enock: Nature's Protection of Insect Life (illustrated by lantern slides in three-colour photography).

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Mr. C. Gilling: The Constituents of Simaruba Bark (communication from the Pharmaceutical Research Laboratory). Mr. A. Gunn and Mr. R. F. Harrison: The Colouration of Adrenine Solutions. Mr. J. A. Jennings: Historical Sketch of a London Hospital, with a brief account of Hospital Pharmacy (illustrated).

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 20, Hanover-square, W.

WEDNESDAY.—8.30 P.M., Adjourned Discussion on Dr. Prout's paper on the Rôle of Filaria in the Production of Disease. Dr. Prout: On an Unusual Cause of Dysenteric Diarrhœa in the Tropics. Dr. T. P. Macdonald (North Queensland): Tropical Lands and White Races.

INCORPORATED INSTITUTE OF HYGIENE, 34, Devonshire-street, Harley-street, W.

MONDAY.—3.30 P.M., Dr. J. W. H. Eyre: The Beneficent Bacteria—the Part they Play in our Every-day Life.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin).
TUESDAY.—4 P.M., Dr. H. Mackenzie: Clinique (Medical).
WEDNESDAY.—4 P.M., Mr. T. P. Legg: Clinique (Surgical).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. X Rays.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. X Rays. Dr. D. Robinson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. X Rays.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. X Rays. Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children, 2 P.M., Medical and Surgical Clinics. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. X Rays. Dr. D. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); 4.30 P.M., Lecture Demonstration:—Dr. Pirie: Treatment of Tuberculous Conditions by X Rays.

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).

to in the last part of the question. These regulations are in an advanced state of preparation.

Friday, April 3rd.

Irish Poor-law Medical Officers.

In the course of the debate on the motion for the second reading of the Poor-law (Ireland) Bill,

Mr. Birrell (Chief Secretary to the Lord Lieutenant) said that next year he would do his best to introduce a Bill dealing with the Irish Poor-law administration. He could not assent to the Bill under discussion.

Mr. Hugh Barrie urged that the Bill should be read a second time and sent to a committee. Many of its provisions could be put into operation at small cost. Under it it would be competent for local authorities to give grants in aid of sanatoriums for consumptives. He was in this connexion glad to acknowledge the work done by the Countess of Aberdeen and by the combined efforts of other ladies in different parts of Ireland in endeavouring to check the ravages of tuberculosis.

Mr. Fetherstonhaugh expressed a hope that in their future legislation the Government would deal with the position and status of Poor-law medical officers in Ireland. The conditions under which they were appointed were unsatisfactory. The best men were not always secured owing to the very narrow localism which prevailed in many cases. The conditions under which they served were absolutely fatal to their position.

The Bill was subsequently rejected by 89 votes to 35.

Coroners' Inquests Bill.

Mr. Higham moved the second reading of the Coroners' Inquests Bill. Its purpose is to make the viewing of bodies not compulsory but optional in the discretion of the coroner. He contended that in many cases the viewing of the body was not only exceedingly distasteful to the jury but exposed them to personal risk of infection.

Mr. H. Samuel (Under Secretary for Home Affairs), in assenting to the second reading, reserved to the Government the liberty of proposing amendments at a later stage if they thought fit, particularly in reference to the proposal that the coroner himself should be exempt from the viewing of the body.

The second reading was carried by 118 votes to 45.

Overcrowding in Scotland.

An elaborate return has been presented to Parliament showing the housing conditions of the population of Scotland. In it it is noted that the proportion of the total population living more than two per room has fallen from 58·57 per cent. in 1861 to 45·68 in 1901; that the proportion living more than three per room has fallen from 33·83 per cent. in 1861 to 22·91 in 1901; and that the proportion living more than four per room has fallen from 18·67 per cent. in 1861 to 9·56 in 1901.

Monday, April 6th.

The Medical Examination of Engine-Drivers.

Mr. Lonsdale asked the President of the Board of Trade whether he had considered the report of Lieutenant-Colonel Yorke that the collision on the London and North-Western Railway near Atherton station was due to the debilitated condition of the driver, and to the fact that he was in the last stage of a fatal complaint; and whether he intended to take any measures to secure the more frequent medical examination of engine-drivers.—Mr. Lloyd George replied: I am already in communication with the principal railway companies on the subject of the medical examination of engine-drivers, and I am calling their special attention to Colonel Yorke's report on the accident near Atherton.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, 8, Henrietta-street, Covent-garden, London, W.C.

The Pocket Osteology. By Philip Turner, B.Sc., M.B., M.S. Lond., F.R.C.S., Demonstrator of Anatomy, Guy's Hospital. Price 3s. net.

Butterworth and Co., 11 and 12, Bell Yard, Temple Bar, London. (Shaw and Sons, 7 and 8, Fetter-lane, London, E.C.)

Shaw's Manual of the Vaccination Law. By John Lithiby, C.B., LL.B., of the Middle Temple, Barrister-at-Law. Eighth edition. Price not stated.

Cassell and Company, Limited, London, Paris, New York, Toronto, and Melbourne.

The Townsman's Farm. By "Home Counties," Author of "Poultry Farming: Some Facts and Some Conclusions," "Country Cottages," "The Case for the Goat," &c. Price 6s. net.

Churchill, J. and A., 7, Great Marlborough-street, London, W.

Practical Pharmacy. By E. W. Lucas, F.I.C., F.C.S., Pharmaceutical Chemist, late Member of the Board of Examiners of the Pharmaceutical Society of Great Britain, Member of the Committee of Reference of the British Pharmacopœia. Second edition. Price 12s. 6d. net.

Abdominal Tuberculosis. By A. Ernest Maylard, M.B., B.S. Lond., Surgeon to the Victoria Infirmary, Glasgow. Price 12s. 6d. net.

Constable, Archibald, and Co., Limited, London.

The Soul of Spain. By Havelock Ellis. Price 7s. 6d. net.

Kimpton, Henry, 13, Furnival-street, Holborn, London, E.C. (Stenhouse, Alexander, 40 and 42, University-avenue, Glasgow.)

Kimpton's Essential Series. Essentials of Surgery. An Outline of Surgical Pathology, Diagnosis, and Treatment. For Students and Practitioners. By Alwyne T. Compton, F.R.C.S. Price 4s. net.

Laurie, T. Werner, 13, Clifford's Inn, Fleet-street, London, E.C.

London Churches, Ancient and Modern. By T. Francis Bumpus. First Series, Mediæval and Early Renaissance. Price 6s. net. Second Series. Classical and Modern. Price 6s. net.

Moni and Co., Chickpet, Bangalore City, India.

A Handbook of Clinical Microscopy. By M. Keshava Pai, M.B., C.M. Madras, Assistant Surgeon, Madras Medical Department, and P. S. Ramachandrier, Mysore Medical Department. Price Rs.3.8.

Nisbet, James, and Co., Limited, 22, Berners-street, London, W.

Injuries of Nerves and Their Treatment. By James Sherren, F.R.C.S. Eng., Assistant Surgeon to the London Hospital; Surgeon to the Poplar Hospital for Accidents; late Erasmus Wilson Lecturer, Royal College of Surgeons. Price 5s. net.

Progrès Médical, Aux Bureaux du, 14, Rue des Carmes, Paris (Alcan, Félix, 108, Boulevard St. Germain, Paris.)

Recherches Cliniques et Thérapeutiques sur l'Épilepsie, l'Hystérie, et l'Idiotie. Compte Rendu du Service des Enfants Idiots Épileptiques et Arriérés de Bicêtre pendant l'Année 1905. Par Bourneville, Médecin de Bicêtre. Volume XXVI. Price Fr.7.

Scientific Press, Limited, 28 and 29, Southampton-street, Strand, London, W.C.

A Guide to Sick Nursing in the Tropics. By Andrew Duncan, M.D., B.S. Lond., F.R.C.P., F.R.C.S., Fellow of King's College, London; Physician to the Seamen's Hospital Society; Lecturer on Tropical Diseases, Westminster Hospital Medical School; Lecturer at London School of Tropical Medicine. Price not stated.

Sisleys, Limited, 9, Duke-street, Charing Cross, London.

The Wife: Her Book. By Haydn Brown, L.R.C.P., &c., Edin., Fellow of the Royal Institute of Public Health and of the Obstetrical Society, London. Popular edition. Price 2s. net.

Steinheil, G., 2, Rue Casimir-Delavigne, Paris.

Les Pseudo-Bacilles Acido-Résistants. Critique des Méthodes de Coloration du Bacille Tuberculeux. Révision du Groupe des Bacilles dits Acido-Résistants. Par le Dr. André Philibert, Interne Lauréat des Hôpitaux de Paris (Médaille d'Or, Médecine, 1907). Licencié ès Sciences Naturelles, Lauréat de l'Académie de Médecine. (Prix de Médecine Stansky, 1904—Prix Oulmont, 1907) (Travail du Laboratoire de Bactériologie de la Faculté de Médecine de Paris). Price Fr.4.

Le Cancer: Prophylaxie, Étiologie, Traitement. Par le Docteur C. Sobre-Casas, Médecin de l'Hôpital Rawson, Buenos Aires. Price Fr.3.50.

L'Aphasie de Broca. Par le Dr. François Moutier, Ancien Interne Lauréat des Hôpitaux de Paris, Licencié ès Sciences. (Travail du Laboratoire de M. le Professeur Pierre Marie, Hospice de Bicêtre.) Price Fr.25.

Stuber, A. (Curt Kabitzsch), Würzburg.

Heilende Strahlen. Arbeiten über die Grundlagen und die praktische Ausübung der Strahlentherapie. (X-Strahlung, Lichtstrahlung und Radioaktivität). Gesammelte Aufsätze. Von Ingenieur Friedrich Dessauer. Band II. Price M. 2.50; bound, M. 3.20.

Die Krankheiten der Nasenscheidewand und ihre Behandlung. Von Dr. Leo Katz, Spezialarzt für Ohren-, Nasen- und Halskrankheiten in Kaiserslautern. Price M. 6.80; bound, M. 8.

Unwin, T. Fisher, 1, Adelphi-terrace, London, W.C.

Health at Its Best *v.* Cancer. By Robert Bell, M.D., F.F.P.S., Formerly Senior Physician to the Glasgow Hospital for Women. Price 5s. net.

Vogel, F. C. W., Leipzig.

Krankenhauswesen und Heilstättenbewegung im Lichte der Sozialen Hygiene. Von Dr. med. Alfred Grotjahn, Berlin. Price M.10.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Allan, H. W., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Inspector of Schools for the Wells District of Somerset.

Baird, Harvey, M.D., Ch.B. Edin., has been appointed Assistant Medical Officer at the Cardiff Mental Hospital.

Browne, Francis James, M.B., Ch.B. Aberd., has been appointed Surgeon to the Powells Tillery Collieries, Abertillery (Mon.).

Caldwell, M. F., M.B., B.Ch. Irel., has been appointed Junior Assistant Medical Officer at the Cardiff Mental Hospital.

Downes, Harold, M.B., L.R.C.P. Edin., has been appointed Medical Superintendent to Benenden Sanatorium.

Edwards, William Lloyd, L.R.C.P. Lond., M.R.C.S., D.P.H. Lond., has been appointed Assistant Medical Officer of Health and Medical Inspector of School Children by the Barry (Glamorganshire) District Council.

Forde, T. A. Munro, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Senior Surgeon to the Royal Hospital, Portsmouth.

Griffiths, Evan John, M.B., Ch.B. Edin., has been appointed Medical Officer for the Inspection of School Children by the Pontypridd Education Committee.

Hebblethwaite, A. G., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Physician to the Keighley Victoria Hospital.

fair to say that there is also a smaller and much less definite series of lamellæ which pass from the inner and posterior part of the head to the front part of the neck.

FIG. 3.

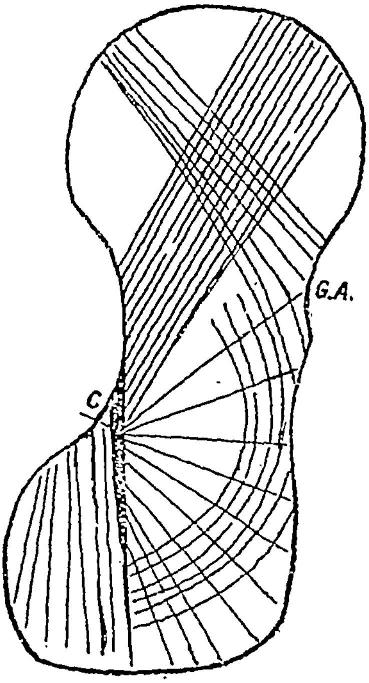
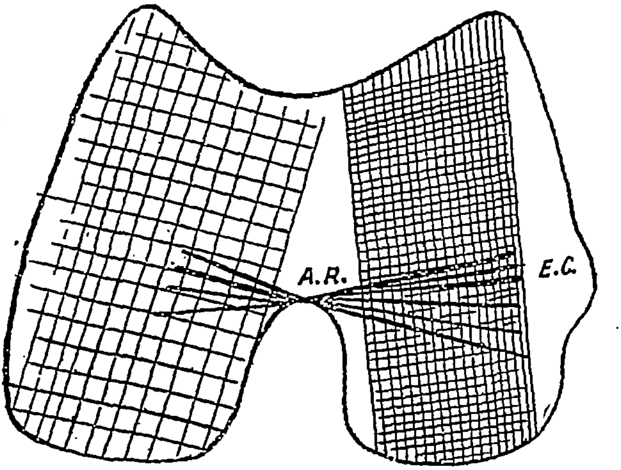


Diagram of section of upper end of femur cut parallel with long axis of neck, showing arrangement of lamellæ which counteract back thrust through head of femur. G. A., Groove for anterior ligament. C., Calcar. Scale life size.

The first and more important series are the same as the lamellæ which are described as passing from the upper and inner portion of the articular surface of the head to the under surface of the neck, but viewed in a different plane. This series therefore lies in an oblique plane and passes from within downwards, outwards, and backwards. They are very definite in this specimen of bone, and as they are the same as the lamellæ which pass from the upper part of the head to the lower surface of the neck, which all authorities agree transmit pressure, they obviously transmit pressure, not only from the upper and inner part of the head but also from its anterior part. We may therefore conclude that pressure is transmitted through the upper, inner, and anterior part of the head of the femur to the posterior and inferior surface of the neck. Now this series of lamellæ help to explain four conditions which are met with: the first, an anatomical structure; the second and third, pathological conditions; and the fourth, a condition due to traumatism. The first is the "calcar femorale," the second the deformity known under the name of coxa vara, the third the triangular acetabulum associated with old unreduced dislocated hips, and the fourth the line of fracture in typical intracapsular fracture of the neck of the femur. These oblique series of lamellæ which pass into the posterior surface of the neck, which is formed of thick compact tissue, pass in over a distance of about five-eighths of an inch, and, externally, some pass into the anterior surface of the calcar femorale.

Now, although one must regard these lamellæ as pressure lamellæ, yet it is not generally recognised that therefore pressure which is transmitted from the trunk to the lower limbs passes not only through the upper part of the head of the femur but also through its anterior part. Now, these three specimens, representing that degenerative process known under the name of osteo-arthritis, show distinctly that the eburnated remnant of the articular surface of the head looks in a direction not only upwards and inwards but also forwards. It is therefore evident that the chief pressure in these bones has passed through the upper and anterior part of the head of the femur; and therefore these specimens afford ample proof that the pressure is transmitted along the oblique series of lamellæ which pass to the posterior surface of the neck in the region of the calcar femorale. The function of the calcar is usually said to be that of transmission of the lines of pressure from the head and neck to the shaft of the femur. This is very probably correct, but only partially so, and no explanation of its relatively posterior position has yet been offered. By a reference to the oblique series of pressure lamellæ its position and function are rendered clear. Not only does it transmit the lines of pressure falling on to the posterior surface of the neck, but it also enormously increases the strength of the neck. And for this reason: Suppose that in the diagram (*Fig. 3*) the chief lines of pressure pass above and behind the centre of rotation of the head of the femur, then there is a tendency for the great trochanter to be pushed forwards, and this tendency to swing forwards is restrained by the attachment of the external rotator muscles of the thigh and the pull of the tense posterior part of the capsule of the hip-joint. Thus there is a tendency for the great trochanter to be bent backwards, a tendency which is very much diminished by the presence of the calcar femorale. If *now a further examination of the sections of bone cut parallel with the long axis* of the neck be made, *the bony lamellæ which are seen behind the calcar are found to pass out more or less parallel with* the calcar to the outer surface of the great trochanter. They are intersected by transverse fibres and these lamellæ in the adult bone make up coarser cancellous tissue than elsewhere. If, however, the lamellæ in front of the calcar be examined they will be found to contain much finer meshes and can be divided into two series intersecting each other at right angles, one radiating outwards and forwards from the front part of the calcar femorale and its continuation into the outer compact layer in the trochanteric region, and another series curving forwards and inwards and passing not only into the anterior surface of the neck of the femur but also passing into those lamellæ which I have previously described as passing from the posterior and upper surface of the head to the anterior surface of the neck. The former are lamellæ which transmit pressure from the calcar to the anterior surface of the great trochanter and neck; the latter are tension lamellæ. Now, although the calcar femorale may be very definitely studied in this manner and its function, namely, of not only transmitting lines of pressure from the neck to the shaft but also of preventing bending backwards of the neck, and to displacement backwards of the great trochanter, which is really a rotation backwards, be demonstrated, yet its position may be still better displayed in a method which I shall describe later. The position of the calcar is therefore chiefly concerned with the tendency of the neck of the femur to be bent and enormously increases the strength of the neck. The calcar is developed in connexion with the development of the oblique series of lamellæ which pass from the inner, upper, and anterior part

FIG. 4.



Transverse section of lower end of femur showing—A. R., "Anti-rotation" lamellæ. E. C., Marks external condyle of femur. Scale life size.

Notes, Short Comments, and Answers to Correspondents.

THE ZAKKA KHEL EXPEDITION.

WE are indebted to a well-known member of the profession for the following interesting letters from his son, an officer in the Indian Medical Service:—

Bazar Valley, Field Force, Feb. 17th, 1908.

Well, here I am in the enemy's country. I got up to Peshawar early last Thursday morning, Feb. 13th, and was told I was very late as the force had started that morning. I was given orders to go on at once in a cart, taking nothing with me but my bedding and a change of clothing, and that if I did not go at once I should not catch them up, so I could not wait any time and in consequence came with practically nothing and no pony. What I forgot to put in in my hurry was an extra pair of boots and as this is awful country I am afraid mine will last no time. I don't know what I shall do. I am attached to a Field Hospital. The first day we marched to Jamrud at the entrance to the Khyber Pass and the next day to a place Ali Masjid in the middle of the pass. The next day we separated from our brigade which came on in front and had a good deal of fighting. Then yesterday we came on to join them. There was a little fighting and all last night they were sniping at us. I dug myself into a trench and heard a few bullets. To-day we have had a quiet day in camp. A few parties were sent out and there was a little firing but not much. We were jolly glad of a quiet day. At present no one seems to know what is going to happen. We are encamped in one of their villages, two of which we have destroyed. They have about three more. At present I fancy we will take one of those which is the biggest and destroy that and then, perhaps, after that get out or perhaps destroy the lot. Two of their chiefs came into camp this evening; of course, one doesn't know what it means. Probably only to find out our position, &c., really. The other brigade is about five miles behind us. I fancy they are coming up to-morrow and they will probably then be given their chance. Some people seem to think the whole thing will last only about a fortnight. In that case we probably shall not get a medal which will be bad luck. We have only had a few casualties, two men killed and three badly wounded. One has to rough it a good bit and our food is not exactly delightful but we do not do badly. I have no time to write more.

Peshawar, March 3rd, 1908.

By the address you will see we are back again from the Bazar Valley. I will try and write you an account of the whole show, as up to now I have not been able to write much, as in the first place I did not know much about what was to happen, &c. I dareay you have read a little bit about it in the papers.

First of all the cause of the expedition. This was due to raids on Peshawar by the Zakka Khels. The Zakka Khels are one tribe of the Afridis and live in the Bazar Valley which is the other side of a range of hills surrounding Peshawar.

They had several times raided Peshawar city by night and killed a man or two and carried away booty. Their last and most daring raid was the one which really gave rise to the expedition. They came into the city by night, disguised of course, and carried out their work by means of pretending a marriage ceremony was in course of progress. At these ceremonies in this country apparently they make a great noise, beating drums, &c. Well under cover of this noise they broke into several shops, killing any who attempted to stop them, and went off with a lakh of rupees (£6666). The police did not attempt to interfere, thinking it was only a marriage ceremony. Well, after that it was decided to punish them and they were only waiting for permission from the Home Government. The whole plan was to take them by surprise and everything was kept very secret. We started off on the morning of Feb. 13th and marched to Jamrud, which is just outside the Khyber Pass at the beginning, about 10 miles from Peshawar. Our force consisted of two brigades made up as follows, General Sir J. Willcocks in command of the whole:—

1st Brigade (General Anderson).—Warwicks, 2nd Battalion 5th Ghurkas, 59th Rifles, 53rd Sikhs, 1 Mountain Battery, No. 101 Native Field Hospital.

2nd Brigade (General Barrett).—Seaforth Highlanders, 45th Sikhs, 54th Sikhs, 28th Punjabis, 1 Mountain Battery, 1 company sappers and miners, No. 102 Native Field Hospital.* (* This is where I was.)

We stopped at Jamrud the night of the 13th and proceeded next day to Ali Masjid through the Khyber Pass. The Khyber Pass begins at Jamrud, it proceeds to Ali Masjid and here breaks off into two different paths, one goes to Landi Kotal and into Afghanistan, the other to Chora Kotal, where it enters the Bazar Valley. The road was good as far as Ali Masjid where we camped on the 14th. On the 15th we moved off in two parts, the 2nd Brigade going ahead without baggage and with two days' rations. Two out of the four of us went with them and the other two stopped behind with the 1st Brigade and baggage. The other party consisting of the 1st Brigade, the baggage of both brigades and the field hospitals moved off about two hours later and got into the Bazar Valley and reached Chora, a village belonging to a friendly section of the Zakka Khels and which had been handed over to the troops at once. Here we camped for the night. The 2nd Brigade which had gone on in advance after leaving Chora had a stiffish time, and were fighting the whole day and night. The reason probably that they were not attacked before reaching Chora was that we came in so quickly that the Zakkas had no time to do more than get their wives and families into Afghanistan.

On the next day, the 16th, the rest of the field hospital with which I was were ordered to go on and rejoin the 2nd Brigade and also take on their baggage. We caught up with them just before Walai, which village they then proceeded to take and destroy. We then encamped on that site, which was our headquarters for the rest of the campaign. We had hardly got into camp when we were again attacked from a high hill near the camp. The 45th Sikhs and Seaforth Highlanders were sent to take the hill, which they did, two men of the 45th being severely wounded with broken thighs. That night pickets were put on all the surrounding hills, but during the night they were attacked and some of the Zakkas must have got between them and shot into camp. On the 17th we had a rest during the day; at night there was again a good deal of shooting into camp, which continued most of the time we were there, though it rather slackened off towards the end. On the 18th a force was sent to attack and destroy China, the capital of the Zakkas. I went with them. We took it fairly easily and blew up their fortifications till about 3 o'clock, when we returned to camp. As we were returning they came up behind us, following up quickly, and we had a good many men hit before the last got back into camp.

The 1st Brigade came up to Walai that day and joined us, with the exception of one regiment and the other field hospital, which were left at Chora.

On the 19th the 1st Brigade went out to finish the destruction of China, which they did without any loss, and on the 20th they finally razed it to the ground. On the 21st the greater portion of both brigades went right to the end of the valley to a place, Halwai, which they destroyed and returned to camp fairly early, though a good many men were wounded on the return journey. On the 22nd the 1st Brigade went out and destroyed a small village near Walai. The 23rd was a slack day. On the 24th another small village was destroyed. On the 25th a jirgah or council of the tribes round about came into the camp to try and stop the proceedings. General Willcocks talked to them and it was understood that they were to interview the Zakkas and bring their head men into camp to discuss conditions. They were given two days for this. During this time we did nothing. On the 28th the jirgah returned with the Zakkas, about 1000 altogether. They sat and discussed and the terms were agreed to. The terms were that they were to be of good behaviour, to punish the raiders on Peshawar, 60 rifles were taken from them which are to be returned when the political agent is of opinion that the raiders have been sufficiently punished, and that they were not to molest us on our retiring from the country.

We left Walai on the 29th and the 2nd Brigade marched straight through to Ali Masjid, the 1st Brigade stopping at Chora. The next day we marched to Jamrud and the 1st Brigade doing a double march joined us there, and yesterday we all marched back to Peshawar, which we reached about one o'clock. The regiments went into camp and marched to their various stations, except those that came from Peshawar.

We, the field hospital, went to an old hospital here and dumped down our boxes of medicines, hospital tents, &c., and had to wait till to-day for a receipt of their correctness. We all four came to the Dak bungalow for the night. A Dak bungalow is a bungalow provided by Government for travellers. It contains a cook and bed, chair and table, and one stops there, bringing all one's kit.

We had some snow and rain the whole of one day and night just before we left Walai, and as one is in the open it was distinctly unpleasant. I had made a small tent out of tarpaulins and that kept me fairly dry at night.

The worst part of the whole show was the dirt. I did not change my clothes the whole time and slept in them at night. I slept in a pit dug in the ground and the soil used to drop on me and into my bedclothes. The feeding, too, was not too good, but we did not do badly on the whole, because we took out a good many tins of different articles, jam, &c., and every second day we got fresh meat from the commissariat after the first week.

I am going back to Bareilly to-night and will finish this there.

March 5th.

I arrived at Bareilly at 3 A.M. this morning. I find my place has not been filled up and so I hope to stop on here for some time. I may possibly not be moved till the hot weather is over. I have got back into my same rooms, but have a new bearer, as my last one ran away on the way up to Peshawar. It is much hotter here than in the Bazar Valley. I stayed a day at Peshawar. I went into the city there and made a few purchases. It is *the* place to buy carpets and all the finest come there from Persia—i.e., the old ones. I have been the whole day getting my room straight, as I had packed all my things. I received your letter to-day which reached here last Sunday. They did not send it on I am glad to say. I am very fit after my campaign.

BRACHYCLADI STUCKERTI.

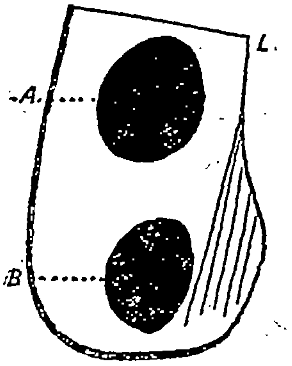
IN the *Pharmaceutical Journal* of March 7th, Mr. E. M. Holmes contributes an interesting article on Brachycladi Stuckerti, a South American plant which has been employed by the natives of Argentina for the mountain affection known locally as "mal de puna." In asthma the continued use of an infusion of the

Now I must beg your leave to digress for one moment whilst I go a little more in detail into the question of the movements of the hip-joint which are concerned with this variety of fracture. When the hip-joint is disarticulated the anterior surface of the neck comes much more readily into contact with the anterior and upper part of the rim of the acetabulum than do the corresponding posterior parts of the same portions of bone. This may be due to the different shape of the anterior and posterior surface of the neck of the femur and the greater concavity of the posterior surface of the neck than on the anterior surface of the neck. Now, although these points are undoubtedly true in the disarticulated joint, yet from a careful examination of the undissected joint it is clear that another reason why the posterior surface of the neck does not come into contact with the corresponding portion of the acetabulum is that the very strong anterior ligament or Y-shaped ligament of Bigelow prevents it. Now, the posterior part of the capsule of the joint is nothing like so strong and certainly would not offer any marked resistance to the internal rotation of the hip-joint. But a structure which has been much abused because it is very rarely absent and very occasionally atrophied, is, I venture to think, responsible to a certain extent for diminishing the amount of internal rotation, flexion, and adduction, and thus preventing the anterior surface of the neck from coming into contact with the corresponding portion of the acetabulum; and this structure is the "ligamentum teres" of the hip-joint. This is considered by many anatomists to be a useless structure. It is curious that out of the 150 hip-joints that I have opened I have in only one case found a ligamentum teres atrophied and easily ruptured. Moreover, it is put on the stretch just when the limb is internally rotated and adducted, as well as flexed, and it is therefore clear that the function of the ligamentum teres is to prevent undue contact taking place between the anterior surface of the neck and the corresponding portion of the acetabulum. It is not quite fair, I think, to say because it is occasionally absent that therefore the ligamentum teres has no function. Absence, in the case of the tibia, is not brought into account when the question of the function of this bone is being considered. Authorities may say that the ligamentum teres is an atrophied part of the pectineus. Then one may ask the question, Why, if it is useless, has it remained at all? The ligamentum teres, therefore, tends to prevent this anterior surface of the neck of the femur from coming into contact with the acetabulum.

We may now go back to the question of intracapsular fracture of the neck of the femur and we may assume that the pressure starts from the front of the upper part of the neck. Now, if the patient be in the flexed position when the accident happened, the ligamentum teres is not strong enough to resist the sudden force which is put upon it and so it may be either stretched or ruptured. The anterior surface of the neck of the femur then comes into forcible contact with the corresponding part of the acetabulum and the fracture is begun (Mr. Arbuthnot Lane). The line of fracture then passes for some distance in a transverse direction along the neck until it meets with these lamellæ coming down from the anterior upper surface of the head of the femur to the posterior and under surface of the neck of the same bone, and is by them deflected so as to form either a posterior or an inferior tongue of bone. But an explanation must also be found for a similar injury which happens where the patient says that he made an effort to recover himself and then felt something go. Now, in the effort to recover oneself one naturally hyperextends the hip-joint and more tension is put upon the strong anterior ligament of the hip-joint, with the result that it is forcibly stretched over the neck of the femur, close to the head of that bone. Now, if we make an obliquely transverse section of the head, neck, and trochanteric region of the femur we shall find that the compact tissue lying at the bottom of the groove or impression on the neck of the femur against which the anterior ligament is resting is very thin and therefore presumably easily liable to fracture. And therefore one may conclude that in the hyperextended position of the limb, such a position as is taken up when a patient attempts to recover himself from falling—that in that position, I say, the anterior ligament of the hip-joint is in part responsible for intracapsular fracture of the neck of the femur.

It is often said that the line of fracture in intracapsular fracture of the neck of the femur occurs at the weakest spot in the neck. This weakest spot is presumably at that place where most degenerative fatty changes are found—i.e., half way along the neck, where indeed a mass of fat may be found between the main series of lamellæ, spherical in shape, and as much in some cases as half an inch across. Now, although fracture may occur through this spherical mass, yet in most cases (Fig. 6) apparently the line of fracture runs nearer the head than this, and therefore we may assume that in many cases at any rate the position of the line of fracture is not dependent only upon the structure and degeneration of the bone but also upon external influences as well, such as, for example, the rim of the acetabulum and the anterior ligament of the hip-joint. It has been asserted that the absence of the calcar femorale is responsible for the occurrence of intracapsular fracture. That this statement is very probably correct there is no doubt, but it is because the calcar enormously increases the strength of the neck not so much in transmitting vertical pressure, as by its power to prevent bending of the neck, as we have seen, backwards or forwards. I have here a specimen showing the association of an intracapsular fracture and a calcar femorale.

FIG. 6.



Transverse section of distal fragment of intracapsular fracture showing fatty patches A. and B. Note that line of fracture L. does not pass through A.

Now, although the results of intracapsular fracture of the neck of the femur are known thoroughly, still it will not be out of place, I think, just to refer to these two specimens, one taken an unknown time after the injury, the other removed four years after the accident. And it will be noticed that there has been a complete atrophy in this second specimen, not only of the neck but also of a great part of the upper portion of the shaft of the femur. Now, although one can have few remarks to offer upon the question of treatment, I would venture to quote one case which, by the kindness of Mr. C. J. Symonds and Mr. L. A. Dunn, I was enabled to operate upon. A man sustained an intracapsular fracture of the neck of the thigh bone and extension was applied both in a Hodgen's splint and with plaster of Paris. The hip remained stiff and gave him so much pain that it was impossible for him to walk about without two crutches. He eventually consented to have the head of his thigh bone removed, and though the wound did not heal up altogether kindly still it did eventually heal up, and healed up completely. Since that time the man has recovered the use of his limb. He only uses a stick to move about with and, above all, he has lost his pain. I shall not have time to go into this question in full, but it is certainly a treatment which might be adopted with advantage in many of these cases of ununited intracapsular fracture of the neck of the thigh bone.

We must now go into the question of extracapsular fracture of the neck of the thigh bone. And in this connexion it is important to know that there is a primary line of fracture which is the true extracapsular fracture, and that this line of fracture separates a portion of bone formed of the head and neck of the femur. This portion of bone (Fig. 7) which is separated bears a remarkable resemblance to those tools which are used by masons and slaters for the purpose of cutting bricks and slates. They have a broad head, a narrower neck, and a broader blade. They are known as bolster chisels. The resemblance is still further increased when we consider that these chisels frequently have at one end of the blade a sharp point. I think when I hold up this specimen and

The Hunterian Lectures

ON

THE ANATOMY OF THE LONG BONES RELATIVE TO CERTAIN FRACTURES.

Delivered before the Royal College of Surgeons of England on March 9th and 11th, 1908,

By RALPH THOMPSON, Ch.M. Vict.,
F.R.C.S. Eng.,

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OF ENGLAND.

LECTURE I.

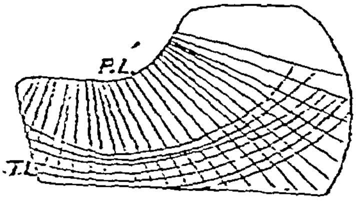
Delivered on March 9th.

Mr. President, Ladies, and Gentlemen,—Although much work has been done in connexion with the general and local pathological conditions which predispose to fractures of the long bones, yet perhaps sufficient attention has not been paid to their exact anatomy, especially as regards their internal structure. It was not without much hesitation that the subject of the two lectures, which I have been called upon to deliver in this College was chosen, and when one reflects that it is frequently said that anatomy is a limited subject and that no new discovery can be made in it, this hesitation must be excused. Moreover, so many great names have been, and still are, associated with the question of fractures, that there seems little to say concerning a subject about which Hunter, Astley Cooper, R. W. Smith, and Bennett have written and spoken. There seems still less to say concerning a subject which has been dealt with so thoroughly and successfully by x ray photographers. But, Sir, the preface to your work on the anatomy of joints has encouraged me to proceed with the subject, and, after all, so long as the cause of any fracture in any individual remains unknown, so long is there room for, at all events, some reflection as to the exact cause of a particular fracture.

I propose to deal with fractures of the long bones, but as the anatomical conditions governing the results of these fractures cannot be considered without a reference to ligaments I shall have no hesitation in raising the question of the functions of certain important ligaments.

In the ends of the bones of an ordinary adult man there are developed definite lamellæ running in the main direction along which pressure is transmitted. Certain other lamellæ are also developed gradually crossing these pressure lamellæ at right angles. These are known as tension lamellæ. Their presence generally increases the elasticity and therefore the strength of the bone. (Fig. 1.) In the young person as well as in the old these pressure lamellæ are not well seen, nor are the tension lamellæ. In the young person the cancellous tissue at the ends of the long bones is so dense and the meshes are so fine that the pressure and tension lamellæ can hardly be demonstrated. In the old person the bone fibres are so obscured by the presence of fat that they are very difficult to discover. Although the fat is deposited generally in the substance of the cancellous tissue, yet it is apt to occupy certain definite positions and to occur in relatively large masses. For example, such definite masses may be found in the lower end of the radius, the upper end of the humerus, the inner end of the clavicle, and the upper end of the femur. In the tibia, too, a small mass of fat is developed at the root of the internal malleolus. These masses of fat appear to develop in the part of the bone which is least subjected to pressure. In the case of the clavicle and the femur as well as the upper end of the humerus they appear to develop between definite series of lamellæ.

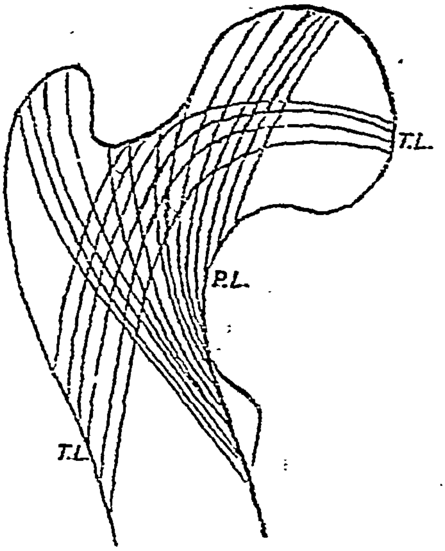
Fig 1.



Showing pressure and tension lamellæ in os calcis. P. L., Pressure lamellæ. T. L., Tension lamellæ.

I propose in my first lecture to deal with fractures of the neck of the thigh-bone. I shall first endeavour to show from recent specimens that these fractures have perfectly definite causes, the statement of which depends to a large extent upon the knowledge of the internal structure of the upper end of the femur. A study of the internal structure of the upper end of the femur throws such a flood of light upon certain deformities that I shall have no hesitation in referring also in some detail to the conditions met with in coxa vara and in old unreduced dislocations of the hip-joint. The usual conception of the internal structure of the upper end of the femur is that which is gathered from a coronal section such as this (Fig. 2). Now in this section is shown a series of arching lamellæ passing from the inner and outer surfaces of the shaft of the femur into the trochanteric region, the neck and the head. Those from the inner surface pass upwards into the region of the great trochanter and also into the lower part of the neck and so by additional series of lamellæ to the upper surface of the head. Those lamellæ from the outer surface pass also upwards into the great trochanter and then *viâ* the upper part of the neck of the femur to the lower portion of the head of the same bone. Now there are a series of lamellæ which do not thus form an arch and which pass from the upper surface of the head to the lower surface of the neck and thus to the compact layer on the inner surface of the shaft of the femur. The spur of bone which is represented in this obliquely transverse section of the upper end of the femur and which is known as the calcar femorale, or Merkel's, or Adams's arc is said to lie in the lines of pressure passing from the head and neck to the shaft of the bone. In order to study this spur of bone transverse sections are frequently made of the upper end of the femur, but such a section gives little indication of its position and none of its true function. Its position and function may be made out in a much more satisfactory manner by the reference to sections which are obliquely transverse—that is, parallel with the long axis of the neck. (Fig. 3.) These sections show, in addition to the calcar the position of which will be referred to later, a most important series of lamellæ passing from the anterior and inner part of the head of the femur to the posterior surface of the neck. These are very definitely shown in many sections which have been made; but it is only

Fig. 2.



Showing chief series of lamellæ in coronal section of upper end of femur. P. L., Pressure lamellæ. T. L., Tension lamellæ. Scale life size.

surface of the neck, just beneath the groove for the obturator externus tendon on its way to the digital fossa, and terminating below by gradually fading away into the compact tissue of the shaft of the femur, underneath and external to the upper part of the spiral line. Roughly, it may be said to extend from the base of the great trochanter to the lowest part of the base of the lesser trochanter. The calcar is half an inch deep or more in its deepest part, which is just above its centre, and its edge lies at the junction of the posterior and middle thirds of a line drawn between the anterior and posterior surfaces of the neck of the femur. The outer edge varies in position according to the depth of the calcar. It may be continuous with fine laminæ of bone running nearly parallel with each other towards the compact layer of the outer surface of the upper part of the femur. The calcar is said to disappear in old age, but I have collected specimens showing a well-marked calcar in males aged 70, 71, 80, and 87 years; and in two females aged 65 and one aged 83 years. In the case of the male aged 87 years the calcar is well seen in the right femur, of which there was an unimpacted extracapsular fracture, and there is also a good calcar in the left femur removed from the same case. The calcar was not present in any femur of any fœtus or young infant which I have examined, but there was a calcar present in three male subjects aged three years each and in one female aged six years. The calcar was not found in two subjects, aged 21 and 27 years respectively, the former a female and the latter a male. The deposition of fat in the region of the neck of the femur may also profitably be considered here (Fig. 8). As age advances fat is deposited in two places in considerable quantity, forming a large globular mass at least half an inch in diameter. One of these masses of fat lies in the narrow part of the neck, about its middle. The other mass lies in front of the anterior surface of the calcar. The former deposit may possibly predispose to intracapsular fractures of the neck of the femur; the latter deposit of fat to the splitting of the upper end of the femur described in connexion with extracapsular fracture. For in this case fat offers less resistance to the impaction of the fragment of head and neck separated from the rest of the bone. A reference to sections passing through the neck of the femur in young adults shows that the cancellous tissue is much denser than in old people, and therefore we may expect that if a fracture through the base of the neck occurs in young people, then the calcar femorale will not form such a dangerous weapon as in old people in whom fat is deposited.

There are now two difficulties to be considered in connexion with the production of the secondary vertical fracture by the calcar. The first is, that the splitting is much longer than the calcar. This may be explained by referring to the fact that the splitting which a chisel may produce is frequently much longer than the blade of the chisel itself. Another difficulty is that while the calcar runs downwards and forwards, the vertical fracture runs downwards and backwards. In many cases, however, of fracture through the neck of the femur flexion of the lower fragment is a marked clinical and anatomical feature. Flexion of the lower fragment brings the calcar exactly opposite to, and parallel with, the vertical line of fracture which is produced. It is generally agreed that the calcar lies in the lines of pressure transmitted from the head to the shaft of the femur. I have, I think, also proved conclusively that it has an additional function to this and probably a more important function—i.e., to prevent the natural tendency to curvature forwards or backwards of the great trochanter. Now, whilst it is denied by authorities that impacted extracapsular fracture follows upon falls on the feet, yet it is possible that such a condition might occur. In such a case, the lower fragment being forced upwards by the fall, and dragged inwards by the tonic action of muscles and the upper fragment tending to rotate on an antero-posterior axis, the outer edge of the head and neck—that is, the blade of the chisel—is carried upwards and cuts the trochanter and upper part of the shaft of the femur.

The conclusions arrived at may thus be briefly summarised with regard to the calcar. It does not invariably disappear in old age. It is not invariably present, even in young people. The calcar in extracapsular fracture of the neck of the femur is responsible for the edge and lower end of the chisel, whose other parts are represented by the head and neck of the femur. The calcar certainly produces the vertical secondary fracture of the great trochanter and upper part of the shaft of the femur and may be held partially responsible for the horizontal secondary fracture near the base of the great trochanter.

Varieties of Extracapsular Fracture.

Three well-marked varieties of extracapsular fracture may be classified anatomically. This classification is dependent upon the secondary lines of fractures which I have described. There is also an associated condition rarely present—viz., a transverse fracture of the upper end of the femur. Thus the simplest condition is in those cases where a quadrilateral portion is separated from the posterior part of the great trochanter—i.e., where there is the transverse secondary line of fracture and where there is only the upper portion of the secondary vertical line of fracture. The second condition, which is perhaps commoner, is where the vertical secondary line of fracture is fully developed as well as the transverse line of fracture. The third condition is where the vertical line of fracture only is produced and so a large portion of the great trochanter and shaft is detached as a single piece. In the first and third variety only a single piece is broken off; in the second variety two pieces at least are broken off from the shaft of the bone. In this specimen, however, where there is only a single quadrilateral piece broken off, a tendency to a production of a complete secondary vertical line of fracture is shown by a crack running through the shaft of bone exactly in the same position as that portion of the line of the vertical fracture which runs upwards and inwards to join the primary line of fracture. It is evident, therefore, that the rotation backwards takes place immediately after the primary fracture, and so the transverse secondary fracture has been produced which has arrested the completion of the vertical secondary fracture, the production of which has, however, begun. A fourth variety of which I have a specimen, and for which I can give no adequate anatomical explanation, is where the typical extracapsular fracture is somewhat obscured by a transverse fracture of the upper end of the shaft of the femur.

Results of Extracapsular Fracture of the Neck of the Thigh-bone.

I have, thanks to the kindness of the surgeons of Guy's Hospital, especially Mr. R. C. Lucas, Mr. C. H. Golding-Bird, and Mr. C. J. Symonds, been able to collect a few cases of extracapsular fracture, the after-histories of which are accurately known. In most of the cases there is some obvious deformity, and even in the most favourable cases—I mean those which show no external rotation and in which movement is free—there is at least an inch shortening. The great trochanter is displaced one inch above Nélaton's line. The shortening, therefore, in these cases is due to a diminution which the angle makes with the neck. Now, if the process of disimpaction be adopted as treatment or not, it will be clear that the upper fragment cannot be controlled by any form of treatment, except, of course, in those cases in which an open operation is performed. The usual treatment adopted, or rather a common form of treatment, is that in which extension is applied by means of a Liston's long splint. Now, if the thigh be kept parallel with its fellow and with the main axis of the body, and if disimpaction be adopted, one perhaps cannot cavil at the treatment, but if it be adopted great care must be taken to see that the lower fragment is not only rotated and extended but also forcibly abducted so as to release the impaction downwards and outwards of the base of the neck. If disimpaction be not practised, then extension should be made with the thigh in the abducted position, so as practically to counteract the tendency of the angle between the neck and shaft to diminish. Another form of treatment which has for many years, thanks to the advocacy of Mr. Golding-Bird, been adopted at Guy's Hospital is that by extension with the aid of Hodgen's splint. Now there is one disadvantage about a Hodgen's splint and it is this—that it keeps up of necessity the flexion of the lower fragment, which is a common condition, and unless the treatment be preceded by disimpaction this is a disadvantage.

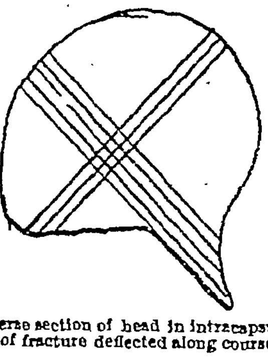
I have, I think, shown that the internal structure of the upper end of the femur plays a great part in explaining certain deformities of the neck, in enabling us to deduce the cause of fracture in intracapsular fracture of the neck of the thigh bone and also what a great part it plays in the mechanism of extracapsular fracture of the thigh bone. Now, although numerous attacks have been made upon the names "extracapsular" and "intracapsular," and although the term "extracapsular" as applied to these of the head of the femur to the posterior and under surface of the neck.

Although the calcar femorale, considered in its function of preventing bending of the neck, is unique in its size, it is interesting to note that there are other well-marked bars or bolts found in a different part of the femur, thrust as it were into the substance of the bone, and which obviously restrain a tendency of the portion of bone in which they are situated to be bent. In the lower end of the femur, the rotatory movements of which are checked by very strong ligaments, quite obvious transverse bars of bone are found in transverse sections, passing from the bottom of the intercondyloid notch into the substance of the internal and external condyles, as indicated in *Fig. 4*, and demonstrated in specimens which I have cut. At their origin these bars may be collected together so as to form a small spur.

In the second place, these oblique lamellæ explain the rotation backwards of the great trochanter occurring in some cases of coxa vara. Now, supposing that the pressure be transmitted behind and above the centre of rotation of the head of the femur in the acetabulum, as has been before pointed out, it is clear that there is a tendency for the great trochanter to be rotated forwards. But it must always be remembered in connexion with the deformities of bone that one cannot consider the bone alone but must also take into account the attachment of muscles and of ligaments. So here the tendency of the great trochanter to rotate forwards will be restrained by the attachment of the external rotator muscles of the thigh in the region *of the digital fossa* and by the posterior part of the capsular ligament of the hip-joint. *Clearly*, therefore, if the bone be rendered weak, either by disease, such as rickets, or injury, such as a separated epiphysis *of* the head of the femur, or a greenstick fracture of the neck of the femur, there will be a tendency for the great trochanter to be rotated backwards. Hence the backward *displacement of the trochanter* occurring in many cases *of coxa* vara, and in this specimen of impacted intracapsular fracture from the museum of this College will be easily explained. On the other hand, supposing that the pressure lies in front of the centre of rotation of the head of the femur in the acetabulum, then there will be a *tendency* for the great trochanter to be swung backwards. But this tendency will be *restrained by the attachment* of the anterior part of the capsule of the hip-joint, and so the great trochanter will be bent forwards. Therefore, a knowledge of those lamellæ is important in connexion with the deformities associated with the condition of coxa vara. They also serve *to* explain the cause of the triangular acetabulum in cases of old-standing dislocation of the hip, for the pressure which is transmitted through the upper and anterior *part of* the head of the femur will also be transmitted through the upper and anterior part of the acetabulum, therefore when the head of the femur is dislocated the upper and anterior lip of the acetabulum will be crushed *down* on to the posterior and lower lip of the same cavity, with the result that a *triangular* acetabulum will be produced. I have here three specimens showing (1) the normal circular acetabulum; (2) a flattened acetabulum in a case of old-standing chronic disease of the hip-joint, which is, you will observe, flattened from above downwards and backwards; and (3) a triangular acetabulum in which the head of the femur had rested *in its* new socket for a period of over *40* years. But whilst these oblique series of lamellæ give us an indication of the cause of coxa vara and of the triangular acetabulum of old dislocated hip-joints it also offers, I venture to think, a very reasonable explanation of the cause of fractures of the neck of the thigh-bone which lie within the capsule of the joint.

The line of fracture in intracapsular fracture passes as a rule from the anterior surface to the posterior surface. It begins about one-eighth *of an inch* from the articular surface of the head in front and passes backwards transverse to the long axis of the *neck for* a distance of two-thirds of the total thickness of the neck; it is then deflected along the oblique series of lamellæ which I have described. Now in that situation in which the line of fracture begins in front is situated the groove for the anterior ligament of the hip-joint, the position of which is indicated in this diagram. I have here two specimens which throw a great deal of light upon the mechanism of this fracture. This single diagram (Fig. 5) may be considered to represent a section of bone in two planes. It may represent, on the one hand, the common line of fracture which is well shown in specimens in the *Museum* of this College and in the London Hospital Museum, and which runs from above *downwards* and outwards, or it may represent an obliquely transverse section of a fracture made parallel with the long axis of the *neck of the femur; so that in the first place* this tongue of bone lies on the inferior aspect of the neck, or, as in the second case, it represents the tongue of bone which lies *on* the *posterior* aspect of the neck of the femur. Now, I have cut across such a specimen as this in two cases: one where there was a posterior tongue, and the second where there was an inferior tongue. The first specimen is from a subject in the dissecting room at Guy's Hospital; the second specimen was given to me by Dr. O. W. Greene of Gloucester. And in both cases it will be found that these tongues of bone are due to a deflection of the line of fracture along these lamellæ, either vertically or horizontally. Now, it is hardly conceivable, on external anatomical grounds, to suppose that a fracture started from below or from behind. But this starting place is rendered more doubtful by the fact that had it started in this *position*, that is to *say*, either *behind* or below the neck of the femur, surely it would *have continued to* pass along those lines of pressure lamellæ and involve the head which it rarely does. As a matter of fact, for two-thirds of the total thickness *of the fracture the line of fracture has* been transverse to the long axis of the neck. We may therefore reasonably assume that these specimens point to the fracture having begun either above or in front of the neck of the femur, and the line of fracture has then been deflected along the course of the lamellæ or the grain of the bone.

FIG. 5.



Showing transverse section of head in intracapsular fracture showing line of fracture deflected along course of pressure lamellæ.

Now, this specimen of bone, the transverse section of which I have indicated in Fig. 3, shows that quite close to the head of the femur there is a groove (G.A.). This groove, as is indicated by a *transverse section* of a *formalin-hardened* hip, is quite clear, and shows that the structure responsible *for this groove* is the anterior ligament of the hip-joint. Now, although the anterior ligament of the hip-joint *may produce* a groove on the neck of the femur close to the head, two other *conditions* are met with as a result *of the pressure* of the anterior ligament upon the inner part of the neck of the femur. These two *conditions* are: *first*, a prolongation of the articular surface of the head on to the front surface of the neck of the femur; and secondly, a distinct raised impression separated by a distinct and narrow groove from the head of the femur. This may be apparently covered by cartilage in a recent state. Now, if this ligament produces any one of these three conditions which I have described, either the groove or the prolongation *of the articular* surface of the head, or the raised impression, it is clear that it must exercise some pressure upon the part against which it lies. And when we consider that it is put on the stretch every time we stand in the erect position this pressure will be easily explained. Now, when *a patient* gives a history of the accident, which in his case is associated with intracapsular fracture of the neck of the femur, two points are brought out: either that he tripped up *over* a *carpet* or some such object and fell (frequently it is said that he tripped up over the other *foot*), or he may give the history, as he frequently does, of having apparently *recovered himself* and then felt that something had gone in the region of the hip. What has *happened* in the first place is that, owing to the extreme flexion which has been produced and to the internal rotation, and possibly also to the adduction of the femur, the anterior part of the surface of the neck has come into contact with the anterior and upper lip of the acetabulum.

From this standpoint it will be seen that the orographical and climatic features, and particularly the presence or absence of dangerous parasitic diseases, whether of animals or man, have had a great influence in shaping the main outlines of the history of Africa.

Africa is naturally divided into several zones. 1. A littoral strip along the Mediterranean, with a rainfall in winter and spring, with conditions somewhat resembling those of Southern Europe, modified by the proximity of the desert. This region from the earliest times has been the home of the Mediterranean race. 2. A desert zone. The Sahara in the north, a large part of which is absolutely waterless desert and the rest poor scrub-land, with vegetation limited to small plants arranged to avoid evaporation from the surface of their leaves—e.g., the gum acacia and tamarisks. These conditions are reproduced on a smaller scale along the coast from Loanda to the Cape and in the Kalahari desert. Both these areas have served as barriers to progress, though great trade routes are found along the chain of oases across the Sahara. 3. A great pastoral zone on the northern plateau in the Central Soudan, on which great herds of cattle and horses can be reared, and in which agriculture is practised to a greater or less extent. 4. Western Equatorial Africa, an area of great heat and humidity, occupied by dense forest. This area is, on the whole, unfavourable to animal life. 5. Eastern Equatorial Africa consists largely of elevated open forest and savannah, the home of great game, and affords good pasturage, where the various parasitic animal diseases permit, and is suitable for agriculture. The rainfall, however, diminishes, so that the pasture is somewhat less certain towards the south. The southern region is well adapted to agriculture when irrigation can be extensively practised, as has been done from mediæval times, e.g., in Rhodesia. The coastal strip on the south-west is desert; on the south-east it is very humid and hot and consists of marshes and forest.

The hygienic conditions of large parts of these areas may be summarised by saying that Equatorial Africa is the home of great groups of diseases due to animal parasites. In all the coastal marshes and all the areas of marsh and shallow lake arising from the expansion of the inland rivers, malaria is rife and almost all the parasites of men the alternative hosts of which live in or around shallow waters are to be found. Malarial disease no doubt affected the progress of man across the continent and led him as far as possible to keep to the healthier uplands—the avoidance of the Nile-Sobat valley by the Abyssinians being a case in point. Animal diseases have had an equal effect, more particularly the diseases due to trypanosomes and conveyed by flies of the genus glossina. Nagana or tsetse-fly disease is found along the eastern coastal zone from Zululand northwards to German East Africa. It extends up the Limpopo valley into the Northern Transvaal, affects the Lower Zambesi and Shire valley, extends along the eastern shores of Nyasa, into the basin of the Luapula, is common all round Lake Tanganyika, has been found at several points in the basin of the Congo, and thence northwards to the Camerun and the Benue, and up the Niger in the low-lying ground above Lokoja, though cattle can be kept in the dry season when the fly is scarce but must be driven away from the river in the wet season. Tsetse flies and nagana have been found along the banks of the Shari but are absent from the shores of Lake Chad. An allied disease spreads through Togo-land into Southern Guinea. The upper waters of the Kassai and Zambesi present the tsetse fly but no nagana. The areas thus marked out are avoided as far as possible by pastoral tribes and have presented formidable barriers to migration.

The outside influences of negro Africa have all come from the north and east. The one great line of communication from north to south—the Nile valley—was largely closed by the great marshes or hidden lakes choked up by great masses of floating vegetation, the sudd, from Fashoda to Lado. These checked the direct influence of the northern peoples from the Nile valley in the Great Lakes and diverted them westwards into the Central Soudan. The route from the Abyssinian Highlands past Lake Rudolf, however, remained open and seems to have been from very early times a line of racial pressure.

[Dr. Shrubsall proceeded to give an account of the domestic animals of the African tribes—the dog, the goat, cattle, and fowls. He continued:—]

The history of the negro tribes is to be derived from references made by travellers visiting their districts, supplemented by some evidence from linguistic and native tradition. Archæology affords little help over the greater part of the area as native building seem to have almost always been of a perishable nature. There are earlier records of the history of the Soudan than of any other part of negro Africa. The very earliest refer to the district between the Senegal and the Upper Niger, known in mediæval times as Ghana. It is said that white kings ruled over this district before the year of the Hegira (622 A.D.). The Arabs visiting this country in the eighth century found it ruled by a black monarch to whom the Berbers of the desert towns paid tribute. The Wolof who then inhabited it are described in the Tarikh es Sudan as the best of men. Between 900 and 1050 the supremacy of the black kingdom of Ghana was acknowledged by the towns on the Saharan border and oases inhabited by whites. The town of Ghana is described by El Bekri as "the resort of the learned, the rich, and the pious of all nations." The town at that time was divided into Mahomedan and pagan quarters. Magic and trial by ordeal were in use. Ten days to the south of Ghana was the country of the Lem-Lems, or cannibals on whom slave raids were constantly being made. By the middle of the eleventh century we learn from El Edrisi that the king and his chiefs of Ghana were Mahomedans. Of the country between the Niger and Lake Chad El Berri gives information that there was a great kingdom, extending for eight days' march, of which the kings bore the title Der; and beyond this came Kanem, a country of the idolaters. The first kingdom was doubtless Bornu.

By the fourteenth century the Berbers had pressed south and had formed a series of peoples at the southern edge of the desert from the Atlantic to the Nile but subject to the black kings of the Soudan. In the thirteenth century arose a great black kingdom of Melle in the Western Soudan, extending from the Atlantic to the Niger and northwards into the desert. The kings of this State accepted Mahomedanism and made pilgrimages to Mecca. This kingdom was visited by the distinguished traveller, Ibn Batuta, from whom we have a description. The rulers of this kingdom were received on equal terms by the rulers of the Northern Arab-Berber civilised States. Beyond Melle the Niger was said to enter a region of swamps and cannibals.

The Mellestine Empire was succeeded by the Songhay, which stretched from the Atlantic to Lake Chad and northwards across the more habitable parts of the desert almost to the borders of Egypt. This empire maintained a high state of civilisation and culture, and libraries were highly valued therein. In the sixteenth century this part of the Soudan was subdued by the Moorish kingdom, and although the military governors of the district became independent, the Soudan disappears from the knowledge of the Western European peoples. Between the peoples of this part of the Soudan, who from the earliest period of which we have records seem to have been of mixed blood, and the purer blooded negro to the south a gulf had always been fixed. In Haussa country several more or less powerful States had existed throughout this time the history of which is more or less known. They remained pagan longer than the more northern districts. The neighbouring State of Bornu also has an illustrious history and, if this is to be believed, adopted firearms long before Eastern Europe. The possession of these enabled this State to resist the Moors who had overthrown their neighbours of Songhay. The Hausa States were overthrown by the Fulah in the beginning of the nineteenth century and are said then to have been pagan.

The evidence of history, from Herodotus on, seems to show a gradual pressure of the negroid peoples driving the unmixed negro to the limits of the district inhabitable by the intermixing race.

The Fulah are a negroid rather than a negro people, very difficult at present to classify. Sir Frederick Lugard describes them as closely resembling the Bahima of Uganda. Although in history they are found to the west, and their invading march in the nineteenth century was from west to east, their traditions are that they came from the east, though most authorities regard it as more probable that they owe their origin to an incursion of Berber or Mediterranean peoples, the Northern Hamites, into the Senegal from across the Sahara.

The Eastern Soudan has so far as its history is known been the scene of raids from the Hamitic-Semitic tribes who occupied zeribas much as the Fulahs did walled towns in Hausaland, the people whom they ruled being liable at any time to be seized as slaves. None the less, many of the raiders were of native race. Protected by the marshes of

FIG. 7.

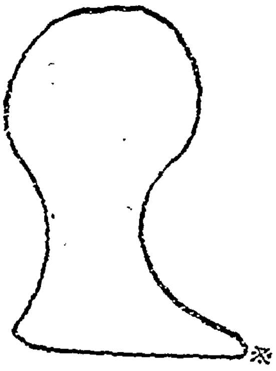


FIG. 8.

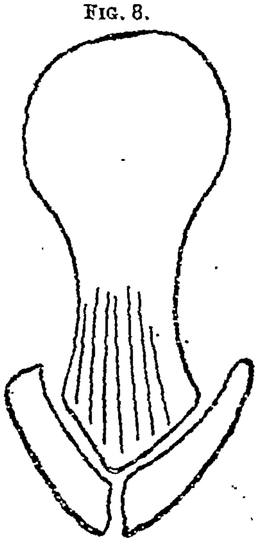


FIG. 9.

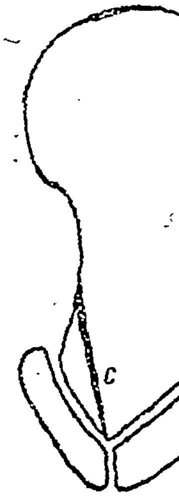


FIG. 10.

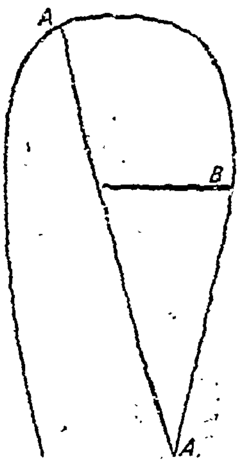


FIG. 7.—Diagram representing chisel of head and neck separated by "extracapsular" fracture of the neck of the femur. * *Represents position of lower limit of "calcar femorale."* Scale about one-half life size.

FIG. 8.—Usual figure indicating section of extracapsular fracture of neck of femur. Scale about one-half life size.

FIG. 9.—Section (lower than Fig. 8) showing blade of chisel formed by C., Calcar femorale. Scale about one half life size.

FIG 10—Diagram indicating outer surface of trochanter and shaft of femur showing—A A., *Vertical line of fracture.* B., Horizontal line of fracture produced in splitting of upper part of femur. Scale about one-half life size.

show it to you, or this specimen, it will be clear that the portion of bone which is separated by the primary fracture at the base of the neck is a most dangerous weapon, and it is upon this chisel and its shape that the secondary fractures, the position of which is remarkably constant, depend. Now if we examine this chisel by sections made through the long axis of the head and neck bone fibres will be seen radiating from the narrow part into the broad part of the neck, as is indicated in this diagram (Fig 8). If, however, a section be made parallel with the former but lower down the neck, the apex of the wedge—that is, the cutting edge of the blade—is formed by the calcar femorale (Fig. 9). According to Hamilton and Gant, and as shown in some of the specimens illustrating these lectures (Fig. 10), there are in addition to the primary fracture, which we have seen separates the chisel portion of bone from the shaft and trochanteric region of the femur, two other lines of fracture commonly present which pass through the great trochanter and upper part of the shaft of the femur. These fractures may be called secondary. They may be distinguished as vertical and horizontal, although this is not quite an accurate conception of their direction The first or vertical line of fracture runs from the front part of the summit of the great trochanter downwards and backwards through the outer surface of the great trochanter and shaft of the femur to the lower part of the spiral line below the small trochanter, and then turns upwards and forwards to join the primary fracture at the lower and outer part of the neck of the femur. The second, or horizontal line of fracture, passes from the posterior intertrochanteric line just below the digital fossa outwards and forwards, either slightly downwards or slightly upwards, through the base of the great trochanter, to meet the vertical line of fracture.

The causes producing these lines of fracture, including the primary line as well as the secondary lines, may now be considered. In the primary line the line of fracture behind occurs under shelter of the *posterior* intertrochanteric line, where the compact bone is exceedingly thin and where the *compact* lamina forming the inner surface of the posterior intertrochanteric line or wedge *passes* into the compact lower lamina forming the posterior surface of the neck. *These two laminæ* run into each other at practically an angle of 90°. These two anatomical *conditions* are potent causes in determining the position of the posterior line of fracture, and *mutatis mutandis* the upper limit of the fracture may be explained in the same way. The anterior line of fracture occurs just where the thick compact lamina on the front of the great trochanter passes suddenly into the thinner compact lamina on to the anterior surface of the neck. Numerous vascular foramina may be observed lying along this line and these tend to weaken the bone in this situation. The apex of the wedge and the shape of the chisel blade of the neck is formed, at any rate in the lower half of the neck, by the calcar femorale. Moreover, the lower limits of the fracture correspond to the lowest level of the calcar femorale, as shown in this specimen of unimpacted extracapsular fracture of the neck of the femur (*vide* also Fig. 7). This specimen also shows the calcar femorale lying exactly opposite the secondary *vertical line of fracture*, but this relation is seen more clearly in this specimen of an extracapsular fracture of the neck of the femur. The vertical line of fracture may, then, be considered to be due to the calcar being driven against the *great trochanter* and upper part of the shaft of the femur. The horizontal secondary fracture may be, perhaps, due to the rotation of the shaft of the femur backwards, which is practically always a prominent sign of fracture of the neck of the femur. This rotation of the shaft causes the posterior intertrochanteric ridge to impinge forcibly against the posterior surface of the neck, exactly where the calcar rises from the posterior compact lamina of the neck, as shown in this specimen, and so a horizontal line of fracture is produced. From the illustrations of actual specimens it may be concluded that the calcar femorale plays an important part in the production of the shaft of the blade of the chisel portion of the head and neck, separated from the rest of the bone, in that it not only supports the cutting edge of the blade but also its pointed lower limit. When this chisel is driven into the great trochanter and upper part of the shaft of the femur, its blade, formed and supported by the calcar, is certainly responsible for the vertical splitting of the shaft. Strengthening of the posterior compact lamina of the neck by the calcar may also be held responsible for the horizontal fracture.

A few remarks may now be made with regard to the anatomy of the calcar femorale. I said at the beginning of my lecture that it might be studied in an incomplete manner by cutting transverse sections of the upper end of the femur, that it might be better examined by cutting obliquely transverse sections parallel with the long axis of the head and neck of the femur. But it may be still better examined by a somewhat tedious dissection, in which the outer surface of the upper portion of the great trochanter is trephined and the loose cancellous tissue picked away with some sharp steel instrument so that the calcar femorale remains intact. This is the plan which was recommended by Bigelow. In such a specimen the calcar is seen as a nearly vertical ledge of compact bone, having an anterior surface, a posterior surface, an internal attached base, and an outer edge. This ledge of bone passes downwards and slightly forwards, beginning above in the compact tissue of the posterior sloping

OBSERVATIONS ON BLOOD PRESSURE, CHLORINE RETENTION AND DECHLORINATION, HYPERACIDITY, AND VARIATIONS IN THE STARCH RATION.

BY HUBERT HIGGINS, M.A. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,

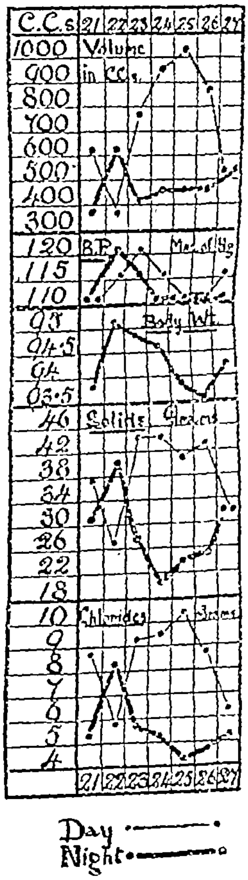
LATE DEMONSTRATOR OF ANATOMY TO THE UNIVERSITY OF CAMBRIDGE AND ASSISTANT SURGEON TO THE ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

THE following observations have been made during the past five years mainly with the object of ascertaining the factors producing variations in the starch ration, or, in other words, the influences determining the quantity and quality of the starch metabolised by the body. It was found necessary to make observations twice a day so as to differentiate between variations due to work and rest. The importance of the faculty of using starch as fuel in the case of protoplasm in general is thus stated by Loeb: "We know that the peculiar phenomena of oxidation in living matter are determined by fermentative processes, and we venture to say that fermentations form the basis of life phenomena. It has been demonstrated that fermentation is a function of the geometrical configuration of the molecule. ...... The influence of the geometrical configuration goes further. Voit has suggested, and Cremer has demonstrated, that there is a far-reaching parallelism between fermentability and the assimilation of carbohydrates."[1]

The conditions that have been somewhat unexpectedly under observation have been hyperchlorhydria with as low a starch ration as 50 grammes; hyperacidity; hypoacidity; chlorine retention, with both forced and spontaneous dechlorination; the substitution of a normal blood pressure of 100 millimetres of mercury for one of hypertension of probably 20 years' standing after passing through a phase of hypotension, purpura, and rheumatism associated with calcium and probably magnesium "stasis."

It would appear to be probable that these conditions are fundamentally due to an alteration of the molecular constitution of the protoplasm that has the effect of disturbing the balance between the aerobic and anaerobic functions of the cells. This conception of animal protoplasm is that of Gautier found in his essay on "La Chimie de la Cellule Vivante," where he sustains the thesis "that the animal cell, far from living entirely an aerobic life, has within the protoplasmic substance anaerobic functions." Further, he maintains that the aerobic processes are required in order to oxidise and render harmless the products of the primitive anaerobic changes. The main anti-aerobic influences to which human protoplasm is exposed are the following. 1. Cold. The protective vaso-constriction found in response to the stimulus of cold not only prevents the loss of heat but must necessarily interfere with the nutrition of the skin and its supply of oxygen. It is suggested that it is in consequence of this interference with the vitality of the cuticular protoplasm that there results the formation of toxic katabolites which affect the general mass of protoplasm in proportion to the area of skin exposed to the cold. 2. Mental and physical fatigue. 3. The introduction of anaerobic toxins from the growth of micro-organisms within the body or from the intestinal canal. The typical reaction is illustrated in Fig. 1 in its simplest terms. It was caused by an unaccustomed mountain climb on the 22nd. A hearty meal was taken at midday but no food afterwards as there was an absence of appetite. A good description of this general reaction to fatigue is found in a paper by Dr. Mahomed describing the condition of Weston the famous pedestrian.[2] "He became sleepy, his pulse tension was now considerably increased, there was a coincident fall of temperature. His hands felt cold instead of glowing as heretofore, he complained of feeling chilly and required more bedclothes. The second sound of his heart was accentuated and the first a little prolonged (March 10th and 11th). On March 12th his temperature went up, his pulse tension became low, and his extremities warm. After this he was able to walk easily and well till the end of the match." The reaction consists essentially: (1) in the retention of water shown by coincident variations of the urinary volume and the body weight; (2) in the retention of solids (Zuntz, Krumacher, Argutinski, and others[3] have shown that there is what is called "retention of urea" till the day following fatigue); (3) in the retention of chlorides; and (4) in the variations in arterial tension. (In this case there was a descending blood pressure.) Some prominent features of variations in hydration, the retention of chlorides and dechlorination, variations in arterial tension, hypoacidity, the metabolic traffic in calcium and magnesium, with some generalities on variations in the starch ration will be successively dealt with.

FIG. 1.



General reaction to fatigue.

Variations in Hydration.

It is well known that variations in hydration play an important part in protoplasmic reactions, increased hydration indicating increased activity. Thus Loeb[4] found that "injured (poisoned) muscle is able to take up water from so concentrated a solution as 2·8 per cent. NaCl, thus exercising an osmotic pressure equal to four or five atmospheres." The increase in osmotic pressure in active muscle, or rather the increase in the amount of water absorbed, has been proved not only by Ranke but also by Miss Cooke.[5] Hirschfeld[6] showed during losses in weight that at first there is a certain degree of dehydration and that the body becomes rehydrated little by little as the weight is regained. This is true of the thin as well as the obese. Dehydration has also been observed in reduction cures in the obese by Dapper, Karchagin, Rodenko, and Javal. Having been in the habit of taking my weight morning and evening for some years I have frequently noted rises in weight from cold, fatigue, and intestinal intoxication. These variations were produced with comparatively small causes when I was in a state of chronic inanition.

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[1] Loeb: Collected Papers, p. 498.

[2] Brit. Med. Jour., March, 1876.

[3] Von Noorden: Metabolism, vol. i., p. 353.

[4] Loeb: Op. cit., p. 469.

[5] Loeb: Op. cit., p. 450.

[6] Hirschfeld: Die Behandlung der Fettleibigkeit, Zeitschrift für Klinische Medicin, vol. xxii., p. 142.

fractures is obviously incorrect, yet there is a certain opposition and appositeness about the names which it is convenient to use in indicating two perfectly different fractures. But although the term extracapsular may be useful it is a misnomer, and if a misnomer, therefore, however convenient it may be to the surgeon, it cannot be recognised by the anatomist. I would suggest, with all deference, that the terms of "fractures near the head" and "fractures near the base of the neck" or "near the trochanters" be adopted, and for this purpose I would call in the aid of the Greek rather than the Latin language, and for the term "intracapsular" I would substitute "paracephalic" and for the misnomer of "extracapsular fracture" I would introduce the term "paratrochanteric."

The Hunterian Lectures

ON

THE PYGMY AND NEGRO RACES OF AFRICA.

Delivered before the Royal College of Surgeons of England on March 2nd, 4th, and 6th, 1908,

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LECTURE III.[1]

Delivered on March 6th.

THE STONE AGE.

MR. PRESIDENT AND GENTLEMEN,—The earliest traces of the presence of man in Africa, as elsewhere, are implements of rough or polished stone. The form of these implements bears a general resemblance to those found in Europe, though an exact classification into series based on form alone is as yet impossible. Many of them are found in the drifts of old river-beds which in the course of time have disappeared and their gravels, resisting denudation, are now often on the tops of hills.

Perhaps the clearest evidence of the antiquity of these gravels, and of the implements which they contain, is afforded by a study of the Batoka Gorge of the Zambesi. This was carefully investigated by Professor Lamplugh and others during the visit of the British Association for the Advancement of Science in 1905. Professor Lamplugh describes the Zambesi above the Falls as flowing in a broad shallow valley in the Central African plateau, being at this point nearly a mile in width. Immediately below the Falls the river is gathered into a narrow gorge about 150 yards wide, with nearly vertical walls of basalt 400 feet in height. This gorge, characterised by numerous abrupt changes in direction, extends for some 60 miles. The broad valley, however, continues as an open outer valley for some distance until it is finally broken up by the series of deep subsidiary gorges cut by each of the tributaries of the main stream.

The fluviatile deposits are scanty and are represented by a few feet of material. On the bottom of this valley the implements are found almost in equal numbers in the outer gorge below the Falls and on the margins of the old valley above the Falls not now covered by the river. The conditions of their occurrence suggest that the river flowed at a higher level than at present when the implements were deposited and that the upper part of the gorge has been since excavated, in which case they must be of considerable antiquity. The workmanship on the implements was always rough, though some specimens showed a secondary chipping, which corresponds more nearly to rough European neolithic work than to the early palæolithic type.

Henry Balfour found on the same plateau above the Falls an implement of a type similar to those of the river drift in Western Europe. It presented a rounded butt for holding in the hand, and the opposite end had been carefully flaked to produce a cutting edge. The same observer revisited the district in the summer of 1907 and found further implements of undoubted palæolithic type in the river gravels.

Implements varying in pattern from rudely chipped stones, usually known as eoliths the artificial character of which is still disputed, to typical palæoliths, recalling Mousterian and Solutrian forms, have been found all over the higher veldt in numerous districts of the Transvaal, Orange River Colony, Natal, and the Cape—some in rock shelters, others in river drift. From some rock shelters pygmy flints and chipped ostrich egg shells have also been obtained.

A similar series of implements has been found in the caves and kitchen middens along the sea coast. The floor of the caves in many cases has been formed into a kind of cement conglomerate from the dripping of water and the calcareous material derived from the shells in which implements and bones are embedded. This conglomerate is usually harder than the sandstone rocks out of which the caves have been hollowed, so that in some instances the floor has been preserved, although the cave itself has disappeared. The commonest implement is of chert quartzite, with a sharp point and two cutting edges. In several cases there were traces of a hearth, around which were split bones, implements, and flakes of quartzite which were probably used as axes and arrow heads. In no case could these flakes be chance chippings from the walls of the caves themselves which were in sandstone. In a few caves skeletons have been found, and on examination they proved to belong to that variety of the Bushman peoples previously described as Strandloopers. It may be noted that no whorl stones, so characteristic of the inland as opposed to the beach-ranging Bushman, have been found in the caves, though common enough on the hill terraces a little farther inland.

In the inland rock shelters similar implements, sets of perforated ostrich egg shell necklets, and rude pottery have been found associated with wall paintings of a type known to have been constructed by the Bushman in historic times. In some of the Knysna caves similar paintings on stone have been found with the remains of undoubted Strandloopers. It is thus clear that the later stone implements were constructed and used by the Bushman. Although there is no direct evidence, owing to the absence of human remains, that the earlier ones were produced by the same race, it can only be said that there is no evidence of any other variety of mankind having occupied South Africa. Stone implements of the river-drift type and others resembling the ruder forms of neolithic Europe have been found over wide areas in Somaliland by Seton Kerr and on the edges of the rift valley by Gregory. In Northern Africa, in the Sahara and the Nile valley, a succession of stone implements is found, the later Nile valley forms being associated with ample human remains.

The osteology of predynastic Egypt has been closely investigated by many observers, and it has been shown that at least two types of man were in existence, the one recalling the Mediterranean peoples and the other resembling the negroes. Arthur Thomson and Randall MacIver distinguish these as non-negroid and negroid types. It is interesting to note that in many features the negroid skulls resemble the Bushmen-Hottentots more closely than the negroes proper.

It seems reasonably established that for a long period of time Southern Africa was occupied by man in the nomadic hunting stage of culture and as there is no evidence of any type other than the Bushman these are generally regarded as the first inhabitants. To the question whence did they come it can only be answered that there is no evidence; no type exactly like them has been found elsewhere. They appear to have certainly occupied the country as far north as Lake Nyasa, and the cropping up here and there of individuals with a Bushman cast of countenance among the Bantu tribes of British Central Africa and German East Africa, as well as among the Andoroto of East African uplands, suggests the probability of a former north-eastern extension. No traits suggesting the Bushmen are now to be met in the Nile valley.

The earliest history shows the Bushman territory being invaded on the west by the pastoral Hottentots and on the east by the agricultural Bantu. The race movements seem always to have been south and westwards, a direction determined largely by the physical features of the country, though it must be remembered that the now desert regions were formerly better watered. The occupation of any site depends both on its suitability for human existence and on its adaptibility to the mode of life of the people thereon, whether pastoral, agricultural, or merely nomadic hunters.

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[1] Lectures I. and II. were published in THE LANCET of April 4th (p. 933) and 11th (p. 1050), 1908, respectively.

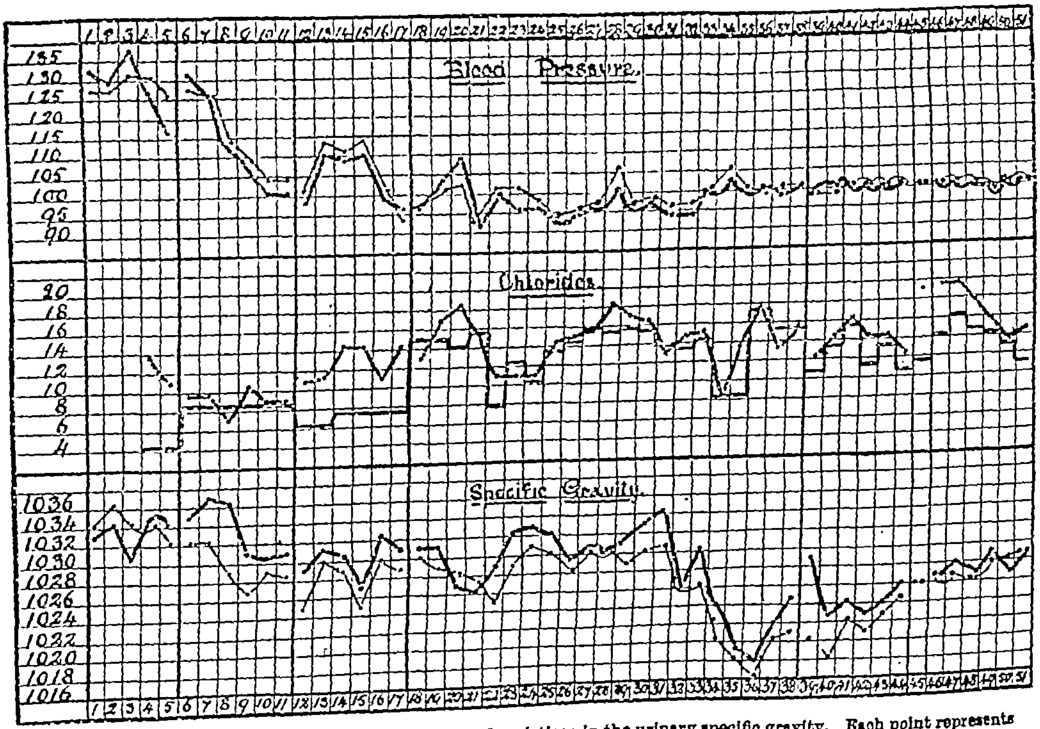
contain from two to three grammes of chlorides. It would appear that the chlorides lost by the bowel are practically negligible; Rohrich and Wik[8] found that, with the exception of the diarrhœa of Bright's disease, the fæcal chlorides never attain to more than 2 per cent. of those ingested. Achard and Ch. Laubry[9] found chlorine retention in at least 50 different acute and chronic diseases. Gaucher[10] found that in skin diseases "there is a high elimination as the case improves, and, on the contrary, the lowest amounts are found at the onset of the eruption, or else in chronic cases where there is a recrudescence of the condition." Marie stated that a healthy individual on a diet containing an excess of chlorides accumulated 92 grammes in 12 days and that 15 litres of fluid were necessary to dissolve it out of the tissues.[11]

The Brussels Analyses, February, 1905.—The average volume was 536 cubic centimetres, the specific gravity was 1031, the average chlorides were 10·09 grammes, the salts ingested were 7·63 grammes per diem, of which 3·42 grammes were found in the fæces; 71·919 grammes of chlorides were eliminated as well as 17·617 grammes of phosphates and sulphates. If it be assumed that the proportion of chlorides to the other salts was the same in the case of the ingesta as well as the egesta 13·58 grammes of chloride of sodium were ingested, constituting a loss of 58·3 grammes. The small salt ration was due to the fact that to facilitate analysis I cooked my own food in the laboratory and had omitted to provide myself with sufficient salt. There was also a daily loss of 4 4 grammes of nitrogen. At this time and for the previous two years I was suffering from the effects of hazardous and ill-considered experiments with a low proteid ration. As will be seen below there is every probability that I had reduced my tissue of phosphorus to dangerously low limits and that there was in consequence considerable retention of chlorine.

1. *From May 15th to June 2nd, 1906.*—There was a forced dechlorination due to a low chlorine ration. It occurred during a period of increased work. During the three weeks subsequent to June 2nd I was exposed to considerable fatigue. Thus on June 2nd, a typical day, the day volume and chlorides were 300 cubic centimetres and 3 grammes and the night 370 cubic centimetres and 5·6 grammes; there was also a rise in weight of 700 grammes, a condition clearly corresponding to that illustrated in Fig. 1. At the end of the three weeks there was a rise in weight of six kilogrammes and a rise in the blood pressure of from 120 to 140 millimetres of mercury. My experiences on this occasion and at Brussels left me with a resolution not to treat cases of parenchymatous retention by artificial dechlorination; I would far rather give copious dilute saline solutions early in the morning as would be done at Homburg with the Elizabethbrunnen.

2. *From July 13th to Sept. 12th, 1906.*—This period was clearly one of either retention or equilibrium. I have assumed that it was equilibrium and that the difference between the ingested and eliminated chlorides represented the daily error of the unestimated chlorides. It is probable that this amount is not sufficient at any rate for 1907, when there was an increased ration.

FIG. 2.



Variations in blood pressure, the balance of chlorides and variations in the urinary specific gravity. Each point represents an average of ten observations.

3. *From Sept. 13th to Nov. 23rd, 1906.*—There was clearly a considerable loss of chlorides; whether it actually reached the total of 350 grammes may be open to doubt, though I am unable to account for any considerable error. The most significant feature of this period was a sudden and decided preference for eggs, meat, and milk. At this time I was not aware of the alleged relationship of phosphorus and chlorine, so the occurrence was decidedly puzzling me. In the course of a day or two, literally, there was a change from having little or no breakfast to having three or four eggs with a large quantity of milk and coffee; eggs, too, had previously caused "biliousness" and were avoided, and throughout the summer, as a rule, there had been an aversion to take even a small ration of meat every day.

4. *From Nov. 24th, 1906, to Feb. 11th, 1907.*—There were fatigue and retention from Dec. 4th to 14th. During the period covered by Nos. 19 and 20 it will be seen that there was an elimination of 57 grammes. Till the end of the summer of 1907 there was a continual ebb and flow of retention and dechlorination, retention always occurring in response to fatigue, cold, &c., and elimination when there was rest. Before dealing with the circumstances that resulted in a further retention and a subsequent dechlorination, I will briefly enumerate some observations made on blood pressure.

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[8] Rohrich and Wik: Revue Médicale de la Suisse Romande, June, 1901.

[9] Achard and Ch. Laubry: Société Médicale des Hôpitaux, June 2nd, 1901.

[10] Gaucher and Desmoulins: Journal de Physiologie et de Pathologie Générale, July, 1904.

[11] Marie, cited by Von Noorden: Metabolism, p. 491.

the Ghazal Nile and Sobat the negro in this area has remained isolated and unmixed for an indefinite period.

[Dr. Shrubsall proceeded to consider the early history of the people of the Great Lakes district, the Bantu peoples, and the Portuguese colonisation of Africa. He continued :—]

At the end of the eighteenth century Dingiswayo commenced the consolidation by conquest of the coast tribes and Tshaka his general as head of the Zulu tribe built up a great military power which ravaged the whole coastal districts far inland. His attacks caused a section of the Kaffirs, the Amangwane, to invade the territory of the mountain tribes, who in turn advanced in a great horde, known after a woman Mahatatisi, who led them for a time as the Mantati. They spread across the Bechuana territory destroying all before them, sparing nothing that lived along the line of their progress. Defeated by the Griquas near Kuruman they retreated and divided into two groups, one under Moshesh forming the nucleus of the present Basuto people; the other under Sevituane fled to the north into Rhodesia and then to avoid the Matabele still further across the Zambesi to form a military force, known as the Makololo in Barotseland. Later these were exterminated but their language (Sesuto) remains and is now spoken by the Barotse. A few Makololo who were away at the time of the destruction founded a fresh aristocracy over some tribes on the Shire basin where the name but not the language is now to be found. This serves as an example of the value and dangers of language and names as historical guides unless all the facts are known. The present Barotse are no near relatives of the Basuto, yet speak the same tongue; the name Makololo on the Shire means neither similarity in race nor language. Other groups who had been subject to and incorporated in the Zulu armies broke away from time to time under their generals, sometimes to avoid the certain destruction awaiting them if they returned with the object for which they had been sent out unaccomplished. The best known were the Matabele who fled under Moselekatzi in 1820, settled first in the Transvaal, and then, pressed on both by the Boers and the Zulus under Durgaan, advanced north into Mashona territory. Other groups crossed the Zambesi and settled in the Nyasa territory as the Angoni, some of whom even penetrated into Unyamwezi and to the Victoria Nyanza, where they were known as the Watuta. These wars, which lasted over half a century, almost entirely mixed up the tribal organisations in South Africa and may be regarded as typical of events all over negro Africa. The main features in this brief retrospect of the history are a series of incursions from north to south, with occasional brief reflux waves leaving few lasting effects.

From the evidence of the crania we have seen that the type of the Eastern Bantu differs from that of the Western and so far as the few available specimens can show also from the Central. In the eastern group, consisting mainly of the coastal people, the higher type with longer nose and thinner lips constantly crops up and shows a marked similarity in features in all quarters. This would seem to show a certain admixture of a higher type. This type, from the studies in German East Africa, appears to be less frequent around Kilimanjaro and in North Nyasaland than to the south in Kaffraria and to the north in Unyoro. When it occurs it can often be traced to the Zulu reflux wave. If then a group of peoples of higher caste, the product of race mixture of negro and Hamite, had passed down from the Nyanza along the western side of Tanganyika, or at least close to its eastern side, and had crossed the Middle Zambesi, thence trending eastwards, it would agree well with the present distribution. If this type were supposed to be allied to the Hima it might be asked why are the cattle of the Kaffirs not of the long-horned type common in Ankole. It might be that this type bore the journey eastwards less well than the humped cattle, for in travelling to the east coast the invading tribes probably crossed the tsetse zone, and indeed from Dos Santos we know that tribes passing southwards actually did do so. Sir H. H. Johnston has long suggested such a route on linguistic grounds, as shown in the map in his work on British Central Africa. He points out that to some extent the most archaic Bantu tongues existing are still found along this main line of route —Kirega, Kiemba, Cibisa, Isizulu—though a primitive type of Bantu is found here and there to the side of this route, such as the Kimakonde on the east coast near the mouth of the Ruvama river, the Nkonde dialects of the north end of Lake Nyasa, and the Oci-Herrero of German West Africa. The languages of the east coast of Mozambique and German East Africa are in many ways peculiar and have evidently been for some time isolated and have not taken a direct part in modelling the southern speech.

From the western side of the continent we have rather less information, but it would seem that successive streams of Bantu folk from the Congo basin are gradually driving out all non-Bantu elements from even the coastal zone from the Congo to the Sabson.

In the north-east throughout the last century raids have been made by the Masai, a mixed people who have pressed aside the Bantu tribes from much of the higher pasture land between Mount Elgon and Kilimanjaro. The Masai themselves seem to have entered this district from the north and according to native tradition it is only some 50 years since a section of this race was driven from the west of Lake Rudolf by the Suk-Turkana. Farther to the east Galla tribes have from time to time made raids into negro territory and are themselves being raided and gradually displaced by the more warlike Somali, who are gradually extending their dominion down the east coast.

In the Soudan itself the less advanced and less mixed negro has been within recent historic times pushed back at least a degree in latitude into the more unhealthy, humid forest zone. The whole history of Africa is one of replacement of one racial stock by another more richly endowed. The Bushmen were driven to the uttermost ends of the continent to take refuge in mountain fastnesses in which they were safe until the advent of the European and long-range firearms against which their weak bows and arrows were powerless. At the same time the driving away of the great game and its replacement by herds of cattle converted him of necessity from a hunter of the wild animal free to all, to a hunter of those animals which had taken their place, and as these were the property of the usurpers of his country he was termed by them a robber to be exterminated. Even those who had fled into the half desert fastnesses of the Kalahari, as yet not used as grazing grounds, had to suffer a further ill from the advent of pastoral peoples. The cattle plague, which ruined many of the pastoral peoples, also destroyed the majority of the great game, and so has helped by starvation to exterminate the original race of South African man.

The Hottentots, driven back before the white man, make a precarious living in Namaqualand and seem fated to suffer the end they meted out to their predecessors. A few tribes, now all of mixed blood, remain along the Orange River in Griqualand and may by miscegenation attain the right to survive.

The unmixed negro is now nearly everywhere driven into the humid, unhealthy forest zone and river marshes and has been protected therein by acquiring a certain tolerance of some parasitic diseases which take heavy toll of invading higher races. In these fastnesses the negro remains unprogressive, if not retrograde. Now with the aid of hygienic precautions, the drainage of marshes, the opening up of clearings in the forest, the parasites which have been his protection—or perhaps rather the insects transmitting them to man—are being destroyed, and the higher races are able to live longer and longer periods in the old forbidden land. As these changes progress the lower negro tribes unless they respond to the new condition are doomed to disappear and be replaced by mixed peoples. This is doubtless all for the good. We have seen that in early mediæval times a high state of culture existed among the mixed peoples in the Central Soudan and it may be that the results of a similar mixture throughout black Africa will lead to the rise of a more progressive people who will be brought into even closer contact with European civilisation when by steamers and railroads the healthy plateaux are made accessible and become the seats of the newer empire in which each race may play its part.

In conclusion I desire to thank the Council of the College for the honour which they have conferred upon me in appointing me to deliver these lectures.

THE annual general meeting of the University College Hospital Ladies' Association will be held on Wednesday, May 6th, at University College Hospital, Gower-street, London, W.C., at 4.30 P.M. The Duchess of Bedford will occupy the chair.

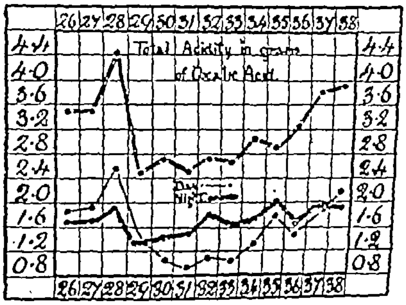
pressure rose. Digitalis caused dechlorination and a fall in blood pressure.

The observations recorded in Fig. 2 show the association between variations in blood pressure, the specific gravity of the urine, and the retention and elimination of chlorides. 1. The periods from No. 1 to No. 5 are best divided into those before the artificial dechlorination (Nos. 1, 2, and 3), and No. 4 during the dechlorination, when there was a fall in pressure of from 145 to 115 millimetres. 2. From No. 6 to No. 11 from June 2nd to July 13th, when no observations were made, fatigue, &c., caused a rise in pressure to 140 millimetres. The general changes, the prominent objective indication of which was a fall in the blood pressure, were associated with an adaptation to an extremely hot Italian summer. There were considerable weakness and slackness, especially during the first month. A very prominent feature was a remarkably copious secretion from the respiratory passages mainly in the night time; there were also frequent hay fever attacks. During the first fortnight there was a profuse elimination of unpleasant aromatic products by the sweat glands necessitating baths several times a day. There was also a persistent pigmented secretion from the axillæ. At the end of the second week the elimination from the respiratory passages ceased to be prominent and the sweat altered to an odourless, acrid material. By the end of August the sweat became feebly acid. Professor Riva-Rocci tells me that he has seen similar patients who have stayed in bed weeks and even months while the blood pressure was slowly falling. It will be noted that though there was a considerable retention of chlorides there was a low blood pressure during Nos. 9, 10, and 11, and again before the dechlorination in 1907. 3. During periods Nos. 12 to 17 the rise in blood pressure appears to bear some relation to the dechlorination. The rise during Nos. 19 and 20 again appears to be associated with dechlorination. An interesting point will be noticed that during Nos. 1, 2, 3, 19, and 20 the habitual relationship between the day and night readings for blood pressure and urinary specific gravity was altered.

Hypoacidity and Hypotension.

During the second fortnight in April, 1907, at the same time as an English medical man living 20 miles from Varese and a number of inhabitants of the town, I complained of occasional attacks of sensations of intense fatigue with the most decided mental and physical ergophobia. There did not appear to be any rise of temperature recorded in any of the cases. The common feature was a wish to stay in bed or to lie down as much as possible. During May I was less fortunate than my friend, as I was obliged to work and to do some travelling. The consequence was that the sudden attacks of fatigue became more frequent and occasionally alarming. There were both flying and fixed rheumatic pains of a severe sharp "whipping" type that I had hitherto not experienced, though I had been subject to rheumatism for some 20 years. There were also successive crops of petechiæ and large purpuric patches on the trunk and the extremities. I took aspirin regularly without any apparent benefit. The condition became so troublesome that I was obliged to stay in bed. Professor Riva-Rocci was kind enough to see me; he quieted my apprehensions as to the purpura which appears to be of common occurrence in this part of the country.

FIG. 5.

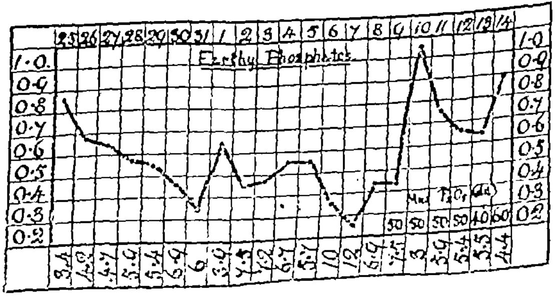


Low urinary acidity during the day time in the "hypoacid" state.

TABLE II.—*Analyses Illustrating Urinary Hypoacidity.*

Date.	Volume.	Specific gravity.	Chlorides.	Urea-N.	NH_3.	P_2O_5.	Earthy phosphates.	Acidity, grammes oxalic acid.	Uric acid.	Cubic centimetres $\frac{N}{10}$ ac	Cubic centimetres $\frac{N}{10}$ P_2O_5.	Cubic centimetres $\frac{N}{10}$ organic acid.
23	630	1029	10·71	5·55	0·599	1·38	0·472	2·77	0·681	439	184	235
	450	1025	4·86	4·2	0·489	1·17	0·27	1·44	0 636	228	174	44
24	810	1027	13·44	6·94	0·651	1·69	0·668	1·21	0·506	192	238	—
	370	1028	3 77	3·29	0·472	1·33	0·351	1·77	0·287	280	187	93
25	890	1022	11·48	5·18	0·665	1·33	0 333	0·58	0 492	92	187	—
	720	1018	5·18	4 98	0·779	1·15	0·396	1·44	0·26	228	161	67
26	865	1026	12·28	6·36	0·823	1·9	0·713	0·69	0·504	109	267	—
	500	1025	6·0	4·26	0·527	1·3	0·387	0·8	0·3	126	183	—
27	1260	1020	17·64	7·66	1·33	2·01	0·545	0·62	0·896	99	283	—
	1000	1015	8·4	5·56	0·748	1·3	0·55	1·4	0·275	222	197	25
28	640	1026	9·98	4·92	0·587	1·66	0·608	1·6	0·436	252	233	19
	480	1030	6·14	4·76	0·473	1·29	0·48	1·82	0·425	288	181	107

FIG. 6.



Fall in the amount and relative proportion of the earthy phosphates. The proportion of earthy to alkaline phosphates is shown in the lowest line of figures.

It will be seen in Fig. 5 that the prominent feature of the daily analyses of the urine was a change in the urinary acidity, the day acidity being habitually lower than the night. The reality of this state of urinary hypoacidity is shown by the annexed analyses (Table II.) made on six successive days subsequent to exposure to cold and to taking some bad food. It will be seen that the increase in ammonia shows that it is associated with increased acidity. In the beginning of June it was noticeable that the proportion of the earthy phosphates to the alkaline phosphates was falling. (Fig. 6.) At the same time the purpura and the rheumatism were worse. I was fortunate enough to find that by taking from 40 to 60 minims of acid. phosp. dil.

Chlorine Retention and Dechlorination.

Bunge found that "it appears to be the universal rule that those who live entirely on animal food either have never heard of salt, or if they possess it avoid it, whereas the people whose staple food is vegetable have the greatest desire for it or regard it as indispensable." The reason suggested is that potassium has the effect of driving chloride of sodium from the tissues. The theory, however, which is gaining ground is that chlorine retention only occurs when the osmotic equilibrium has been disturbed in consequence of an increased elimination of P_2O_5, or from a deficient ration of phosphorus. These views are held by Maurel, Limbeck, Schwarz, and others. So that Bunge's facts can be explained by stating that where there is an abundance of phosphorus in the dietary *ceteris paribus* chloride of sodium is not required.

In February, 1905, Dr. Slosse of Brussels was kind enough to make a balance of my ingesta and egesta. A loss of 58 grammes of chlorides occurred in a week. Since the spring of 1906 I have made what must be necessarily a rough balance of the chlorides ingested and of those eliminated in the urine. My bread has been specially prepared without salt; no salt was added to my food in the processes of cooking; the salt used was added afterwards from a glass-stoppered bottle filled with carefully dried salt. With this exception my diet has been one that would be recommended by Achard or Widal and Javal[7] as a dechlorinating diet, estimated to

TABLE I.—*Chloride Balance.—Description under Chlorine Retention and Dechlorination.*

No.	*From 1906 to 1908.* Date.	Amount eliminated.	Chloride of sodium added.	Estimated error.	Amount retained.	Dechlorination.	Day vol. Chlorides.	Night vol. Chlorides.	Balance.
4	May 15th to May 24th.	138·03	11·0	33·0	—	94·03	55	67	147 grammes eliminated.
5	" 24th " June 2nd.	93·37	10 0	24·5	—	63 67	68	69	
6	July 13th to July 25th.	85 94	62·68	39·6	16·34	—	77	81	1·81 grammes eliminated.
7	" 26th " August 3rd.	68·13	52·4	33 0	17 27	—	81	82	
8	August 4th " " 13th.	97·07	52·4	33·0	—	11·67	91	100	
9	" 14th " " 23rd.	91·57	47·16	30·7	—	13·71	70	73	
10	" 24th " Sept. 2nd.	92·63	52·4	33·0	—	7 23	75	102	
11	Sept. 3rd " " 12th.	87·21	52·4	33·0	—	1·81	90	110	
12	Sept. 13th to Sept. 27th.	108·77	34·0	33·0	—	41·77	87	99	350·69 grammes eliminated.
13	" 28th " Oct. 8th.	128·93	37·4	36·3	—	55·23	57	100	
14	Oct. 9th " " 20th.	174·34	49·12	39·6	—	85·62	59	71	
15	" 21st " " 30th.	140·65	41 0	33·0	—	66·65	75	85	
16	" 31st " Nov. 11th.	143 28	49·2	39 6	—	54 88	78	90	
17	Nov. 13th " " 23rd.	135·34	49·2	39·6	—	46·54	70	80	
18	Nov. 24th to Dec. 4th.	150·6	130·9	36·3	16·6	—	65	70	60 48 grammes eliminated.
19	Dec. 14th " " 23rd.	169·34	119·0	33·0	—	17·34	56	73	
20	" 24th " Jan. 2nd.	183·63	110·0	33·0	—	40·63	60	81	
21	Jan. 3rd " " 12th.	149·61	125 0	33·0	8·39	—	72	92	
22	" 13th " " 22nd.	116·88	65·0	33·0	—	18·88	89	100	
23	" 23rd " Feb. 1st.	183·6	95·0	33·0	14·76	—	70	80	
24	Feb. 2nd " " 11th.	116·48	70·0	33·0	—	23·38	61	61	
25–30	Feb. 12th to April 14th.	977 5	705·9	198·0	—	74·6	69	67	74 6 grammes eliminated.
31	April 15th to April 24th.	131·7	103·0	33 0	4·3	—	60	73	0·7 gramme eliminated.
32	" 25th " May 4th.	149·7	101·0	33·0	14·7	—	63	81	
33	May 5th " " 14th.	153·2	109·0	33·0	—	11·2	63	72	
34	" 15th " " 27th.	102 0	70 0	33·0	—	1·0	97	127	
35	" 28th " June 6th.	136·2	104·0	33·0	—	0·8	93	97	
36	June 7th " " 16th.	170·9	140·0	33·0	—	3·1	97	99	
37	" 17th " " 26th.	131·1	105·0	33·0	7·9	—	90	100	
38	" 27th " July 6th.	149·5	138 0	33·0	—	11·5	94	94	
39	August 11th to August 20th.	121·9	75 0	33·0	—	13·9	91	99	85 8 grammes eliminated.
40	" 21st " " 30th.	144·3	100·0	33 0	—	11·3	76	92	
41	" 31st " Sept. 9th.	160·5	125·0	33·0	—	2 5	87	101	
42	Sept. 10th " " 19th.	142·7	80·0	33·0	—	29·7	64	86	
43	" 20th " " 29th.	143·5	100·0	33·0	—	10·5	78	85	
44	" 30th " Oct. 9th.	126·9	76 0	33·0	—	17·9	75	90	
45	Nov. 4th to Nov. 13th.	192·0	88·0	33·0	—	68·0	60	84	199 4 grammes eliminated.
46	" 29th " Dec. 8th.	191·9	113·0	33·0	—	48·0	65	82	
47	Dec. 9th " " 18th.	195·5	129 0	33·0	—	33·5	59	79	
48	" 19th " " 29th.	179 0	115·0	33·0	—	31·0	61	80	
49	" 30th " Jan. 8th.	159·0	110·0	33·0	—	16·0	70	76	
50	Jan. 9th " " 18th.	135·9	100·0	33·0	—	2 9	78	104	
51	" 19th " " 30th.	—	—	—	—	—	—	—	

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[7] Widal and Javal: La Cure de Dechlorination, p. 16.

TABLE III.—*Analyses Illustrating the Effect of Rest and an Increased Ration of Phosphorus on the* $\frac{\text{Day}}{\text{Night}}$ *Urinary Quotient.*

Date.	Volume.	Specific gravity.	Solids.	Chlorides.	Urea-N.	P_2O_5.	Earthy phosphates.	Acidity grammes oxalic acid.	Uric acid.
26 ...	425	1027	24·6	6·8	3·7	0·85	0·233	—	0·376
	450	1027	27·6	7·29	3·62	0·81	0·162	—	0·343
27 ...	325	1026	19·0	5·45	2·86	0·39	0·162	—	0·244
	400	1029	26·9	6·4	3·94	1·44	0·24	—	0·398
1 ...	340	1025	18·8	6·12	3·53	2·08	0·34	1·08	0·286
	475	1025	26·3	6·65	4·44	1·33	0·427	1·8	0·381
2 ...	560	1029	37·6	9·07	5·47	2·01	0·476	1·34	0·427
	600	1030	35·1	6·0	5·5	1·7	0·45	1·8	0·415
3 ...	675	1026	33·6	10·81	5·46	1·26	0·575	1·61	0·35
	400	1030	28·0	6·0	4·67	1·36	0·41	1·62	0·37
5 ...	500	1029	33·6	8·0	4·46	1·3	0·5	1·00	0·336
	400	1030	28·1	6·33	3·85	1·6	0·28	1·76	0·383

this region a man's prestige is determined by his carrying power. My landlord, the "Treeman" as he was called, was over 50 years of age but could easily carry a load of 100 kilogrammes for two or three hours up the Alps. A slight, undersized youth, aged 16 years, carried 48 kilogrammes down the mountain. Men, women, and children over six years of age work from sunrise till sunset; the character of their work can be imagined when it is realised that their hay and corn have to be carried up or down the Alps to the barns. Their principal food is wheaten bread eaten five times a day with milk and they are as poltophagic with their feeding as they are deliberate with their work. Is it possible to continue working in this way till well over 60 years of age without possessing a full faculty for metabolising starch? The devices adopted by those populations who have, practically speaking, nothing but the grim alternative of death when they can no longer metabolise starch are most instructive. The daily hot bath of the Japanese, the Russian, Turkish, and Chinese steam baths have not only the effect of aiding in the elimination of sweat but ensure the skin having an increased blood-supply with consequent metabolic activity subsequently to the bath. The widely spread custom of using vegetables containing potassium such as potatoes, vegetable soups, &c., has the effect of supplying the wastage of this element and preventing the loss of calcium phosphate during cold weather and when there is fatigue. During the silkworm season in Northern Italy, when the peasants work night and day, inquiry has shown that eggs are bought from them with difficulty as they find themselves obliged to add them to their ration. It is worthy of note that the peasant remedy for most ills is to "drink eggs," as they call it, sometimes for long periods. An interesting point is that the factory workers in the new industrial development of Northern Italy, having as yet insufficient wages to enable them to increase their phosphorus and proteid ration, are tending to increase their ration of acid wine, the organic acids of the wine probably acting much in the same way as phosphoric acid. The most prominent cause for the diminished faculty for metabolising starch is clearly the influence of cold. Querton showed that in the case of animals hibernating or when they were exposed to cold the cerebral neurons exhibited the beaded or moniliform reaction of the appendices; this reaction has been produced experimentally by asphyxia, fatigue, electrical stimuli, and such toxins as anæsthetics, morphine, chloral-hydrate, and alcohol, &c. The same reaction has been found in mental diseases. Demoor points out in writing of this reaction: "We know that between the state called pathological and a physiological reaction there is no absolute difference." Hibernation is also found in the case of man when exposed to cold. Thus, in the government of Pskof in Russia when there has been a bad harvest the peasants find themselves obliged to adopt the device of hibernating, or "lozke," as it is called. They are said to wake for a short time at midday, eat a small portion of bread baked in the autumn, and then go to sleep again. To combat the effects of cold the most successful device in the case of both men and animals is to take an abundant meat and fat diet. Its success is shown by almost universal practice and Laulanié and others have found that whereas varnished dogs eat more and live, rabbits, horses, &c., eat less and die in a few days. On the other hand, the power of forming ammonia to neutralise acids can be enormously increased in rabbits by feeding them with amino acids. Ricciardi[22] found that the variations in the degree of toxæmia were dependent on the area varnished. As to the nature and effects of the toxin von Araki[23] found almost constantly albumin, sugar, and lactic acid in the urine which he attributed to incomplete oxidation. In short, meat is required not only for maintaining nitrogenous equilibrium and the provision of suitable fuel but to maintain the intracellular alkalinity, which is probably absolutely necessary in most cases where the individual is exposed to cold or fatigue, or is the subject of chronic disease.

The hibernating animal when first exposed to the cold of the autumn suffers from a low degree of toxæmia which causes an increased appetite and a deposit of fat. Is it due to a similar process that obesity is caused by continuous fatigue and other forms of chronic toxæmia? When the cold, and consequently the toxæmia, increases the intracellular acidity results in sleep, the metabolism is reduced to a minimum, it can be said to be paralysed; it remains in this condition either till the cause is removed or death results. It is irresistible not to find strong resemblances between this condition and that of the varying degrees of temporary or permanent retarded nutrition.

This paper is a record of work that has necessarily been preliminary in its scope. It was undertaken to show how large a field for profitable research there is in the continuous observation of the reactions of the body to the commonplace environment of ordinary life.

Addenda.

Analyses.—The processes employed were: For chlorides, Mohr's method; for phosphates, uranium nitrate; for ammonia, Folin's method; for uric acid, Hopkins's method; for urea, Brandeis's improved hypobromite method was used with his new ureameter. Two solutions, one of ammonium sulphate with one centigramme to two cubic centimetres and another of ammonium chloride with a centigramme to five cubic centimetres, were titrated on each occasion so as to obviate the necessity of making the calculations for barometric pressure and temperature. The earthy phosphates were precipitated by the addition of ammonia and the phosphates were separately estimated. The calcium and magnesium phosphate were estimated by dissolving the precipitate with ammonia in acetic acid, adding ammonium chloride solution and ammonium oxalate, setting aside for 24 hours, filtering, adding ammonia, and making a separate estimation of the magnesium phosphate after putting it aside for 24 hours. The calcium phosphate precipitate and the calcium precipitated from the filtrate after adding ammonia were separately estimated volumetrically after dissolving in hydrochloric acid with a decinormal solution of permanganate of potassium in the way recommended by Blarez.

Varese, Italy.

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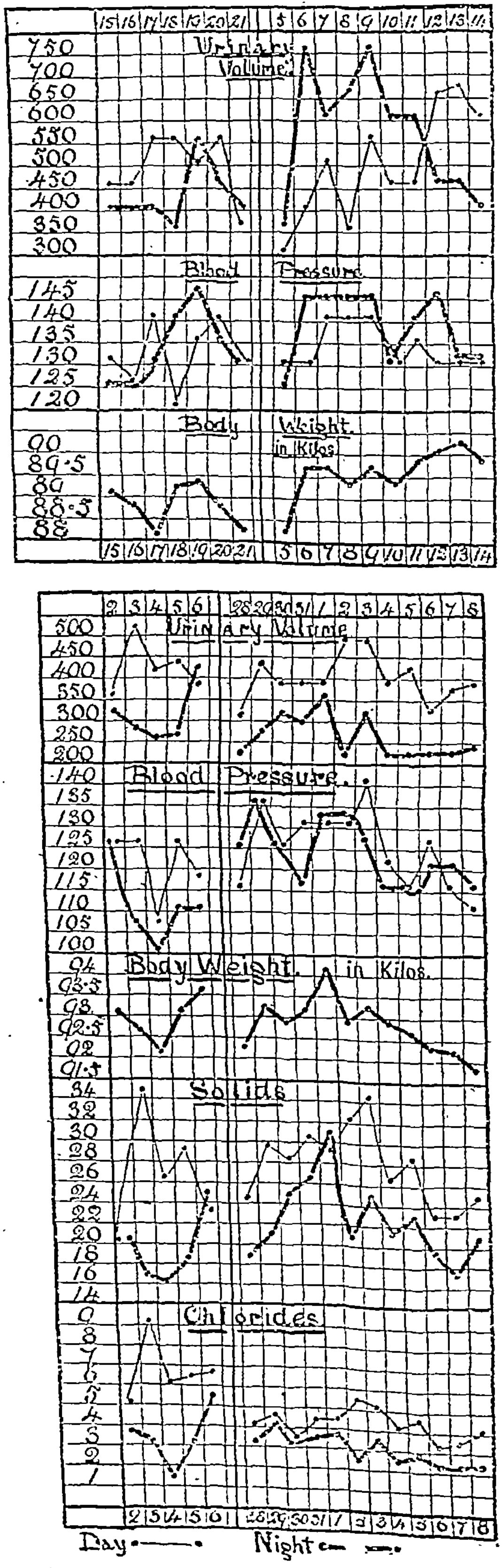
[22] Ricciardi, cited by von Noorden, vol. iii., p. 751.
[23] Von Araki, cited by von Noorden, vol. iii., p. 978.



FIGS. 3 AND 4.—Showing the coincident variations of the urinary volume, solids and chlorides with those of blood pressure.

Variations in Arterial Tension.

With the exception of intervals recorded above I have taken my blood pressure by means of the Riva-Rocci apparatus with a large band twice a day since April, 1905. The times chosen were about a quarter of an hour after going to bed and just before rising. In this way it was possible to have the advantage of differentiating between the effects of work and rest, and in addition the observations were capable of being compared over long periods of time. During this time I had the opportunity of observing the change from chronic hypertension to hypotension and subsequently to a normal blood pressure of 100 millimetres of mercury.

The facts observed are most easily explained by the hypothesis that the main factor in the production of variations in arterial tension is changes in the state of matter of the general mass of protoplasm. There is a considerable literature dealing with evidence of general protoplasmic changes. Thus, Dr. A. Haig in his book on uric acid has quoted a number of authors who have described variations in what he calls the "morning" and "evening" state. For instance, Richet, G. Oliver, Marey, Lloyd Jones, Roberts, and others have described well-defined variations in temperature, blood pressure, venous and capillary circulation, the urine, the respiratory interchange and in the specific gravity, the corpuscles, and the hæmoglobin content of the blood. The prominent features of these states can be said to be the common characteristics of certain groups of disease. For instance, in the case of Bouchard's illuminating generalisation in which he distinguishes between the state characterised by active tuberculosis as being associated with free hypotensive circulation, hyperazoturia, and demineralisation. After rest and superalimentation this same case will present the signs of hypertension, chlorine retention, &c.; in short, all the symptoms of retarded nutrition. The prominent features of this retarded nutrition characterise most of the chronic diseases such as obesity, arterio-sclerosis, renal disease, &c. Are these conditions associated with persistent protoplasmic superhydration in the case of retarded nutrition and in that of accelerated nutrition with a state of matter where there is either inherent inability of the protoplasm to react by increased activity and superhydration either from want of vitality or from excessive toxæmia?

The observations recorded in Figs. 3 and 4 were made while there was a descending blood pressure. It will be seen that in these circumstances there are clear indications of associated variations in the blood pressure, body weight, urinary volume, solids, and chlorides. Very little attention has been paid to the forces exerted by the protoplasm itself through the lymph on the capillaries and the blood pressure generally. Yet the extent and forcefulness of the protoplasmic reactions are thus stated by Loeb: "The theory of osmotic pressure indicates that the osmotic pressure in the cells is 20 times as high as the blood pressure."[12] Also that injured muscle is able to take up water from so concentrated a solution as 2·8 per cent. of chloride of sodium, a fact that is of importance in the explanation of œdema.[13] Again, he states that: "Injuries (poisons) lead according to their nature to a swelling of the cells or to a secretion of fluid into the body cavities."[14] Another important observation is that of Hess who was working with healthy animals and found that when the blood pressure was artificially varied the arterial pressure steadily maintained its composition; the venous pressure, on the other hand, became more concentrated when the pressure rose, more diluted (as much as 25 per cent.) when it fell.[15] If toxins are capable of producing such powerful reactions as those described it is only reasonable to suppose that provided the reaction be sufficiently extensive in its operation the state of matter must necessarily exert considerable, if not a preponderating, influence on such general conditions as hyper- or hypo-tension.

Ambard and Beaujard[16] pointed out that hypertension is intimately associated with chlorine retention. Thus, in Bright's disease they were able to provoke variations in blood pressure with dechlorination. In one case a dechlorination of 46 grammes caused a fall in the blood pressure of from 220 millimetres to 130 and when 38 grammes were retained the pressure rose to 160 millimetres. Also in tuberculosis they found that when chlorides were retained the many instances expert bacteriological examination fails to isolate the Klebs-Löffler bacillus in cases of unmistakeable diphtheria and, on the other hand, there stands the indubitable fact that the bacillus is often to be found in the noses and throats of apparently absolutely healthy subjects. Cases not associated with the Klebs-Löffler bacillus are looked upon by many as anatomically similar but bacteriologically distinct diseases and are termed "diphtheroid affections" or "pseudo-diphtheria." Some of these cases are ascribed to organisms belonging to a different biological group. Thus authors describe a "streptococcus diphtheritis" caused by *Streptococcus pyogenes*. Others are produced by bacilli morphologically similar to *Bacillus diphtheriæ*, but differing from it either in cultural peculiarities or in pathogenic properties. The latter are called pseudo-diphtheria bacilli. With regard to the diphtheritic affections of animals information is very scanty. I will summarise it briefly under separate headings.

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[12] Loeb: Op. cit., p. 499.

[13] Op. cit., p. 463.

[14] Op. cit., p. 471.

[15] Von Noorden: Op. cit., vol. i., p. 83.

[16] Ambard and Beaujard: Société de Biologie, Feb. 20th, 1904, p. 371.

The horse.—Diphtheritis is known to occur in the horse. It is a fatal and contagious disease, called croup or angina by veterinary surgeons. Dr. Turner[4] mentions one or two cases of diphtheria in man preceded or followed by a similar disease in the horse. Professor W. J. R. Simpson, who made inquiry for the Local Government Board as to a prevalence of diphtheria in and about Shaftesbury in 1885, says that according to the testimony of a veterinary surgeon in the locality a so-called "laryngitis with sore-throat" had been by no means uncommon during the epidemic. Dr. Louis Cobbett[5] refers to a case in the horse in which the Klebs-Löffler bacillus was isolated from the nasal discharge. The animal belonged to the father of a girl who was suffering from diphtheria. Stevenson[6] points out how frequently the disease attacks children living in mews and occupying rooms over the stables. Dogs and cats frequenting the mews also suffer in the same way. The far greater prevalance of diphtheria among mounted troops than in infantry is no doubt connected with disease in the horse. It has been found by Longuet that in the French army for the period 1872-85 the relative proportion of diphtheria among cavalry and infantry was in the ratio of 10 to 3. In the German army, 1874-82, diphtheria was more than three times as common among cavalry as among infantry.

Cattle.—The disease is known as croup or angina in full-grown animals but in calves it is called diphtheria. Young cattle, varying from a few weeks to a few months old, are especially liable. The disease usually occurs during the fall of the year. Damman, who first described "calf diphtheria" in 1877, believed it to be identical with human diphtheria, but Löffler, who investigated the disease for the German Imperial Board of Health, found a bacillus which forms long undulating threads and differs in many other respects from the *Bacillus diphtheriæ* of man. The relation of cattle diphtheritis to human diphtheria is strongly suggested by the frequent spread of the disease amongst human beings by the agency of milk. Power, in 1878, was the first to show that diphtheria might be disseminated in this way. Since then many outbreaks have been traced with the greatest certainty to milk. The annual reports of the medical officers of the Local Government Board furnish many interesting facts bearing on this question. In the report for the years 1889-90 an epidemic in Macclesfield district is described. It was noticed that almost all the patients had procured their milk from the same dairy and that those members of each household who were the chief drinkers of raw milk were attacked first. On inquiry at the dairy it was ascertained that some days previous to the outbreak the milk of a newly purchased cow, which had recently calved, had been added to the stock of milk. This cow was segregated and the issue of her milk stopped, and from that time no fresh cases of diphtheria occurred. After some weeks the milk of this cow was again sold and soon after fresh cases of diphtheria followed amongst the customers who used it. On the teats and udder of this cow vesicles and pimples were found at the time of the second series of cases. Dr. E. Klein[7] inoculated milch cows subcutaneously with cultures of *Bacillus diphtheriæ*. A swelling appeared at the seat of inoculation and subsided in a few days. On the teats and udders three to four days after inoculation vesicles, pustules, and ulcers appeared. In the lymph from these induced vesicles the diphtheria bacillus was demonstrated both in cover-glass preparations and by cultures. These cows showed a slight febrile reaction during the first two or three days and coughed slightly while the eruption manifested itself. Cultures from the milk showed diphtheria bacilli. Eventually the cows succumbed to the disease, one after 14 days, the other after 24. In 1890 Dr. Klein[8] observed ulcerative eruptions on the udders of cows whose milk was suspected to have conveyed diphtheria. The eruption was similar to that produced by experimental inoculation. It has been objected that the lesions observed by Klein on cows' udders were possibly those of cow-pox and that the milk may have been contaminated by human agency after leaving the udder. Of course, it is quite possible for milk to become contaminated with the *Bacillus diphtheriæ* from the hands, bodies, or clothing of milkers, dairy attendants, and milk handlers, who either have diphtheria themselves or have been intimately associated with diphtheria patients, and Dr. Klein has shown that milk once inoculated with the diphtheria bacillus serves as an excellent culture medium for the organism even at such ordinary temperatures as 18°-20° C. But the more we learn of milk as a vehicle of diphtheria the more probable does it become that the infection is much more frequently derived from the cow herself than from specific contamination by the human subject.

Sheep.—The disease is especially prevalent in young lambs; it is in every way similar to that of calves.

The hog.—Diphtheritis has been described from the hog by several authors. Dr. Sanderson[9] records an instance in which swine in a sty adjoining a cottage in which cases of diphtheria occurred were attacked with the disease as proved by post-mortem examination. In Southern Russia diphtheria is believed to be contracted from swine affected in a similar way.

The rabbit.—Information is very scanty with regard to diphtheritis in the rabbit and other small mammals. I have already mentioned an epidemic of diphtheria in the town of Grafton, Illinois, America, in 1900, which was ascribed to a simultaneously occurring diphtheritic disease amongst wild rabbits.

The mouse.—Dr. Bellard has suggested that diphtheria in man may be related to a similar disease in mice, but on what evidence I do not know. Rats and mice are very refractory to inoculations of *Bacillus diphtheriæ*.

The cat.—The cat is mentioned in numerous reports on outbreaks of diphtheria either as the conveyor of the disease or as having contracted it from human beings. Dr. Klein, writing in 1889, states that cats are subject to an infectious disease occurring in association with human diphtheria, and that "this disease casually occurring in the cat is very similar to the malady artificially producible in that animal by inoculating it with human diphtheria." In 1905[10] the bacteriologist for the burgh of Govan issued a report on the result of his investigations into the possibility of the infection of diphtheria being carried by the lower animals, especially cats. Two cats were examined and from both were obtained and cultivated bacteria corresponding in every respect to those of human diphtheria. In one case the animal had been in the habit of sleeping in the same bed as the patient; in the other the child had been fondling it in her arms. As both cats had been ailing previously to the children becoming affected infection is quite likely to have been conveyed by these animals. Of five cases of diphtheria reported in Govan three patients came from two families living in adjoining properties and two from a house in a tenement directly opposite. In the circumscribed area inclosing the back courts of these buildings there had been a stray cat which had eventually obtained a home in one of the families affected. The animal when examined was found to be suffering from post-diphtheritic paralysis of the legs.

The dog.—The dog may also suffer from diphtheritis. Williams[11] says that during the winter 1878-79 he had the opportunity of seeing several dogs, the property of various owners, that had this fatal form of sore-throat and "presented signs very nearly approaching those of diphtheria as described by physicians."

The pigeon.—Diphtheritis is exceedingly common amongst pigeons, both wild and domestic. The birds are at times literally decimated by the disease which occurs in vast epizootics. Löffler in 1884 isolated a bacillus from the false membranes of affected pigeons. He looked upon it as distinct from that of human diphtheria and proposed to call it *Bacillus diphtheriæ columbarum*. Cultures of this organism inoculated into normal pigeons reproduced the disease with abundant false membranes, they gave rise to milder lesions in fowls, killed sparrows in about three days, produced ulcerations in guinea-pigs, necrosis in rats, and only a slight redness in dogs. The very same year Emmerich stated at the Hygiene Congress at the Hague that he had found in pigeon diphtheritis a bacillus identical with that of human diphtheria. Wheler[12] has observed diphtheria in families that had eaten diphtheritic pigeons.

Fowls and other birds.—Diphtheritis is very common amongst fowls, ducks, guinea-fowls, turkeys, peacocks, pheasants, partridges, parrots, and other birds. The disease in every way resembles that of pigeons, but bacteriologists seem inclined to distinguish, not only in the different orders and families of birds, but in each single host species, various types corresponding to different kinds of bacteria. Without entering into an unprofitable discussion of the many different organisms described, I will point out that several investigators have described organisms indistinguishable from the Klebs-Löffler bacillus—Galler[13] found in the nasal mucous membrane of fowls affected with contagious coryza a bacillus identical in colour reaction and cultural characters with *Bacillus diphtheriæ*. The same or a similar organism was observed by Ferré[14] in diphtheritic lesions in fowls. Guerin,[15] as the result of experiments and observations in many epidemics of fowl diphtheritis, concludes that human diphtheria differs from that of fowls, which he ascribes to a Pasteurella, but adds that twice he isolated from the false membranes of diseased fowls an organism morphologically identical with the *Klebs-Löffler bacillus*. This organism was non-virulent; he therefore believes that it has no relation to diphtheria, but may be the same as the pseudo-diphtheria bacillus so frequently found in the throat of healthy human beings. In 1894 Loir and Ducloux[16] had the opportunity of investigating in Tunisia a diphtheritic epizootic which raged amongst fowls, turkeys, ducks, pigeons, and sparrows. As frequent cases of angina occurred amongst the persons employed on the affected poultry farms the authors made some bacteriological examinations, and in a child suffering from a severe form of diphtheritis they succeeded in isolating the same organism they had found in the birds—a bacillus somewhat resembling the tubercle bacillus. The inoculation of cultures of this bacillus from man reproduced the disease in fowls. In 1896 Ritter[17] found in the false membranes of diphtheritic fowls a bacillus similar to the one isolated by Löffler in calf diphtheria. Chicoli,[18] Boing,[19] Illingworth,[20] Barbier,[21] Bilhaut,[22] and many others have quoted cases of direct transmission of diphtheritis from fowls to man.

Summing up all the available information, it seems to me that our position with regard to diphtheria is very much the same as that concerning tuberculosis. Koch, who discovered the bacillus of tuberculosis in man in 1882, first believed that all forms of the disease both in man and animals were caused

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[4] Local Government Board Report, 1889.

[5] THE LANCET, August 25th, 1900, p. 573.

[6] Brit. Med. Jour., April 3rd, 1886.

[7] Local Government Board Report, 1889.

[8] Local Government Board Report, 1890.

[9] Second Report of the Medical Officer to the Privy Council, p. 248.

[10] THE LANCET, Dec. 23rd, 1905, p. 1869.

[11] Principles and Practice of Veterinary Medicine, eighth edition, 1897.

[12] American Practitioner, 1887.

[13] Annales de Médecine Vétérinaire, 1895, p. 309.

[14] International Congress of Hygiene, Madrid, 1898.

[15] Annales de l'Institut Pasteur, Dec. 25th, 1901.

[16] Ibid., vol. viii., 1894, p. 599.

[17] Reference in Centralblatt für Bakteriologie, 1896, p. 66.

[18] Sicilia Agricola, 1884.

[19] Deutsche Medicinische Wochenschrift, 1888, p. 552.

[20] Brit. Med. Jour., 1888, vol. ii., p. 168.

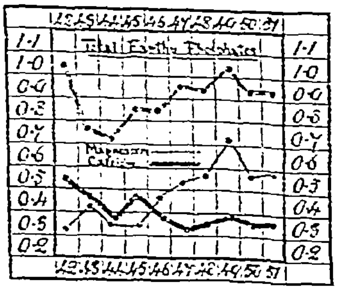
[21] Gazette Médicale de Paris, 1889, p. 37.

[22] Journal de Médecine de Paris, 1890, p. 441.

(B.P.) the symptoms were removed in two or three days. I took the acid throughout the summer in from 40 to 120 minims during the day when the symptoms of fatigue or the pains were present. The best guide for the strength and frequency of the doses is to use habitually the same wine-glass or small tumbler for diluting the acid and then to depend entirely on the taste for the strength of the dose. If there is a sharp, unpleasant, metallic acrid taste it is advisable to take less or none; if, on the other hand, it tastes pleasantly acid, as far as my experience goes it can be taken with confidence and impunity. It is stated on apparently good authority that quite large doses—as much, for instance, as 20 cubic centimetres—of the French officinal acid are taken habitually by M. Joulie, whom we are to thank for having originated this treatment. An Italian colleague was able to cause the disappearance of the pain in a case of obstinate rheumatism of some years' standing in a few days; the same result was obtained with another case of some weeks' duration. In a case of bad attacks of trouble-some tumultuous action of the heart with marked irregularity of force and rhythm and true intermission when there had been no sleep till early in the morning the administration of 40 minims of the dilute acid caused the intermission to cease and the pulse to become quite regular (while I was feeling it) in ten minutes at the most. In 15 minutes the patient, who was tired and exhausted, fell asleep.

The influence produced by phosphoric acid on oxidation was shown by C. Lehmann,[17] who noted that after injecting phosphoric acid there was an increase in the respiratory exchange. A probable explanation of its immediate action is found in the fact that "the addition of a slight amount of acid to an $\frac{n}{8}$ NaCl solution shortens the latent period for the beginning of the rhythmical contractions. We shall see later that the acid acts, possibly like the above salts, by liberating calcium from certain organic combinations in the muscle or nerve."[18] Also, "the quotient of the concentration of the Na-ions over the Ca-ions becomes therefore of importance for phenomena of irritability. We shall see that magnesium acts very much like calcium in this respect."[19] It is also worthy of note that acids, especially lactic acid, greatly accelerate autolysis, whereas alkalies, especially ammonia, retard the process.[20] My impression after using phosphoric acid is that it does little to remove the causes but that it undoubtedly exercises a most potent influence in the immediate relief of the sensation of weakness and pain.

FIG. 7.



Showing variations in the proportions of magnesium and calcium phosphate before and after the administration of magnesium oxide. The fall in 51 is due to a lower intake of magnesium oxide.

The Dechlorination in 1907.

No analyses were made for 39 days during October and November. It is practically certain that owing to considerable fatigue, unsuitable food, and exposure to cold the circumstances were those where on previous occasions there had invariably been retention. If the subsequent dechlorination had even been suspected I should have at least have ascertained the chlorides in the night urine. I have therefore estimated that the loss was 197 grammes. There was a repetition of the appetite for eggs, meat, and milk. As it would appear that the mechanism of chlorine retention is closely associated with either a failure to fix phosphorus in the tissues or in consequence of an insufficient diet, it was interesting and suggestive to find that the only persistent feature of my daily analyses was a conspicuous deficiency in the proportion of the earthy to the alkaline phosphates. In addition, there was a deficiency in the amount of magnesium as compared with calcium. On Dec. 10th I commenced taking one or two grammes of calcium carbonate and magnesium oxide. It will be seen in Fig. 7 that it was coincident with an alteration not only in the quantity of earthy phosphates but also in the relative proportions of calcium and magnesium. The normal proportion of earthy to the alkaline phosphates is from 1 to 2 or 2·5, about 0·3 gramme of MgO and from 0·15 to 0·5 gramme of CaO.[21] In my case there appears to be a defect in the metabolic traffic of the urinary magnesium. If this can be remedied and phosphorus caused to be retained it would be an interesting and important fact for application in the treatment of patients in whom there is defective oxidising power. At any rate, up to the present time there does not appear to be any tendency to the ebb and flow of chlorine that was a prominent feature of my metabolism last year subsequently to the dechlorination of 1906. I may add that I have tested my urine on many occasions for albumin but I have not found even a trace once. On one occasion there was a doubtful trace of sugar when there was an unusual amount of ammonia present.

I have found in several cases besides my own that the urinary calcium is roughly divided into two parts, that precipitated by ammonia as calcium phosphate and that found in the filtrate. The filtrate only contains traces of magnesium. I hope to be able to show that the Joulie test for acidity with sucrate of calcium really varies with the calcium that is not precipitated by ammonia, and that it is due to this fact that the variations are found after the administration of phosphoric acid.

Variations in the Day-night Urinary Quotients.

In that most difficult of arts, the daily adjustment of a diseased individual with his environment, it is most useful to have a measurement which shows whether work is carried on beyond the fatigue point. I believe that a useful indication is found by the comparison of the day and night urine. The volume and most of the constituents of the day urine divided by the night is normally from 2 to 2·5. It will be seen that in Fig. 1 it is 1·6 on the 21st and 0·6 on the 22nd. In an extremely serious case of neurasthenia and malnutrition with a blood pressure of 175 millimetres of mercury the night-day quotient was habitually 0·6. In this case there had been sleeplessness for several years. After six weeks' rest in bed, with the exception of an hour daily, the blood pressure fell to 115 millimetres and the day-night quotient was 1·3 to 1·5. This was associated with a considerable improvement in the general condition. The following analyses (Table III.) were from a patient who four months previously nearly died in consequence of a condition that culminated in a fall of blood pressure from 145 to 90 millimetres in a few days. The changes shown in the analyses were the result of rest and an addition of two eggs to the daily ration in the morning. Sleep, appetite, and general fitness were considerably improved. The necessary information can be obtained by collecting separately the 12 hours' urine before and after bedtime when no supper is taken.

Variations in the Starch Ration.

During my work on this subject I have had exceptional opportunities of observing the characteristics of the adaptation of the energetic and resourceful peasantry of certain districts of Austria and Northern Italy. From the standpoint of the science of the conscient adaptation to environment they would afford most valuable material for scientific observation. They have, generally speaking, considerable intelligence and an extraordinary power of forceful and continuous work. The necessarily narrow range of their choice of foodstuffs would make an investigation of their adaptation comparatively simple. As far as my observation goes, the work of a healthy, starch-feeding peasant is steady, untiring, and characteristically deliberate, a point which is well illustrated by the Italian proverb, "Chi va piano, va sano e lontano." I had the opportunity of watching the habits of some Tyrolese peasants near Windisch Matrei while living in a mountain hut for five months during the summers of 1905 and 1906. In single parish, street, or house, and, unlike other contagious diseases, creeps slowly from place to place. Dr. Airy[24] records a very interesting observation. A parish school near the small town of Builth in Wales was attended in nearly equal proportions by children residing in a portion of that town and by others residing in lonely cottages and farmhouses on the hill sides. An outbreak of diphtheria occurred at this school; but the 20 children living in the town escaped, whereas of the 25 living on the hillsides eight were attacked. In all respects except their residence the children appear to have been exposed to the same conditions. A similar instance is reported by Dr. R. Bruce Low from Ashbourne in Derbyshire. A stream divides the town of Ashbourne into two parts. The Ashbourne part to the north of the stream lies mainly on rising ground formed of new red sandstone, whereas the Compton portion is situated on low-lying gravel or alluvium, and is liable to flooding in rainy seasons. The infant school is situated in the Ashbourne division, in a somewhat crowded locality close behind the market place, but the children attending it come from both divisions, the proportion of attendants from the two localities being approximately, Ashbourne 70, Compton 40. "But the diphtheria had been limited to such of the children as resided north of the river in Ashbourne proper."

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[17] Von Noorden: Op. cit., vol. ii., p. 360.
[18] Loeb: The Dynamics of Living Matter, pp. 79 and 80.
[19] Loeb: Collected Papers, p. 79.
[20] Von Noorden: Op. cit., vol. i., p. 83.
[21] Op. cit., vol. iii., p. 1055.

Although infection from person to person and by means of fomites may be the usual means of diffusion amongst dense communities, we should not forget that diphtheria is pre-eminently a disease of rural districts and that very frequently the disease is scattered over wide areas, the majority of cases occurring in isolated farmhouses without any traceable personal communication. The preference of sporadic diphtheria for high, bleak situations induced Dr. Airy and others to suggest that the specific virus might be conveyed by the wind, and, indeed, it has been noted that the spread of the disease follows the direction of the prevailing winds.

A most striking fact in the epidemiology of diphtheria is its conspicuous invasion of towns within recent years. Taking London as an example, it appears that during the period 1861–70 whilst the diphtheria mortality rate per 1,000,000 living was for England and Wales 187, it was for London only 179. But in the next decennium the rates were 121 and 122 respectively, and in the decennium 1881–90 they were 163 for England and Wales and 259 for London.

Although adults are frequently affected the greatest number of cases occur between the third and twelfth years of life. The greatest number of deaths is between the second and fifth years. Infants in the first half-year of life are rarely attacked. With regard to sex, after the first four years of life, during which there is no difference, the disease appears to be somewhat more frequent in the female. Race is of no importance. Occupation has been disregarded owing to the fact that diphtheria is essentially a disease of childhood. But certain conditions, such as residence on farms or in mews, seem to increase liability to infection. A striking instance is that of the markedly greater prevalence of the disease in mounted troops than in infantry.

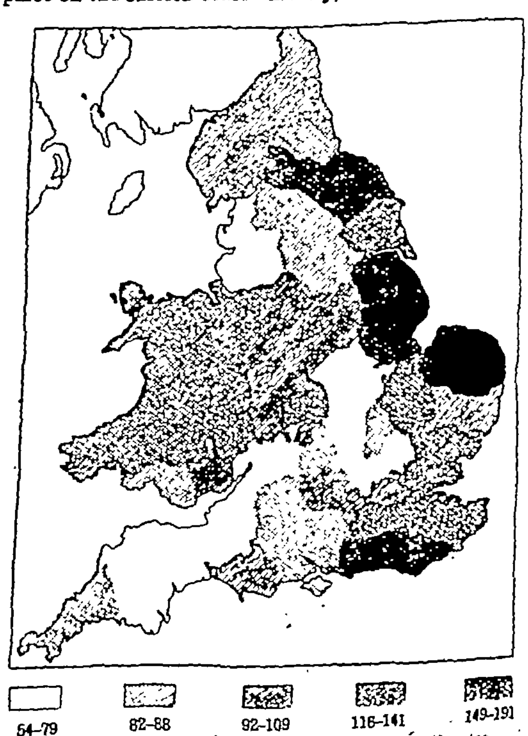
Altitude and geological formation seem to have no influence whatever. The disease has prevailed with equal intensity on high mountains and in deep valleys, along the sea shore and on plains far inland, on dry and wet soil, on basalt, sand, and clay; not infrequently on board ship.

Meteorological conditions seem likewise unimportant; diphtheria rages both in hot and cold weather, during drought and rain. In warm countries it has occurred frequently during the hottest months. In this country, and in temperate countries generally, it prevails far more frequently during the autumn and early winter. It was a common impression among the older writers, and indeed some of the more modern still hold the opinion, that dampness favours the development of diphtheria. The assumption is probably erroneous, but it is certainly a fact that the disease frequently prevails in valleys, along river courses, or in the neighbourhood of lakes and other water bodies. Rainfall seems to have no influence. According to Newsholme, "diphtheria only becomes epidemic in years in which the rainfall is deficient and the epidemics are on the largest scale when three or more years of deficient rainfall immediately follow each other," but many epidemics have occurred with excessive rainfall. Unlike other diseases, epidemics of diphtheria proceed apparently unaffected by changes in the season and weather.

In his monumental work on geographical and historical pathology Hirsch points out that diphtheria epidemics show a distinctly cyclic character. The several cycles have extended over periods of various length, many only a few years, others several decades. The intervals between these cycles have also varied greatly. Not infrequently a period of ten or more years has intervened and the disease on its reappearance was thought to be a new disease. Sometimes the outbreaks have been limited to small districts; in other cases the deadly pestilence has extended over whole countries or even over more than one continent in veritable pandemics. The great epidemics have always been followed by long periods of permanency, especially in the more populous centres, and this has given the disease all the appearances of an endemic.

From these considerations, and from the fact that in many cases the outbreak of the disease in a certain locality can be shown to have been the consequence of its introduction from without, it is only reasonable to infer that, like plague, yellow fever, and cholera, diphtheria must have some permanent area of distribution beyond which it may widely extend from time to time under particular circumstances, to withdraw again to its usual stations after a longer or shorter period of riot outside them. Unfortunately, the only indication we have on this point is one of ancient nomenclature. Aretaeus of Cappadocia (about A.D. 30–90) states that the disease is called Egyptian and Syrian ulceration (ἕλκεα Αἰγύπτια καὶ Συριακά) on account of its greater prevalence in Egypt and Syria.

Of special importance are the distribution of the disease in the various countries and the routes which it has followed in particular invasions. It has been shown by Dr. G. B. Longstaff[25] that during the 26 years 1855–80 the greatest incidence of deaths from diphtheria in this country took place on the eastern coast—namely, in Lincolnshire, Norfolk, East Sussex, and North Yorks; that next in order came East Yorks, extra metropolitan Kent and Essex, counties which are also on the eastern coast, together with Wales and certain counties within or bordering upon the Midlands; whereas the smallest death-rates from this disease were recorded in Lancashire, Devon, and Somerset, on the one hand, and in inland counties such as Bucks, Herts, Northampton, Leicester, and Gloucester on the other.



Dr. Longstaff's map of the average diphtheria death-rates. Twenty-six years 1855–80. (England and Wales taken as 100.)

Having thus sketched very briefly the principal features in the epidemiology of diphtheria, I will endeavour to show

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[24] Report to Local Government Board on Several Outbreaks of Diphtheria in the Fourth Quarter of 1879, pp. 18–19.

[25] Supplement to the Report of the Local Government Board, 1887.

THE EPIDEMIOLOGY OF DIPHTHERIA

IN THE LIGHT OF A POSSIBLE RELATIONSHIP BETWEEN THE DIPHTHERITIC AFFECTIONS OF MAN AND THOSE OF THE LOWER ANIMALS.

By L. W. SAMBON, M.D. NAPLES, F.Z.S.,
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IN its issue of Jan. 4th, 1908, the *Field* drew attention to an epizootic of diphtheritis amongst wild pigeons in a wood near London and remarked that "this disease has not yet received the scientific study that it deserves, seeing that it attacks not only the wood pigeon but also domestic pigeons, poultry, and pheasants, and that it is by no means settled whether the avian parasite is the same as that which produces diphtheria in man." The succeeding number contained a letter by Mr. W. Dalziel Mackenzie of Fawley Court, Henley-on-Thames, stating that the disease was raging amongst wild pigeons in the woods of the district and that in one valley 1142 dead birds had been picked up in two days. Further information, published in the *St. James's Gazette* and other lay papers, showed that the epizootic extended for a considerable distance along the Thames valley. Some of the doves picked up dead or dying were sent to me for examination and I was able to ascertain that they had succumbed to "pigeon diphtheria," a membranous disease known to cause severe epizootics among these birds. The same, or a very similar disease, I had seen during the previous months in the domestic pigeon, the pheasant, the partridge, and the sparrow. Through unsolicited information received from intelligent and observant gamekeepers I gathered that some of the diseased pheasants exhibited signs of paralysis, and twice pigeons quite unable to fly were sent to me from the affected districts.

Many other birds are known to be subject to "avian diphtheria." The disease has been observed in turkeys, peacocks, guinea-fowl, domestic fowl, water-fowl, and parrots. Similar membranous affections are known to occur in mammals. They have been described from cattle, horses, sheep, swine, rabbits, dogs, and cats. Indeed, our knowledge of the occurrence of diphtheritic affections amongst animals runs back to the remotest antiquity. Plautus in one of his comedies (*Trinummus*, v. 497) speaks of a deadly epizootic angina amongst swine:—

> *Sues moriuntur angina acerrume.*

Unfortunately, we know next to nothing concerning the etiology of these maladies and their relation to human diphtheria.

That diphtheria may be conveyed from the lower animals to man and reciprocally from man to the lower animals is a very old and general belief. The simultaneous occurrence of diphtheria epidemics in man and of epizootics of a similar nature in animals has been observed again and again in all ages and places. Their relationship is unhesitatingly admitted in the accounts of the great epidemics which desolated Europe between the sixteenth and eighteenth centuries. The deadly epidemic of Naples in 1618 and that of Paris in 1743 are reported to have followed on epizootics of the same nature, and Noah Webster in 1800 mentions the occurrence of fatal angina in man synchronously with a "pestilence amongst cats which swept away those animals by thousands." Amongst recent instances I may mention the epidemic of Frankfort in 1886 and that of Grafton, Illinois, America, in 1900. In Frankfort the authorities became so fully convinced that the epidemic was related to a concurrent avian epizootic, that they issued a warning to the public stating that the disease might be contracted either by direct contact with the diseased birds or by means of milk from cows kept in the proximity of infected poultry. In Grafton the epidemic was preceded by a severe epizootic amongst rabbits. These animals were placed on the market at prices so cheap that they were used largely as food. A microscopic examination showed that they had died from diphtheritis and the physicians warned the townsfolk to abstain from eating the rabbits.

Numberless instances of the transmission of diphtheria to man from fowls, cattle, swine, horses, sheep, and cats have been recorded in medical literature. At the Wiesbaden Medical Congress in 1883 Gerhardt related that a large number of fowls were imported from Verona to the village of Nesselhausen (Baden); some were suffering from diphtheritis when they arrived and about half of them died; all the chickens bred in incubators died, four cats kept in the place died from diphtheria, and four of the six men employed on this poultry farm had diphtheria. One man who was pecked by one of the diseased birds on hand and foot presented false membranes on these parts. No case occurred in the neighbouring village.

Dr. G. Turner, in an interesting report to the Local Government Board, mentions an epidemic of diphtheria that occurred in the village of Braughing in 1883. The first cases were connected with a farm on which the fowls were dying from diphtheritis. Subsequently the disease made its appearance on other farms, where it was also preceded by a similar affection amongst fowls. During the summer of 1886, while investigating epidemic diphtheria at Farnham, he found that there had been simultaneously an epizootic amongst fowls. A similar epizootic had occurred also amongst fowls and turkeys at Ash, amongst fowls at Long Eaton, and amongst fowls and pheasants at Tongham. At Tongham a man bought a chicken from an infected farm and took it home; diphtheria broke out in his house shortly afterwards. This was the first case in the village. Similar disease was noticed amongst the cats at Aldershot, Farnham, Yateley, and Petersfield. At Braughing both swine and horses suffered from sore-throat sickness immediately after the epidemic amongst human beings.

In the *Journal de Santé* of Dec. 23rd, 1888, is an account by Dr. Bild of the first occurrence of diphtheria which, after 30 years of practice, he had seen in the principal town of the small Greek island of Skiatos. It is stated that in June, 1884, Dr. Paulinis was called to see several children who were simultaneously affected with diphtheria, and of whom five died. The epidemic invaded the whole town and in five months 125 persons had been attacked and 36 had died. The cause of this sudden invasion being investigated, it was ascertained that in the locality where the prevalence commenced was a courtyard occupied by turkeys recently brought by boat from Salonica. These turkeys had exhibited false membranes in the fauces, and all had died except one, and in this instance the bird is reported to have been still suffering from paralysis of its feet, which incapacitated it from walking.

In 1892 Debrie[1] reported that soldiers suffering from diphtheria were taken to the Sebdou Hospital. Soon after their arrival certain fowls fed by one of the hospital attendants developed diphtheritis, later the owner of these birds and a soldier who looked after them were also attacked.

Opinion varies greatly as to the value of such records. Whilst numerous investigators emphatically maintain from personal observation that diphtheria may be transmitted from the lower animals to man, others, such as Friedberger and Fröhner,[2] dismiss the whole evidence as "a mere assumption due to utter ignorance of veterinary pathology." To me it seems that the synchronous occurrence of diphtheritic disease in man and in certain of the lower animals observed in almost every outbreak must certainly indicate more than a fortuitous coincidence. Besides, considering that human diphtheria is easily transmitted by inoculation to many kinds of animals it seems only reasonable to surmise that it may be conveyed reciprocally from the lower animals to man. Unless we admit this we must believe in the spontaneous origin of diphtheria to explain its sudden appearance with no history of previous infection or recent importation, an inadmissible theory. Gallez[3] very justly remarks that "if medicine as formerly had remained a science of observation, in presence of the relatively enormous number of facts brought to-day in support of this hypothesis no one would dream of doubting it, and the identity of animal and human diphtheria would be an established fact."

In man diphtheria is now recognised to be due to a specific bacillus, the *Bacillus diphtheriæ* of Klebs and Löffler which in a large percentage of cases may be demonstrated in the false membranes together with other bacteria, some of which, when present and sufficiently numerous, seem capable of enhancing its virulence. Normal cultures of *Bacillus diphtheriæ* inoculated to susceptible animals invariably reproduce the disease, the specific organism may be recovered from the inoculated animals, and the antitoxic serum of immunised animals is successfully employed, not only in the prevention, but also in the treatment, of this fearful disease, the mortality of which it has considerably reduced. But in

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[1] Archives de Médecine et Pharmacologie Militaires, 1892, No. 3, p. 204.

[2] Veterinary Pathology, vol. i., p. 233.

[3] Bulletin de la Société Royale de Médecine de Belgique, 1895.

Abyssinia, for instance, the natives look upon the red-throated *Francolin* and other *Phasianidæ* as unclean. The supply of live quails to the English markets is derived from Egypt, Italy, and Algeria. As many as 200,000 are often brought to Leadenhall Market in a month during the season. The quail would explain why the disease was called in ancient times "Egyptian or Syrian ulceration." In Egypt, at the proper season, quails are so plentiful that the people cannot consume, in a fresh state, the number captured and therefore salt them down for future use or dry them in the sun. Diphtheria is even now very prevalent in Egypt, especially in Cairo, although in recent years Alexandria has suffered rather more than Cairo. In Syria the disease is far from rare.

In making post-mortem examinations of birds that had succumbed to diphtheritis I found false membranes in the oviduct of a hen pheasant. This observation brought back to my mind the finding of two small shreds of yellowish membrane some time ago in the albumin of a fowl's egg which I had broken myself, and suggested the possibility of the transmission of diphtheria by means of the eggs of infected fowls. Looking up the literature of avian diphtheritis, I found that several authors have noticed diphtheritic patches in the oviduct of fowls and ducks. Thus some cases are mentioned by Petit in the *Recueil de Médecine Vétérinaire* for April 15th, 1903. Given disease of the oviduct, the *intra-ovum* inclusion of diphtheritic bacteria and even of entire shreds of false membrane is a matter of course. We know that not only bacteria and fungi may be found in the white of birds' eggs but occasionally also comparatively large metazoan parasites. I have myself found on separate occasions a trematode (*Prosthogonimus oratus*) and a nematode (*Heterakis papillosa*) in the eggs of fowls. They had been enveloped in the albumin whilst wandering into the oviduct. If any diphtheritic affection of the fowl is communicable to man, as is very forcibly suggested by numerous observations, then eggs must play an important part in the transmission of the disease.

The conveyance of diphtheria by means of milk and eggs would explain the great frequency of the disease in young children because their food consists almost entirely of these two articles frequently administered to them either in the raw condition or almost raw. It is probably by means of these foodstuffs that the disease is brought into towns, although, of course, it may also be introduced by infected human subjects or by infected animals, especially birds such as the ring dove and the house sparrow. Within recent years the ring dove has become quite common in all the parks and squares of large cities. It may be seen picking the seeds that strew the pavement of cab-ranks. It is quite conceivable that horses and sparrows may contract the disease from these pigeons. It is likewise conceivable that the cat, a natural enemy of the sparrow, may contract the disease from this bird, which is likely to fall an easy prey when paralysed by the disease. The rôle of the cat with regard to diphtheria appears to be of great importance. This animal after prowling in field and gutter has access to the sanctum of the bed-chamber, sleeps on the very bed, is fondled and kissed by the children, especially by the female children. Since 1800, when Noah Webster drew attention to the cat as a factor in the epidemiology of diphtheria, this animal has been noticed to suffer simultaneously with man in almost every outbreak of the disease.

Diphtheria epidemics are made up of extremely severe cases and of very mild ones. The numerous "sore-throats" which precede and accompany an outbreak of the disease may well be compared to the cases of *pestis minor* which precede and accompany the severe and fulminant cases of plague. In both instances the differences in severity may be due to the source from which the infection is contracted. It is quite possible that the parasite direct from some animal may produce in man a milder attack than when it has passed through the human subject and acquired a special adaptive virulence. Sir R. Thorne Thorne explained the relation between genuine diphtheria and the numerous cases of "non-infectious inflammatory sore-throat" noticed prior to, as well as during an epidemic of, diphtheria by "the progressive development of the property of infectiveness," and added, "I know no grounds for refusing to believe that organisms capable of producing a minor and an uncommunicable disease in particular stages of their growth, may in other stages of their growth, or in the course of their subsequent development, become capable of producing a major disease communicable from person to person, the affair being essentially one of soil."

In diphtheria, as in plague, we are confronted by the difficulties of a complex and intricate epidemiology. As in plague, so in diphtheria, a number of different animals seem to play a more or less important part in fostering and spreading the disease. But in diphtheria, as in plague, one particular kind of animal seems more especially concerned in the wider spread of the disease. In plague the rat, owing to its wide distribution, its great numerical prevalence, its close association with man, and, above all, its migratorial habits, is the true cause of the great pandemics which at various intervals desolate the world. In diphtheria probably a similar rôle is played by the pigeon.

It is obvious that in order to formulate efficient measures against any disease it is necessary to have a thorough knowledge of its causation and of the various factors that contribute to its spread and prevalence. I believe sufficient evidence has now been put forward to warrant a very earnest inquiry into the question of the relationship between human diphtheria and the similar membranous affections of the lower animals, and in an inquiry of the kind I should like to see the veterinary surgeon of the modern school take his full share of research work rather than adopt, as in the past, a negative hostile attitude which would be ridiculous in the face of the scanty and crude information at present available on the diphtheritic affections of animals.

Palace Gardens Mansions, W.

A CASE OF CAVITY OF THE LUNG SUCCESSFULLY TREATED WITH OZONE.

BY GEORGE STOKER, C.M.G., M.R.C.P. IREL., M.R.C.S. ENG.

THE conditions that existed in this case make it, as far as I can ascertain, unique, and the results obtained completely confirm facts that I stated long since, facts that were obtained by close work and observation extending over 12 years. For the following particulars I am indebted to Mr. L. Cutler, whom I had the pleasure of assisting in the administration of the oxygen inhalations, &c.

In January, 1907, the patient had pneumonia with pleurisy. For the pneumonia he derived great benefit from the inhalation of oxygen and to a small extent of ozone that was generated in his room. In February he developed empyema and on the 25th and 28th of that month portions of ribs were resected, one in front and one behind. The posterior wound healed satisfactorily but the anterior wound did not; the discharge became offensive with a putrid odour and was dark-bluish in colour and grumous in character. About March 7th he developed blood poisoning. For this latter complication he was treated by Sir A. E. Wright with a vaccine prepared from the staphylococci in the discharge from the wound. He had only two injections, on March 10th and 12th. On the 14th a piece of lung tissue of about the size of a pigeon's egg came through the wound, all the symptoms of blood poisoning disappeared, and from that time he made steady and satisfactory progress to recovery as far as his general health was concerned, but the wound did not show any disposition to close. The separation of the slough and no doubt the suppuration that existed resulted in the formation of a sinus and cavity that together extended to a distance of 6½ inches from the surface of the chest wall to where they communicated with the air passages. Both air and pus passed freely through the external opening. These were the conditions that existed when the patient consulted me in the end of last May Something over two months had elapsed since the cavity had formed. During this period the usual methods of treatment had been tried, including change of air, but as far as closing the sinus or filling up the cavity were concerned without success, though the patient's general health had greatly improved.

I had been able to effect cures in a number of sinus cases and amongst them one resulting from an operation for the cure of hernia which had been in hospital for six years and had resisted all the ordinary methods of treatment. I therefore decided to begin with ozone in the present case for several reasons: (1) Being a much more powerful agent than oxygen it was likely to produce results in less time and thus to shorten the period of treatment; (2) having a strong smell and taste it could be quickly detected in the mouth and nose and so demonstrate its passage through the air tubes; and (3) if eventually, being of the same strength and by the same micro-organism; later, at the Berlin Congress, he declared that he no longer considered the tuberculosis of birds identical with that of mammals; and in 1900, at the London Congress he asserted that bovine and human tuberculosis are quite distinct. Koch's statements embodied not only his personal observations but those of numerous investigators who had shown that tuberculous diseases differ in man, mammals, birds, and reptiles, and that in each class the specific organisms exhibit some differential characters. Already in 1884 Klein had expressed the opinion that human and bovine tuberculosis are not one and the same disease, but against the opinion formed in the laboratory was the opinion formed in the wider field of general experience. The evidence in favour of the transmissibility of bovine tuberculosis to man is overwhelming, and recent experimentation has proved it beyond doubt. I need but mention the conclusions of the Royal Commission appointed to inquire into the relation of human and animal tuberculosis as stated in their second interim report: "There can be no doubt but that in a certain number of cases the tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis and that in the majority at least of these cases the bacillus is introduced through cow's milk." Experimental investigation is therefore in perfect accordance with the experience of clinicians (Carmichael, Casper, and Heneke) who so far back as the beginning of the nineteenth century connected the prevalence of scrofula amongst children with the ingestion of milk from diseased cows.

With regard to avian tuberculosis opinion is also very much divided. In a recent paper on the subject[23] Mr. S. G. Shattock, Dr. C. G. Seligmann, Mr. L. S. Dudgeon, and Dr. P. N. Panton maintain the non-identity of the human and avian tubercle bacillus. But their experiments were limited to the infection of pigeons with human tubercle bacilli and of guinea-pigs and one Rhesus monkey with avian tubercle bacilli. The results were positive in both series of experiments, but the human bacillus set up only a local or glandular disease in the pigeon and the avian bacillus proved likewise only slightly pathogenic to the mammal. Had they used parrots and rabbits instead of pigeons and guinea-pigs their results would probably have been far more favourable to the specific identity of human and avian tuberculosis, because both parrots and rabbits are known to be just as susceptible to human as to avian tuberculosis. It is perfectly true that the bacilli of human tuberculosis differ from those of avian tuberculosis in morphological, cultural, and pathogenic characters, but we should not forget that considerable differences are also met with between the tubercle bacilli of different species both of mammals and birds. For instance, the hepatic tubercles of the fowl and of the pheasant are not only distinguishable from the hepatic tubercles of mammals, but they are highly differentiated amongst themselves, although developing in so closely allied animal species. Differences no less notable are observed when tubercle bacilli present in various individuals of the same species are compared with each other. Too much importance should not be given to such arbitrary differences of convenient classification. In very plastic organisms modifications are brought about very easily by environmental changes, even profound structural mutations may occur in a comparatively short time. Schmankewitsch was able to transform the crustacean *Artemia* into an entirely different genus *Branchinecta* within a few generations simply by a change in the salinity of the water. Our domesticated animals and cultivated plants offer numberless examples of extreme variation in members of the same species reared under different conditions. The tiny chihuahua spaniel differs considerably in form, size, and habits from the great Danes or mastiffs of northern Europe. In the numerous varieties of the domesticated pigeon we find considerable changes not only in form, bulk, and plumage, but in the very number, form, and proportion of bones in the skeleton. So great are these alterations that if these creatures were submitted for dissection to a naturalist who knew nothing of the history of the bird he would have no hesitation in classing them as belonging not only to different species but to different genera. Even without any appreciable structural change there may be important biological variations. The stem eel-worm (*Tylenchus devastatrix*) lives and reproduces in various cultivated plants, such as rye, oats, stored onions, hyacinths, buck wheat, potatoes, and clover, and in wild plants, such as *Poa annua*, *Anthoxanthum odoratum*, *Dipsacus silvestris*, and *Polygonum persicaria*, but not to the same extent in all. However, eel-worms, of which the progenitors have developed for many years exclusively in rye or buck wheat, are not easily transferred to another kind of plant or, at any rate, they do not multiply vigorously there. It is the eternal question of seed and soil.

With regard to parasitic organisms that have a wide zoological distribution I think we might aptly compare the several varieties from different kinds of hosts to the various "geographical varieties" of certain free-living species and term them "host varieties." To give them specific value is certainly wrong and misleading. At the utmost they might be classified as sub-species and receive the trenominal nomenclature, as already has been done for the host varieties of certain parasitic mites such as *Sarcoptes scabiei*. The important point is not to forget that all varieties derived from the same species are adaptive forms more or less intermutable. Thus, whatever may be the differences exhibited by tubercle bacilli from hosts belonging to different classes of the animal kingdom agreement is universal as to the identity of their soluble products, notably tuberculin.

With regard to diphtheria and its possible relation to similar membranous affections amongst animals, it is important to notice that of all known bacteria *Bacillus diphtheriæ* is the one which exhibits the greatest variation in morphological characters, cultural peculiarities, and pathogenic properties. The diphtheria toxins, like those of tuberculosis, are the same both in human and animal diphtheritis.

Epidemiology.—It is for bacteriology and experimentation to solve the question of the relation, if any, between human and animal diphtheritis. Meanwhile, however, we should not neglect the study of the epidemiology of the disease because if properly investigated it may not only throw light on this point but disclose other important facts. Unfortunately, the epidemiology of diphtheria has been entirely misunderstood by the majority of investigators and greatly obscured by erroneous etiological preconceptions. Most physicians and medical officers of health even now believe that diphtheria is brought about by faulty sanitary circumstances. It is owing principally to this error that so little progress has been made in our knowledge of the natural history of this formidable disease. A careful examination of reports of numerous outbreaks shows very clearly that insantary conditions of dwellings, defective sewerage, polluted water-supplies, poverty, and uncleanliness have no special connexion with the incidence of diphtheria. It is true that unhygienic conditions may lower resistance and that overcrowding may favour the spread of the disease, but such circumstances are always present in every place. Diphtheria has prevailed with equal frequency and intensity amongst the poor and the rich, in the filthiest tenement houses and in the healthiest surroundings. Dr. Longstaff has shown that in England certain divisions, such as London and the North-Western (comprising Cheshire and Lancashire), which are by far the most densely populated and have the highest general death-rate, enjoy a low diphtheria mortality, whilst others, with a population mainly rural and a general death-rate below the average, show a high diphtheria mortality. Moreover, within recent decades diphtheria has considerably increased especially in large cities notwithstanding the general improvement of sanitation which has so greatly reduced the incidence of other infectious diseases.

Although sanitary conditions seem to have no influence whatever on the incidence and diffusion of the disease, yet many facts point strongly to the existence of some relation between diphtheria and manure.

In the majority of cases infection may be traced to an antecedent case and the influence of school attendance on the diffusion of the disease is now so generally accepted that the closing of schools is the earliest, if not the chief, measure adopted by local authorities to prevent the spread of the disease. No better proof of the contagiousness of diphtheria could be adduced than the fearful holocaust of physicians and nurses that professional devotion has sacrificed to this fell disease. It seems also beyond doubt that infection may be communicated by means of the bedding, clothing, and other articles used by the sick, and that premises occupied by diphtheritic patients may retain the power of infectiousness for months. It is important to notice, however, that the contagiousness of the disease presents certain limitations. It is frequently confined to a placed between the shoulders behind and a pad also over the dislocated head of the bone.

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[23] Proceedings of the Royal Society of Medicine, vol. i., 1907.

Rose and Carless state that the dislocation is due to violence applied to the front of the acromial end. They advise a figure-of-eight bandage, with a pad in the axilla and one over the sternal end of the bone, and rest in bed.

Duncan Eve, in the Reference Handbook of the Medical Sciences, states that of 497 cases of dislocations particularised at the Hôtel Dieu, Paris, the humerus was dislocated 321 times, the femur 34 times, the clavicle 33 times, the elbow 26, the thumb 17, the wrist 13, and each of the other bones less than 10. Professor Hamilton, in his classical work on dislocations, states that he has seen 57 cases of dislocations of the clavicle, 13 of which were at the sternal end, and 11 of these were forward dislocations of this end, and in not one of the 11 was the treatment successful in preventing an easy recurrence. The sternal end is usually thrown forward by a fall on the shoulder, *front or outside*, by pressure and leverage. Pain and embarrassment in the use of the arm follow. Eve, too, states that it is difficult, if not impossible, to maintain in position after reduction. Stimson, like Hamilton, is equally unfavourable in his prognosis. Wharton and Curtis say that it is unfavourable as to complete correction. Compression over the head of the bone and a figure-of-eight bandage, Récamier's dressing for fracture of the clavicle, Sir Astley Cooper's brace apparatus, plaster-of-Paris apparatus, decubitus for six or eight weeks, have all been advised, tried, and failed. Eve personally favours a carefully applied figure-of-eight bandage, with compression over the head of the bone, to be maintained for six or eight weeks with the elbow secured in proper position by means of a sling and bandage confining the arm to the chest.

Von Bergmann finds this dislocation to be 1·5 per cent. of all dislocations and to be caused by a blow on the shoulder. The deformity, he says, is rarely completely reduced and retention is rarely successful, regardless of the kind of splint or support used. He advises rubber plates over the joint, fastened down by straps, a figure-of-eight bandage, plaster-of-Paris apparatus, injection of alcohol around the joint, König's suturing of the capsule, or Gersuny's transplantation of the tendon of the sterno-cleido mastoid.

Cheyne and Burghard state that this dislocation results from severe violence to the point of the shoulder, backwards in direction, or forwards or downwards. To reduce it the surgeon should put his knee between the patient's shoulders and pull the shoulders back and press the sternal end in; an anæsthetic is generally advisable. It is often a matter of the greatest difficulty to keep it there and a great deal of care is necessary to prevent recurrence. The shoulders should be braced back as for fracture of the clavicle with handkerchiefs and the elbow supported and brought well forward with strapping.

Warren and Gould point out that the joint owes its security to the curves of the clavicle, mobility of the scapula, and play of the acromio-clavicular joint, the sterno-mastoid and pectoralis major tendons adding to the joint ligaments, the costo-clavicular ligament, and the inter-articular fibro-cartilage. Out of 812 dislocations 21 (or 2·58 per cent.) were anterior dislocations of the sternal end of the clavicle according to the St. Thomas's Hospital Reports. Out of 400 dislocations six (or 1·5 per cent.) were of this class according to Krönlein's statistics. It is caused almost invariably by indirect violence to the shoulder, also by muscular action, as in swimming. As to prognosis, though easy of reduction, it can rarely be kept in position and more or less deformity results. They advise a pad in the axilla, plaster-of-Paris apparatus, or the figure-of-eight bandage, and the recumbent position is desirable for at least five or six weeks.

The patient in this case, a girl, aged 18 years, was first seen by me on Dec. 4th, 1905, in consultation with Dr. Danard of Owen Sound. Her trouble was that the sternal ends of both clavicles would so easily dislocate that the performance of ordinary household duties, like pumping water, hanging out clothes, practising music, &c., was impossible. Any movement that threw the shoulders backward and upwards produced the dislocations. She voluntarily dislocated one of the joints in the office for us. When dislocated she was in considerable pain and there was, of course, entire loss of function then of the whole arm. A little manœuvre and pressure and the head of the bone popped in again to its proper place. This had been going on for about five years, a disheartening condition that so reacted on her physically as to produce considerable anæmia and poor appetite and debility.

As to the measures previously employed in her case, her father writes me as follows: "The following remedies were tried but without success: (*a*) the use of shoulder-straps by pressure to keep the clavicles in position, but the effect was to produce dislocation and continue it until the straps were removed. We gave up the use of the straps after a week's trial. (*b*) A local blacksmith under the direction of the family physician made a steel spring fitting into the corset behind, coming over the shoulder and by means of a wooden button and spring pressing on the left clavicular joint. After two weeks this was abandoned. (*c*) A plaster cast was made of her bust and a poroplastic jacket was moulded from the cast with steel springs pressing both joints into position and keeping them there. In a few months ulceration began under the springs. This was somewhat removed by the use of rubber cushions between the springs and the body. She continued to wear the jacket for one year and six months when the family physician decided to discontinue using it. Other remedies proposed but not adopted on proper advice were to fasten the joints with silver wire, to fasten with screws, to pad under the arms and hold the arms back for several months," and I might add, to shorten and suture the anterior ligament of the joint.

When examining this young lady I was struck with the evidence of strength in the joint; it went out with a vicious snap and in again with a quick snap as if strong but overcome with a stronger force. Yet no great effort was being used in producing the dislocation. I concluded it was leverage that was doing it and decided that to spoil the lever would be good treatment. Her clavicles were uncommonly straight, not having that useful but unsightly anterior curve at their inner end. The fulcrum of the lever was evidently the first rib right under the clavicle at the location of the rhomboid ligament, so that when the shoulders went back the sternal end of the clavicle was levered forward. Dr. Danard and I concurred in advising her and her father to allow us to break both her clavicles at the fulcrum point and then to force them to heal with an anterior curve or angle at that point. They consented and on March 6th, 1906, at the Owen Sound Hospital, Dr. Danard assisting and Dr. Cowper giving chloroform, I sawed nearly through each clavicle at a point one inch from the inner end so as to be about the middle of the costo-clavicular or rhomboid ligament which had half its fibres thus attached to each fragment, and bending back the shoulders broke the bones through. It was now impossible to produce dislocation, as we tried it on the table. The incisions were then sewed up and both healed by first intention. The shoulders were held back by figure-of-eight bandages and plaster-of-Paris dressings *in the utmost of the position that before this used to produce dislocation*, so that they healed with a considerable angle at the point of fracture. She was kept in bed four weeks.

As to the result I will again copy from a letter of her father dated May 15th, 1907, one year and two months after the treatment. "Since the operation her general health has been better than for fifteen years back. Before the operation she was usually sick, depressed, without appetite, and suffering from severe headache. She has none of these symptoms now. The right clavicle has never been dislocated since the operation. The left did dislocate two or three times immediately on leaving the hospital; twice at home since then; and latterly three partial dislocations—that is, the clavicle did not come out of joint entirely. The last of these took place on the 21st of Sept., 1906, eight months ago. Since then there has been no dislocation of either clavicle. She can now do any domestic work without pain or inconvenience—as pumping water (which she could not do for the last five and a half years); scrub and sweep floors; do ironing; make beds; wash clothes and put clothes on the line; sew; practise music on the piano; comb her own hair and dress. These could not be done by her formerly, or else caused her much suffering. The operation has been a complete success." In regard to the dislocations that occurred on the left side after the operation, I predicted to him that these would cease as soon as the provisional callus on the under side of the clavicle should be absorbed.

This little operation of fracturing the clavicle for dislocation of its sternal end is, I believe, an entirely new idea in the treatment of this disease. I have seen no suggestion of it in any treatise, text, paper, or discussion. It is a valuable addition to our resources in handling this distressing condition, a condition the treatment for which has resulted in failure in from 75 to 100 per cent. of the cases recorded. The good result arising from this operation is caused by the that the epidemiological data strongly support a relationship between human diphtheria and similar affections in the lower animals and that conversely the interchange of the disease between the lower animals and man explains many points in the epidemiology of diphtheria hitherto obscure and impenetrable.

As soon as we recognise the unity of the disease in man and in the lower animals we immediately understand its geographical peculiarities, its seasonal prevalence, its cyclic recrudescences, its rural distribution, its preference for the neighbourhood of water bodies, its progress along the direction of the prevailing winds, the frequent occurrence of cases in isolated farmhouses, in out-of-the-way places along the sea-coast, the greater prevalence among children, especially female children, the heavier toll it levies on mounted troops as compared with infantry, the connexion with manure, the recent increase in towns, the unimportance of geological, orographical, meteorological, and sanitary conditions. But to understand thoroughly all these facts we must, in the first place, recognise that as in plague and tuberculosis so in diphtheria the epidemiology of the disease is exceedingly complex owing to the wide zoological distribution of its causative agent and the various interaction of different animals brought about by variations in the specific organism which render it more or less adaptable to animals nearer allied to or further removed from the usual host species, just as in the case of the eel-worm aforementioned.

A certain number of epidemics have been traced to milk containing the specific organism. In most cases evidence pointed to the cow as the source of the infection; anyhow, the disease was thus traced from town to farm, and not infrequently at the farm either human beings, or cats, or swine, or poultry were found to be suffering from throat affections.

Other outbreaks limited to cavalry regiments or to certain stables and mews seem to indicate with equal suggestiveness the horse as the source of the disease in man; here also cats and poultry or sparrows seem to have suffered similarly at the same time. The prevalence of the disease in cattle and horses would explain the suspicion which has been so long and persistently attached to manure. Tissier[31] and Longuet[32] observed that in 40 per cent. of cases manure, on which diphtheritic fowls had been disseminating false membranes, was responsible for the diffusion of the disease. Dr. Newsholme and others have suggested that the diphtheritic germ might spend a stage of its life as a saprophyte in the soil, on manure, or on rags. I would draw attention to a possible rôle of the house fly in this connexion. Manure, especially horse manure is the chief breeding place of this insect. Countless numbers of its larvæ and pupæ may be found in every heap of manure, and it is for this very reason that fowls are attracted to manure heaps. Diphtheritic bacilli present in the manure from the horse or in the false membranes expectorated by the fowls may be ingested by the maggots and retained in a living condition within their intestines. We know that the bacilli of plague, tuberculosis, enteric, cholera, anthrax, &c., pass unharmed and may even be retained alive for weeks in the digestive tract of flies and other insects. Stiles placed fly maggots with some *Ascaris lumbricoides* and the latter were devoured; the eggs of the *Ascaris* were found not only in the fly larvæ but also in the pupæ and in the adult insects which developed from them. Evidently, then, the adult fly would serve as a disseminator of the parasite and if the eggs obtained the proper stage of development the fly might infect man directly by depositing them on articles of food.

The great frequency of diphtheritis amongst fowls, domestic pigeons, and certain game birds, such as pheasants and partridges, that are reared by the thousand in the neighbourhood of farms has long suggested the transmission of the disease from the farm birds to the farm mammals and either directly or through the latter to man. Finally, it is only reasonable to surmise that the farm birds, at any rate the farm pigeons, may contract the disease from the wild pigeons and more especially the wood pigeon or ring dove (*Columba palumbus*), the flocks of which are known to be subject to deadly epidemics of diphtheritis. The ring dove is generally distributed throughout Europe and is very common in Great Britain, having increased largely in numbers within recent years owing to the destruction of birds of prey, the increase of coverts and the great amount of land now planted with turnips and other green crops serving to supply it with food in the winter months. It collects in immense flocks in autumn, and in severe winters the local birds receive considerable accessions through migration either from the north or the continent. In October and November, 1884, the country between Berwick-on-Tweed and Yarmouth was greatly infested by migratory flocks and another large immigration was noticed in 1894. The steady increase in the number of wood pigeons during recent times, their greater abundance in the eastern districts, especially during autumn and winter, and their invasion of towns within recent years explain in a most remarkable way the rural distribution of diphtheria, its occurrence in isolated places, especially near the coasts or even in lighthouses, its greater frequency in the eastern districts of this country, its prevalence during the last quarter of the year, and its recent increase in towns.

Concurrently with the ring dove other *Columbidae*, such as the stock-dove (*Columba oenas*), have also to be considered as possible factors in the epidemiology of diphtheria. The stock dove has also greatly increased in England within recent years. In many parts of Central Europe this species is even more abundant than the ring dove. In this country it inhabits wooded crags in Wales, the cliffs of Dorset, some parts of Devon, Derbyshire, and even those near Flamborough Head in Yorkshire. In treeless areas, such as are met with in Suffolk, Norfolk, Lincolnshire, the East Riding of Yorkshire, Lancashire, Cumberland, &c., it deposits its eggs in rabbit burrows. This peculiar habit might suggest the transmission of diphtheritis between the bird and the rodent. Experimentation has shown that pigeon diphtheria can be transmitted to rabbits by inoculation. The distribution of the *Columbidae* as a group, their migratory habits, and the considerable increase of certain species in recent years are sufficient to explain the epidemiology of diphtheria, just as the distribution and migrations of rats explain the epidemiology of plague.

There is another bird which I should like to mention in connexion with diphtheria and that is the common quail (*Coturnix coturnix*). I am not aware that any one has ever reported the disease from this bird, but it belongs to the family *Phasianidæ* that includes fowls, turkeys, pea-fowl, guinea-fowl, pheasants, and partridges, all of which are severely affected. The quail is notable for its extended migrations. Its range is very great, for it extends throughout the whole of Europe, in Asia as far east as Japan, and in Africa as far south as the Cape Colony. Immense flocks annually visit the countries bordering on the Mediterranean, especially on the spring migration, when, as of old in Sinai, multitudes come up in the night and cover the land. The majority pass northwards though many remain to breed. In autumn, on the other hand, a considerable number sojourn in the south of Europe and the north of Africa, though the majority go further south, always travelling with the wind. In England the quail used to arrive regularly every spring and leave for the south in October; some remained throughout the year in mild winters. They used to be plentiful in Hertfordshire, Cambridgeshire, Suffolk, Norfolk, Lincolnshire, and Lancashire, and from time to time unusual influxes took place. In recent years the bird has become exceedingly rare in this country. There is a passage in the Bible (Numbers xi. 31–34) that I am greatly tempted to look upon as indicating not only the occurrence of diphtheritis in the quail but also its tranference from this bird to man. The text says:—

> 31. And there went forth a wind from the Lord, and brought quails from the sea, and let *them* fall by the camp, as it were a day's journey on this side, and as it were a day's journey on the other side, round about the camp, and as it were two cubits *high* upon the face of the earth.
>
> 32. And the people stood up all that day, and all *that* night, and all the next day, and they gathered the quails: he that gathered least gathered ten homers: and they spread *them* all abroad for themselves round about the camp.
>
> 33. And while the flesh was yet between their teeth, ere it was chewed, the wrath of the Lord was kindled against the people, and the Lord smote the people with a very great plague.
>
> 34. And he called the name of that place Kibroth-hattaavah: because there they buried the people that lusted.

Now, it seems to me that no other disease could explain more satisfactorily than diphtheria the plague implied in this passage. Diphtheria manifests itself in the very fauces, and the text seems to indicate this localisation in a figurative way by stating that the Lord smote "while the flesh was yet between their teeth." The flesh of the quail has often been looked upon as poisonous. Pliny ascribes its poisonous qualities to the birds eating hellebore and the seeds of other poisonous plants. The Arabian physicians proscribed its use. In many parts of Northern Africa, in chiefly because of the fear of infection and also because hæmorrhage was going on in the pelvis. The circumstances in which the rupture occurred were such as to make infection almost certain. The cottage was dirty, there were no towels, and there was only a limited supply of hot water. On this account neither the hand of the accoucheur nor the vulva of the patient was in an ideally aseptic condition.

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[31] Revue d'Hygiène, 1887, p. 914.

[32] Ibid.

At 4 P.M. on July 5th, 1907, my partner, Dr. W. Blackwood, was urgently summoned to a multipara, aged 32 years, and living at a distance of three miles. The baby had been born one hour or more with the aid of the county nurse but the placenta was retained. On introducing his hand into the uterus through a rather contracted os Dr. Blackwood found to his horror that his hand was in contact with the intestines. After removing the placenta and giving ergot—the hæmorrhage not being excessive—he had the patient removed by ambulance to the Redruth Women's Hospital. At 7 P.M. I held a consultation with Dr. Frank Hichens of Redruth, when it was decided to remove the uterus. An injection of $\frac{1}{30}$th of a grain of strychnine was given. On opening the abdomen I found that the pelvis was full of clots and that a large rent extended from the cervix through the right broad ligament, passing in front of the uterine vessels. The ovarian arteries were tied on the uterine side to leave both ovaries and after ligature of the uterine arteries the uterus was removed above the cervix. A roll of gauze for drainage was inserted into the cervical rent to Douglas's pouch.

The patient's temperature was almost continuously between 99° and 101° F. from July 5th to 13th, the highest points recorded being 102·4° on the 10th, when there was a rigor lasting 15 minutes, and for the second time 102·4° on the 13th. From July 13th to August 8th it was usually between 98·4° and 100°. The gauze drain was removed on the 12th and the stitches were removed partly on the 17th and partly on the 19th. On August 3rd the wound was healed. Enemata containing two drachms of oil of turpentine were frequently administered during the progress of the case and small doses of sulphate of magnesium were also given by the mouth.

The patient's convalescence has been interrupted by vesical pain, doubtless due to adhesions, as they are rapidly improving and there is no cystitis. I fear if the course sometimes adopted of gauze-plugging the rent had been adopted the patient would have succumbed to septic peritonitis.

Camborne, Cornwall.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

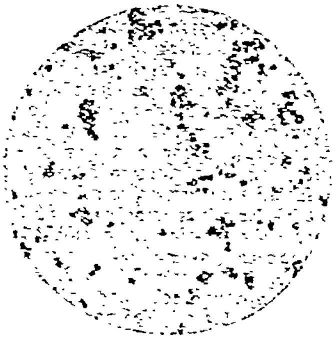
Tuberculosis Treated by Tuberculin.—Ureteral Calculus.

A MEETING of this section was held on March 27th, Sir HENRY R. SWANZY, the President, being in the chair.

Dr. FRANK J. DUNNE exhibited two patients who had suffered from Tuberculous Disease of Joints and had been treated by Denys's tuberculin. The first patient was a man, aged 39 years, who had been affected with a tuberculous ulcer of the lower third of the leg and ankle-joint for five years, as well as with several sinuses on both arms. An x ray photograph showed extensive matting and pulping of the bones of the tarsus. All discharge ceased early in September, 1907, and the patient had good use of his foot and both arms. The second patient, a girl, aged 20 years, suffered from tuberculous disease in the wrist for about three years and in both ankles for over two years. The wrist was scraped with little improvement. When treatment commenced this patient was very much run down. Her temperature varied from 100° to 102° F., her pulse-rate was 100, and her weight was 6 stones 3 pounds. All discharge ceased early in June and her temperature had not since then been above normal. An x ray photograph showed matting and pulping of every bone in the wrist-joint, yet the girl had good use of the hand and could walk perfectly. In both these cases treatment lasted for about a year. The man gained 1 stone 9 pounds in weight and the girl 3 stones 6 pounds. In both cases about 50 injections were given.—The PRESIDENT said that he had only used Koch's tuberculin T.R. It now appeared that Denys's tuberculin was a very effective preparation.—Mr. JOHN LENTAIGNE said that he had recently had a large number of cases of complete recovery from tuberculous disease, the time of which was measured by months, not by years, as in the cases exhibited. He appreciated the good work which had been accomplished by Dr. Dunne but he believed that the results would have been more quickly attained by surgical assistance. In assisting surgical treatment by tuberculin he had found that Koch's tuberculin had not to be given so often as Denys's. Perfect recovery had been obtained by gauging the injections by the opsonic index but it was a difficult method.—Professor E. J. MCWEENEY said that the method for obtaining Denys's and Koch's tuberculin was the same up to a certain stage. Both grew the tubercle bacillus on the surface of a broth containing 5 per cent. of glycerine and filtered off the bacilli. But Koch's method from that point consisted in evaporating the liquor of the culture to one-fifth of its original bulk, while Denys used it without reducing it in volume. The difference, then, was that Denys's tuberculin contained presumably toxic and presumably therapeutic materials which were easily destructible; these would be destroyed by boiling in Koch's tuberculin. The latter was more concentrated than Denys's but he was not aware of any difference in the dosage. Nowadays the tendency was to have a small dosage and to avoid producing a reaction in a rise of temperature; in Koch's old system a rise was considered necessary. He had lately been working with tuberculin in obtaining the ophthalmo-reaction. He used Koch's old tuberculin diluted to the strength of 2 per cent. This provided material for hundreds of patients at a cost of 8*s.* 6*d.* One drop produced the desired result. Contemporaneously with this he used the cutaneous reaction by inoculating both arms, the right arm with a drop of 25 per cent. of the old tuberculin and the left arm with 3 per cent. boric acid solution. In a couple of cases he thought that he noticed a marked therapeutic result from the method in the absorption of a pleural effusion and in two other cases there was a distinct improvement in the symptoms. As the result of his experience of the opsonic index he stated deliberately that, in his hands at least, he had never been able to convince himself that the errors of experiment did not outweigh the very slight differences from the normal obtained by means of the method, and he did not think he would attach any importance to opsonic indices obtained otherwise than by Sir A. E. Wright himself, his immediate assistants, or those who had worked for a prolonged period under his immediate supervision. He had treated a few cases in private for tuberculous glands in the neck and he did so deliberately without estimating the opsonic index. After the injections of bacillary emulsion the glands had a tendency to swell and afterwards they rapidly underwent diminution and practically disappeared.—Dr. DUNNE, in reply, intimated that he had too many calls on his time and too little assistance to be able to use the opsonic index. He was guided as to the dosage by the effect of the injection on the patient. That might be a temperature reaction or a local reaction, but as much as possible he avoided a temperature reaction. If there was marked reaction he either left a longer interval or reduced the dose. He quite agreed that operative treatment would in some cases materially hasten recovery. He had about 90 cases under tuberculin treatment and he found that he got the best results with small doses at short intervals. After three and a half years of using tuberculin he was firmly convinced that, so far as their present knowledge went, there was no treatment anything like equal to it for tuberculous affections, no matter where situated.

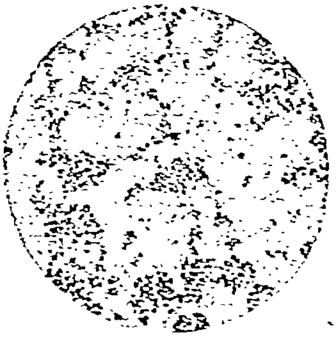
Mr. C. ARTHUR K. BALL read a paper on the Diagnosis of Impacted Calculus in the Ureter and gave an account of a case in which an erroneous diagnosis of impacted calculus in the ureter was made even with the assistance of an excellent radiograph taken with a shadowgraph bougie *in situ*. The case was that of a man who had been operated on elsewhere six months previously for renal calculus. Since the operation all the urine from that kidney came through a fistula in the loin. A shadow by the x rays of a supposed stone was found, apparently in the ureter; this was verified by several radiographs and the relation to the ureter established by use of a shadowgraph bougie. The ureter was exposed by an extraperitoneal iliac incision but no stone was present. The under the same pressure, the ozone took a longer time to reach the mouth and nose, and if the smell and taste were not so evident, this would point to some diminution in the size of the cavity and the calibre of the sinus. I say eventually because the first result, as will be seen, would probably be to facilitate the passage of the ozone into the mouth and of air through the external opening. The ozone was quickly smelt and tasted. At the end of the first week both passed more quickly and freely. This was an indication that the cavity was getting smaller. Gas under the same pressure will pass more freely through a tube that is interrupted by a cavity or expansion in proportion as the size of the cavity or expansion diminishes. During two days in the second week of treatment little or no air passed through the external opening and the ozone did not pass so freely into the mouth and nose. On June 13th the patient reported that air only passed through the sinus when he was lying down. On the 24th no air had passed through the sinus for three days. On July 9th the patient was cured and the external opening was closed. The treatment was carried out on 30 days during a period of seven weeks.

FIG. 1.



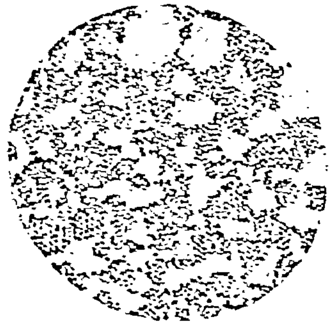
May 23rd, before treatment. 1. Streptococcus in large quantity. 2. Diplococcus in large quantity.

FIG. 2.



May 30th. 1. Streptococcus, large quantity. 2. Diplococcus, decreased quantity. 3. Staphylococcus albus and aureus, increased quantity.

FIG. 3.



June 23th. Staphylococcus albus and aureus, pure cultivation. An intermediate stage between Figs. 2 and 3, which is not shown by a photograph, showed: Streptococcus very few. Staphylococcus albus and aureus, largely increased quantity.

The bacteriological changes that took place in this case serve, I think, to confirm the views that I have often expressed: (1) Micro-organisms that are under healthy conditions good and useful will under unhealthy conditions become hostile; (2) that unhealthy micro-organisms require unwholesome matter for their nourishment; (3) that ozone and oxygen act by so changing and purifying the discharges that unhealthy micro-organisms, being deprived of the matter necessary for their existence, decrease and finally disappear; and (4) that oxygen and ozone have this effect on every micro-organism I have ever been able to discover in wounds or suppurating surfaces except the staphylococci, which under these conditions increase in number and often in size. These conclusions are the result of observations and microscopical examinations of the pus from some 500 cases treated with oxygen and ozone.

Bearing on the above conclusions, it is a significant fact connected with this case that the vaccine that produced such successful results was prepared from the staphylococci existing in the offensive and putrid discharge from the wound in a patient suffering from blood poisoning, yet in the same wound but under the influence of ozone and oxygen these very staphylococci steadily increased as the healing process proceeded, and were to me a clear indication that a healthy condition had been re-established and that cure would eventually take place.

Before commencing the treatment a specimen of pus was taken from the wound and a cultivation was made from it for microscopical examination. This was repeated at intervals during the treatment. The micro-photographs taken of the slides that were prepared show steady decrease and final disappearance of those micro-organisms that are hostile to healing, and a steady increase of the staphylococci which under the influence of ozone and oxygen always increase in number and often in size as the healing process proceeds.

Hertford-street, W.

ANTERIOR DISLOCATION OF THE STERNAL ENDS OF THE CLAVICLES: TREATMENT BY FRACTURE OF THE CLAVICLES WITH GOOD RESULTS.[1]

BY T. H. MIDDLEBRO', M.B. TOR., F.R.C.S. ENG.

I MAY first recall the anatomical outlines of the sternum. The upper end of the sternum is divided into three areas: a central, which is the interclavicular area, and two lateral ones, which are shallow depressions in which articulate the comparatively large inner ends of the clavicles. An inter-articular disc of fibro-cartilage lies in each joint, attached above to the clavicle and below to the lower margin of the joints. Each joint has an anterior sterno-clavicular ligament, a posterior sterno-clavicular ligament, and an interclavicular ligament. The strongest bond, however, holding the bones in apposition is the rhomboid or costo-clavicular ligament. This structure is short and strong, about one inch in breadth, and the centre of it is about one inch from the inner end of the clavicle, and its fibres pass downwards and inwards to the first rib or its cartilage. The sterno-cleido-mastoid muscle attaches to the anterior surface of the inner end of the clavicle.

An epitome of the opinions of some prominent surgical authors on the causation of this dislocation will show the arguments present in my mind when advising the treatment. Erichsen states that it is caused by blows on the shoulder, bending the shoulder forcibly back, or by violence to the elbow while the arm is raised from the side, and occurs spontaneously sometimes in lateral curvature of the spine. It is reduced by pulling the shoulder outwards and backwards while the elbow is in front of the mid-lateral line. There is a tendency to dislocate again. To lessen this tendency he uses a figure-of-eight bandage as in fracture of the clavicle to draw the shoulders well back and a large pad is for the symptoms. Nothing was found and the child died. On post-mortem examination a lepto-meningitis at the base of the brain was found. A caseous nodule of the size of a pea was found in the anterior part of the pons on the left side. Another similar nodule was found on the right occipital lobe just under the pia mater. The extension was probably by the blood stream.—Dr. John Rowan showed a number of stereoscopic photographs illustrative of External Diseases of the Eye prepared by the Lumière colour process. He pointed out that by this means they had a valuable method of recording the different stages of many diseases, more especially those of the skin.—The President described, with stereoscopic photographs, a very large External Fibro-cellular Tumour of the Nose.—Dr. Carl H. Browning read a paper on the Treatment of Trypanosome Diseases by means of Atoxyl and its Derivatives. The strain of trypanosomes chiefly employed was nagana, which killed white mice in three days. The injection of the largest safe dose of atoxyl cured only 8 per cent. With acetyl-para-amidophenylarsenic acid (a derivative of atoxyl synthesised by Ehrlich and Bertheim) over 93 per cent. were cured. Treatment was started 24 hours after inoculation. When only started 48 hours after, the atoxyl derivative must be given in repeated large doses. In advanced infections another method of treatment was by a combination of the most efficient drugs of different chemical types—e.g., acetyl-atoxyl plus trypan blue or by injection together with oral administration. The curative results are not due to an internal antisepsis in the ordinary sense of the term, as neither atoxyl nor trypan blue is trypanocidal in vitro. By treating infected animals with repeated small doses there was ultimately produced a trypanosome strain which was resistant to the largest doses of a drug of the same class. Thus an atoxyl-resistant strain was developed which could not be influenced by repeated large injections of the atoxyl derivative.

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[1] A paper read before the Owen Sound Medical Society, Owen Sound, Canada.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 10th, Dr. W. Langdon Brown, the President, being in the chair.—The President showed a man, aged 34 years, with a Right Subphrenic Abscess which he was coughing up through his lung. A skiagram showed a bulging up of the diaphragm on the right side, and the area of dulness changed on the patient changing his position. The character of the sputum was that of "anchovy sauce pus" and gave the reaction for bile.—Dr. Leonard Williams showed: 1. A man, aged 31 years, with well-marked persistent Cardiac Arrhythmia. There were systolic and diastolic murmurs at the apex and the arrhythmia was caused by the interference to the function of conductivity, probably due to degeneration of the auriculo-ventricular muscular bundle of His. 2. A man, aged 64 years, who complained of tingling in both hands. There was a systolic murmur at the base due to chronic aortitis, and both radial and brachial arteries were definitely hard and tortuous, so the arterio-sclerosis going on evidently caused the tingling.—Dr. T. Grainger Stewart showed a married woman, aged 32 years, who for the past three months complained of "pins and needles" down the inner side of the left arm and pain in the region of the left scapula. The left arm was weaker than the right and the muscles of the arm and the interossei were beginning to waste. She also had slight numbness and weakness of the left leg. The left pupil and the left palpebral fissure were smaller than on the right side. On examination there was complete loss of all forms of sensation along the inner side of the left arm and across the chest and back corresponding to the area supplied by the first, second, and third dorsal nerves. Both knee-jerks were active but the left one soon got exhausted. The signs and symptoms pointed to pressure on the left pyramidal tract and the lesion was probably an endothelioma inside the neural canal involving the posterior roots, more especially the first, second, and third dorsals.—Mr. A. J. Kendrew (for Dr. E. Cautley) showed: 1. A woman, aged 68 years, with a Saccular Aneurysm of the Ascending Aorta. At the level of the second right interspace there were a patch of dulness, a well-marked thrill, and a loud systolic murmur. There was no difference in the voice, pupils, or pulses. 2. A man, aged 33 years, with an Aneurysm of the Ascending and Transverse Aorta. At the level of the second and third interspaces there were a patch of dulness and a loud diastolic aortic murmur. There were well-marked tracheal tugging and complete paralysis of the left vocal cord causing hoarseness and a "brassy cough." 3. A man, aged 49 years, with an Aneurysm of the Transverse and Descending Aorta. Systolic and diastolic murmurs were heard all over the præcordium. There was well-marked tracheal tugging but no paralysis of the vocal cords.—Dr. N. S. Finzi described the rapid cure of old-standing Varicose Leg Ulcers by the driving in of zinc ions with the galvanic current.—The following office-bearers were elected for the session 1908–09: President: Dr. A. Morison. Honorary secretary: Dr. David Ross. Honorary treasurer and curator: Dr. B. G. Morison. Council: Dr. W. Langdon Brown, Dr. J. R. T. Conner, Dr. Leslie Durno, Mr. G. Angus Hunt, and Mr. W. Campbell M'Donnell.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of the Pathological Section of this society was held on April 2nd, Mr. T. H. Bickerton, the President, being in the chair.—Dr. A. Nimmo Walker and Dr. W. L. Hawksley showed Films from a Fatal Case of Diphtheria of the Conjunctiva. The patient was a year old and death took place on the ninth day of the disease.—Mr. G. P. Newbolt showed a Section of a Tumour removed from a male, aged 50 years. The tumour began in the glands of the neck and grew on to the parotid gland. It had lasted two years. It appeared to be a sarcoma with large angular cells packed closely together without any visible stroma.—Mr. W. Thelwall Thomas and Dr. J. S. Rowlands showed: 1. Tumour of the Coccyx removed from a man, aged 45 years. The growth was firm and lobulated. Microscopically it consisted of spaces filled with large cells. It was probably associated with the post-anal gut. 2. Cylindrical-celled Carcinoma from the Humerus from a man, aged 53 years. It had caused spontaneous fracture. The primary source of the carcinoma could not be ascertained at present. 3. Early Tubercle of the Kidney removed from a patient, aged 28 years. The diagnosis rested on cystoscopic evidence and the presence of tubercle bacilli in the urine.—Dr. J. Owen showed: 1. A portion of Small Intestine with Multiple Diverticula. There were about a dozen in number, the largest capable of containing the whole thumb. They were situated close to the mesenteric attachment. The specimen was from a post-mortem examination of a man, aged 69 years, who had died from cerebral hæmorrhage. 2. A Heart from a child, aged four years. The pulmonary orifice was reduced in size and there were a patent foramen ovale and deficiency of the upper part of the interventricular septum.—Dr. Rowlands described an Analysis of 26 Renal Calculi. Only three contained uric acid. The others consisted of calcium oxalate. The external appearances were no guide to the chemical nature of the calculi. The calculi had been removed by Mr. Thelwall Thomas and the analysis carried out at his suggestion.—Dr. O. T. Williams read a paper on the Etiology of Appendicitis. He showed that appendix concretions were largely composed of calcium and saturated fatty acids, were concentrically laminated, and therefore formed *in situ*. The normal secretion of the appendix contained the same fatty acids as found in the concretions. The micro-chemical nature of the changes in the appendix mucous membrane was described. In cases of appendicitis there was even in children a large deposit of calcium soaps in the mucosa, in many cases almost a complete ring being laid down. This was quite sufficient to cut off the nutritive supply of the mucous membrane and thus to predispose to the invasion by micro-organisms. Slight amounts of free fatty acid were found in the submucosa and also to some extent the formation of calcium soaps in the mucous membrane. The relationship of the nature of the fat in the diet to this disease was discussed.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 1st, Dr. A. T. Wilkinson, the President, being in the chair.—Dr. A. A. Mumford related a series of cases illustrating the Influence upon the Growth of Children exerted by a Defective Metabolism of Fat when this was prolonged over a series of years. The condition described was associated with chronic diarrhœa and with absence or alteration of the pigment of the fæces (acholia). There was no concomitant jaundice or glycosuria. In the cases described improvement or cure resulted from the administration of pancreatin and the consequent assimilation of fat was secured after a treatment of coincident duodenal catarrh by mercurials, &c., had failed. Growth was resumed after it had been arrested for many years and at least in one case permanent cure resulted. After the cases had been described the relation of the condition to rickets and to interstitial pancreatitis was considered.—Dr. J. Dixon Mann described two ways in which, in the absence of jaundice, the fæces might be colourless for a considerable time—from excess of increased curve given to the clavicle at the point where it arches over the first rib, making it no longer possible, after the callus leaves, for the clavicle to lever on the rib; or is caused by the increased tension given to the rhomboid ligament by the new shape of the clavicle; or, more likely, the good result is due to both causes combined.

Owen Sound, Ontario.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

HYPERTROPHY OF THE URINARY BLADDER IN A WOMAN WITH AN OVARIAN CYST.

BY JAMES OLIVER, M.D. EDIN., F.R.S. EDIN.,
PHYSICIAN TO THE HOSPITAL FOR WOMEN, SOHO-SQUARE, LONDON, W.

THE patient, aged 44 years, a widow, was the mother of two children, and the last child was born 23 years ago. Menstruation had recurred regularly and the monthly discharge was of the usual amount. About five months previously to seeking treatment the patient remarked that she had some difficulty in passing urine and this difficulty had been noted more or less ever since. It had never been necessary for her to have the urine drawn off. For a fortnight before I saw her she had observed that her abdomen was increasing in size and it was on account of this that she sought advice. She had complained of no pain practically.

Physical signs.—The anterior abdominal wall was pushed markedly forward by a large globular and cystic swelling which was located centrally and extended out of the pelvis. The summit of this swelling was felt two inches above the umbilicus. It was not in the slightest degree tender to the touch. At this stage I passed the catheter and drew off 75 ounces of urine. The patient alleged that she had passed a good quantity of urine only half an hour before seeing me. After emptying the bladder by the catheter the following physical signs were noted. The abdominal swelling previously referred to had disappeared. Palpation detected a small globular swelling in the right iliac region and a small, somewhat flat and firm swelling in the left iliac region.

Vaginal examination.—The posterior vaginal wall was thrust markedly forward by a firm swelling, the lower border of which was felt just within the entrance to the vagina. This swelling appeared to be continuous with the two iliac swellings. The cervix uteri was located *high and* was reached with difficulty. The body of the uterus could not be clearly defined. I came to the conclusion that the tumour was probably an anomalous fibroid of the uterus and advised its removal.

Operation.—On opening the abdomen mesially the bladder was found to be incorporated with the anterior abdominal wall from the pelvis to the level of a spot located midway between the pubes and the umbilicus. The summit of the bladder was located two inches higher. The bladder was so enormously thickened that grasped between the fingers it felt like a uterus and altogether it was rather larger than a normal adult uterus. On exploring the pelvis I detected a swelling of the size of a large cocoanut firmly fixed in Douglas's pouch. On separating the adhesions the tumour, which proved to be a cyst of the left ovary, burst. On account of the bladder it was awkward to transfix and ligature the left mesovarium. The right ovary was healthy. The uterus, which was of a normal size, could not be dragged higher than a spot about the level of the middle of the bladder.

On referring to hypertrophy of the bladder Hunter states that "in consequence of obstruction to the passage of urine, the bladder having more to do than common is almost in a constant state of irritation and action; by which, according to a property in all muscles, it becomes stronger and stronger in its muscular coat; and I suspect that this disposition to become stronger from repeated action is greater in the involuntary muscles than the voluntary; and the reason why it should be so is, I think, very evident; for, in the involuntary muscles the power should be in all cases capable of overcoming the resistance, as the power is always performing some natural and necessary action." It is very evident that Hunter and others since his time believe that hypertrophy of the urinary bladder can only result from some obstruction at the neck of the bladder or in the urethra. In the case which I have just recorded there was no evidence of any obstruction at the neck of the bladder or in the urethra. A No. 10 catheter was passed easily into the bladder. The resulting hypertrophy was no doubt connected with the way in which the bladder was incorporated with the anterior abdominal wall, and although the wall of the viscus was enormously thickened the expulsive power of the organ had not been correlatively increased. The association with an ovarian cyst was probably a mere coincidence and the cyst was probably not accountable for the hypertrophy of the bladder. In some cases this disorder may, in my opinion, be due to disease of the viscus itself.

Gordon-square, W.C.

HYDRONEPHROSIS OF HORSESHOE KIDNEY; NEPHRECTOMY; RECOVERY.

BY W. GIFFORD NASH, F.R.C.S. ENG.

A FEMALE, aged 16 months, was admitted into Bedford County Hospital on Oct. 23rd, 1906, with a history that six months previously her mother had noticed a lump of the size of a hen's egg in the left half of the abdomen, which had gradually increased without in any way affecting the infant's health. On examination the child was found to be well nourished and looked fairly healthy. In the left half of the abdomen a rounded swelling of about the size of a cocoanut could be felt. This fluctuated, felt elastic, and was moveable in all directions. It appeared to be attached to the left kidney by a sort of neck and had no pelvic connexions. It was not tender on manipulation. The right kidney could not be felt. Micturition was normal. The urine had a specific gravity of 1020, was faintly acid, and did not contain any albumin.

Operation.—On Oct. 30th a vertical incision was made over the front of the swelling and then it was seen to be a retro-peritoneal cyst arising from the left renal region. The peritoneum was closed and another incision was made at right angles to the first. A trocar was inserted and about half a pint of clear fluid was evacuated. The cyst was drawn up and with it the kidney, which was found to be the left half of a horseshoe kidney. The ureter was first tied and divided. At the junction of the two halves of the horseshoe kidney a white band could be seen. An incision was made through this and the cut capsule of the right kidney was united with catgut sutures. Lastly, the renal vessels which were abnormal were tied and the left half of the kidney was removed. The hydronephrosis chiefly consisted of a dilatation of the renal pelvis. The ureter was not dilated. A drain was inserted and the wound was closed. The fluid from the hydronephrosis had a specific gravity of 1010, was alkaline, and contained 0·1 per cent. of urea. The child made a good recovery, but owing to an attack of varicella remained in hospital until Dec. 8th. She has remained in good health.

Remarks.—This case is of interest for the following reasons: 1. The two kidneys were fused in the form of a horseshoe. Morris states that this malformation was found in 19 out of 18,244 cases—i.e., about once in a thousand. 2. The fused kidneys lay at a lower level than the normal kidneys. 3. The left half was hydronephrotic. The dilatation was confined to the pelvis of the kidney and appeared to be due to the angle at which the ureter entered it. 4. Nephrectomy of the left half of the horseshoe kidney was performed. Morris mentions the fact that a horseshoe kidney may be hydronephrotic but does not mention any case of nephrectomy for this cause. 5. The age of the infant was only 16 *months*.

Bedford.

NOTES ON A CASE OF RUPTURED UTERUS.

BY JOHN H. TONKING, M.B. LOND.

THE rarity of rupture of the uterus in general practice induces me to publish this case. Out of over 2000 labours this is the first case that I have seen. It therefore follows that the experience of the individual practitioner in such cases must be limited. The want of definite rules by authorities places a large margin of responsibility on the medical attendant. In this case the uterus was removed are also many seventeenth-century Dutch pictures showing the medical man of the time looking at the urine in the urinal. Dr. J. Tyson[1] of Pennsylvania says that albumin, or rather a substance coagulable by heat, was first discovered in the urine by Cotugno in 1770. On p. 6 Dr. Wainwright refers to "the red plague" or "the red pestilence" in annotating quotations from *Coriolanus* and *The Tempest* as being typhus fever. This disease was said to have been brought home by the English garrison of Havre where it raged in 1563. It was often confounded with true plague but by those who knew better was called "febris purpurea."

The arrangement of the book is good, the quotations being grouped under the headings of Medicine, Surgery, Mental and Nervous Diseases, Obstetrics and Midwifery, Therapeutics, Pharmacy and Toxicology, Anatomy, Physiology, Hygiene and Dietetics, Ethics, and Medical Jurisprudence. The volume is beautifully printed and bound and has as the frontispiece a photogravure from the portrait which was the original of the Droeshout engraving in the first folio edition, published by Heming and Condell, two of Shakespeare's theatrical colleagues. It is interesting to note that the quotations given are taken from an edition in the possession of Dr. Wainwright, printed in 1796 by Bellamy and Roberts, London, now out of print, and from a more modern one by Charles Knight.

Text-book of Ophthalmology. By Dr. ERNST FUCHS, Professor of Ophthalmology in the University of Vienna. Authorised translation from the eleventh German edition, with numerous Additions, by ALEXANDER DUANE, M.D., Surgeon to the Ophthalmic and Aural Institute, New York. Third edition. With 441 illustrations. London and Philadelphia: J. B. Lippincot Company. 1908. Pp. 908. Price 25*s.* net.

WE have long held that Fuchs's "Text-book of Ophthalmology" is the best of the larger text-books and we have yet to discover adequate reason for changing our opinion. Its chief excellencies appear to us to consist in the extraordinary simplicity and lucidity of its style, the masterly grasp of the subject, and the admirable proportion which is maintained between the several parts. Professor Fuchs possesses in a marked degree the capacity to see a subject whole and to this are added an unusual skill in exposition and felicity in expression. More than in any other text-book of ophthalmology with which we are acquainted the subject is presented in a truly scientific manner upon a sure basis of pathology. The student is not embarrassed by bald statements of isolated facts. A clear conception of the diseased condition is conveyed by careful attention to the prominent pathological features and the appropriate treatment is presented as a logical deduction. The more recondite discussions are not ignored but are set in proper perspective by relegation to paragraphs printed in smaller type. In this manner the broad outline is sharply emphasised and the shades of opinion serve but to throw it into relief.

The third edition of the English translation retains the excellencies of its predecessors. Professor Fuchs has elaborated several of the sections, notably those on glaucoma and sympathetic ophthalmia. As in previous editions the translator has made considerable additions, easily recognisable by inclusion between brackets. Of these the more important deal with disturbances of motility and the correction of refraction, subjects which are certainly somewhat neglected by continental clinicians. He has also added many illustrations. The additions are, on the whole, judicious but they have undoubtedly reached the limit of expediency. Amongst the new illustrations are coloured drawings of fundus conditions; they are all borrowed from other sources and are not of outstanding merit. The absence of coloured plates has been a defect of this admirable work but if they are provided they should be worthy of their setting.

Hospital Training-School Methods and the Head Nurse. By CHARLOTTE A. AIKENS, late Director of the Sibley Memorial Hospital, Washington, D.C., &c. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 257. Price 6*s.* 6*d.* net.

IN view of the numbers of nurses who yearly enter for training and of the importance of methodical arrangement for their instruction, it is surprising that more books dealing with methods of training have not appeared. There is perhaps a tendency to believe that the routine business of nursing can be picked up haphazard in the course of ward work and that instruction in the scientific principles underlying it is comparatively unimportant and can be inculcated in a few set lectures, probably given by a member of the hospital staff. That there are a good many problems involved in the arrangement of an ideal course of instruction for nurses will be apparent to the reader of the book before us, which is evidently written by one who has had practical experience in the matter and whose advice is well worth considering. Now and again in studying her instructions we are conscious that the American ideal of a nurse is somewhat different from our own, the tendency being there, so far as we can judge, to throw more responsibility upon the nurse and to encourage her to act upon her own initiative more than is expected or appreciated in this country. Still, the author does not approve of nurses being compelled to "spend 24 class periods in a pathologic laboratory making a careful study of the more common pathogenic organisms, such as the tubercle bacillus, the pneumococci and gonococci, and the germs of typhoid fever, diphtheria, and tetanus, as one modern training school requires." She appears to think, however, that the nurse should be prepared to criticise a medical man's prescription if he orders too large a dose of a drug. On the whole, we find the advice given pre-eminently sane and helpful. Common sense and cleanliness and cookery are allowed to rank in importance before the theories of chemistry and bacteriology. The matter of the training of nurses is considered both from the point of view of the probationer and of the ward sister and matron and many sensible hints are given which may be commended to the attention even of the physicians and surgeons who lecture to nurses. Specimens of examination papers are given and also a scheme of instruction calculated for the different years of a nurse's training. Anecdotes illustrating "how not to do it" are also narrated. A valuable chapter points out the high qualifications demanded of a district nurse who has a much more difficult part to play than the nurse who does her work amid the conveniences of a well-equipped hospital. In short, we can heartily commend the book to the attention of all who have to do with the management and teaching of nurses as a mine of information and ideas which cannot be read without profit.

Essentials of Human Physiology. By D. NOËL PATON, Professor of Physiology, University of Glasgow. Third edition. London and Edinburgh: William Green and Sons. 1907. Pp. 477. Price 12*s.* net.

THE original character of this text-book has been preserved. In the present edition several parts have been rewritten—for the second edition appeared in 1905—more especially dealing with the proteins, classified as simple, conjugate, and scleroproteids, to which about six pages are devoted in an introductory section on protoplasm, with references to more detailed treatment in the later part of the text; with Sherrington's work on the integrative action of the nervous system, and H. Head's investigations on cutaneous and deep sensibility. There are some other changes in connexion with the measurement of the arterial blood pressure in man and the newer ureter was dilated and the final result was satisfactory. The origin of the shadow, which is still present, has not been established. Mr. Ball said the mistake could only have been avoided by a stereoscopic radiograph taken with a shadowgraph bougie *in situ* and that in future he intended to make use of this method in all similar cases.—Mr. WILLIAM I. WHEELER said that the case had been formerly in his hands and two x ray photographs verified the diagnosis of renal calculus. After the stones were removed a catheter was passed into the bladder and every care was taken to see that no calculus remained in the ureter.

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[1] Bright's Disease and Diabetes, London, Rebman, 1904.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held on April 3rd, Dr. J. Constable (Leuchars) being in the chair.—Mr. D. M. Greig showed a case of Sporadic Cretinism in a female, aged 11 years. The case was typical of the condition and presented that peculiar and characteristic physiognomy of apathy, with heavy stunted body, bent limbs, and awkward waddling gait. The head was unusually well covered with hair and there were well-marked supraclavicular pads. He also showed a woman after two operations of Partial Craniectomy for Osteitis, who suffered before operation from exceptionally severe headache, evidently caused by the pressure of the thickened bone, the removal of which gave relief. The pieces of the bone removed and stereoscopic photographs of the patient before and after operation were exhibited. He then showed two cases after Nerve Suture, the first after primary suture of the median nerve, cut at the wrist, and the other after secondary suture of the ulnar nerve, cut at the elbow.—Dr. A. McGillivray showed a man who, while at work in a foundry, received an injury to his eye, causing a punctured wound of the cornea which produced a traumatic cataract. When the lens was removed it was seen that the foreign body, a small piece of steel, was implanted in the optic disc.—Mr. A. Don showed a case of Early Aortic Aneurysm with an x ray photograph of the condition. The outstanding clinical feature of the case was the loudness of the murmur which could be easily heard without the aid of a stethoscope while standing beside the patient.—Dr. W. E. Foggie showed a boy with a Patch of Favus in the Right Axilla. There was no sign of the disease on the head or on any other part of the body.—Mr. Greig exhibited a pelvis from an adult female showing Double Congenital Dislocation of the Hip. The acetabula were shallow and triangular in shape and there was a depression in the right ilium caused by the head of the femur. Many years ago the case had been diagnosed as osteo-malacia and had been treated by removal of both ovaries. This was in pre-x-rays days, with the advent of which the true condition of affairs was discovered. He also exhibited a Skull with Synostosis between the Atlas and the Basioccipital.—Dr. McGillivray showed a specimen of an Enucleated Eye after Penetration by a Lead Pellet, which was implanted in the intravaginal sheath of the optic nerve just behind the eyeball.—Dr. C. Kerr showed a Heart with Congenital Malformation from a child, aged 12 weeks. The usual symptoms were present in life. The heart consisted of a greatly dilated right ventricle and auricle. The pulmonary artery was stenosed and almost obliterated; from it was seen arising the ductus arteriosus, evidently patent. The cusps of the pulmonary valve were represented by three minute nodules. The aorta arose from the right ventricle and also from what represented the left ventricle, a mere slit in the hypertrophied ventricular wall, which would contain no more than ten drops of blood. The mitral valve was present but in miniature, and the opening led into a small depression of the size of a split pea, evidently the left auricle, separated from the right auricle by a very thin perforated wall. The aortic and tricuspid valves were normal. To all intents and purposes the heart was a two-chambered one, the left side of the organ being crowded out of any useful existence.—Dr. R. C. Buist showed a Liver with Acute Yellow Atrophy from a case of eclampsia.—Dr. G. A. Pirie showed radiograms from a case of Œsophageal Stricture caused by an intrathoracic tumour, the condition being well demonstrated after the patient had partaken of a bismuth meal.—Professor E. Waymouth Reid gave a demonstration of Colour Photography as Applied to Medicine. He described the technique of the process and exhibited many beautiful slides of pathological, physiological, and botanical specimens, both macroscopic and microscopic.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd, Dr. George Williamson, the President, being in the chair.—Dr. A. T. G. Beveridge described a case of Empyema and Gangrene of the Lung and demonstrated the patient. A preliminary exploratory puncture revealed the presence of pus in the pleural cavity. A rib was therefore resected and a large quantity of fœtid pus was evacuated with but little improvement in the condition of the patient. A fortnight later there was a severe hæmorrhage from the wound which ceased spontaneously. Three days subsequently a gangrenous slough of lung tissue of the size of a Brazil nut was expelled through the wound. The patient is now (three and a half months after the operation) in perfect health.—Dr. J. Mackenzie Booth showed a patient 13 years after tracheotomy for Laryngeal Stenosis. The stenosis was due to a cicatricial web in the plane of the vocal cords with a small opening in it of about the size of a crow quill. Tracheotomy had to be done hurriedly owing to collapse of the left lung. The patient shows well-marked signs of specific rhinitis with extension to the ears and consequent deafness. His voice is exceedingly husky and he suffers from considerable discomfort from the tracheal aperture.—Dr. John Gordon described a case of Severe Vesicular and Bullous Eruption resulting from the application of a proprietary ointment. He also read notes upon two cases in which the external application of Cantharides for Sciatica had been followed by severe renal symptoms resembling those of renal calculus. In the first case a cantharides plaster had been applied for from two to three hours without the production of redness or vesication upon two different occasions. Curiously enough the pain in each instance affected the kidney of the side opposite to the application. In the second case the symptoms followed the application of a proprietary preparation of cantharides and capsicine.—Mr. H. M. W. Gray and Dr. J. R. Levack exhibited lantern slides of skiagrams and of skiagraphic tracings illustrative of Mr. Gray's paper upon the Functions of the Stomach and the Operation of Gastro-enterostomy, published in THE LANCET of Feb. 22nd, p. 549. They also demonstrated by means of the x ray screen the stomach outlines of persons who had taken a meal mixed with carbonate of bismuth. Five cases were demonstrated in this manner—viz., three normal stomachs and two stomachs after gastro-enterostomy. They also showed lantern slides of skiagrams illustrating Beck's method of treating old-standing sinuses by the injection of a mixture of bismuth and vaseline. The slides, which included cases of psoas abscess and hip-joint disease, with perforation of the acetabulum, showed very clearly the manner in which the bismuth mixture mapped out the various recesses of the sinuses. Mr. Gray had formed a favourable opinion of this method of treatment.—Dr. W. I. Fortescue showed Skiagrams illustrating the method of "Plastic Radiography." From the original skiagram negative a transparency was prepared. The two plates were then superposed and a second transparency was printed off. The two transparencies were next superposed and a final print was taken. The method consisted essentially in heightening the lights and darkening the shadows, and the final print thus obtained displayed a certain amount of perspective. Dr. Fortescue did not think that the results were so trustworthy as those obtained by stereoscopic radiography.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 13th, Dr. J. Walker Downie, the President, being in the chair.—Dr. W. B. I. Pollock showed a case of Telangiectases of the Retinal Capillaries and Venous Radicles. Examination of the right eye showed a marked sclerosed condition of the branches of the superior retinal vein and groups of convoluted vessels. Four telangiectases were also seen. They had undergone no alteration during the past six months and on careful focussing the outline of small vessels could be made out.—Dr. J. Kerr Love reported a case of Aural Tuberculosis ending fatally. There had been an offensive discharge and facial paralysis had ensued. The mastoid process was filled with broken-down bone, granulation masses, and caseous material. Caseous glands in the neck were curetted. For a year the child remained well till symptoms pointing to meningitis developed—stupor, subfebrile temperature, fits, dilatation of the right pupil, and slow pulse. A loose fragment of bone was removed but there was no discharge. Coma deepened and the pulse and temperature returned to normal. The middle and posterior fossæ of the skull were opened on the possibility of there being an abscess to account

THE LANCET.

LONDON: SATURDAY, APRIL 18, 1908.

Tuberculosis of the Kidney.

MR. CHARTERS J. SYMONDS could hardly have chosen a more interesting or a more important subject for his Lettsomian lectures than Tuberculosis of the Kidney,[1] and his lectures were no mere summary of the current teaching of the day but based as they were on a series of cases carefully observed and treated they must advance our knowledge of the surgery of this disease. There were three matters which were specially brought forward by Mr. SYMONDS: the first was the great value in the early diagnosis of tuberculosis of the kidney of cystoscopy and other recent diagnostic methods; the second was the importance of the tuberculin treatment of small renal and vesical foci of tuberculosis when that treatment is controlled by opsonic estimations; and the third was the need for early removal of the kidney in suitable cases of tuberculous infection. Cystoscopy has proved of even greater value in diagnosis than was imagined by those who introduced the instrument and first employed it. It is as essential for the diagnosis of various vesical and renal conditions as is the ophthalmoscope in diseases of the fundus oculi and brain or the laryngoscope in diseases of the larynx. It is necessary, however, that the observer should be skilled in the use of the instrument, and this applies equally to the ophthalmoscope and to the laryngoscope. It is easy to misinterpret the cystoscopic appearances and therefore constant practice is necessary in order to obtain the fullest information. Mr. SYMONDS suggests that most surgeons should rely for information and guidance in this matter upon those who are specially skilled in the use of the cystoscope. As he says, it is easy to recognise gross changes and to see a calculus, but to pronounce from the appearance of the ureteric orifice that one or other kidney is in a sufficiently morbid state to demand its removal requires more than a casual acquaintance with this mode of examination. The cystoscopic view may reveal one ureteric orifice perfectly healthy and may show flowing from it a clear, rapid stream of urine—so far as this observation goes that kidney and ureter are healthy; while the lips of the orifice of the ureter of the other side may be seen to be swollen, puffy, and ulcerated, and it is noticed that from it flows a sluggish, cloudy stream of urine, then the surgeon can be certain that disease exists in the kidney and ureter of that side. The cystoscope may also show numerous tubercles around the affected ureteric orifice and perhaps tuberculous ulcers near. The value, then, of a cystoscopic examination by a competent observer is very great and it fails only in giving an exact estimate of the relative functional activity of the two kidneys. This information is best obtained by the use of the urine segregator, for there is a certain element of risk of conveying infection in the employment of ureteral catheterisation.

In very early cases where only a little pus and albumin are present in the urine, and even lumbar tenderness may be absent, the examination of the urine for tubercle bacilli after centrifugalisation is of the utmost importance and Mr. SYMONDS suggests that some of the slight cases of albuminuria which recover under general hygienic treatment may really be instances of very early renal tuberculosis. The matter can only be settled by the systematic examination for tubercle bacilli in all such cases. The matter is of some importance, for the question naturally arises, Is it justifiable to remove a tuberculous kidney when tuberculous foci are left in the ureter and bladder? Experience has shown that when the primary infecting source has been removed there is a tendency for these secondary foci to obsolesce and this tendency to recover is greatly aided by the tuberculin treatment employed under the control of the opsonic index, and several of Mr. SYMONDS's cases have shown the benefit of this treatment. The tuberculin treatment is best suited for those cases where the disease is not extensive, such as those in which the tuberculous kidney has been removed but a portion of the affected ureter remains, as does some slight tuberculous affection of the bladder. In one case which Mr. SYMONDS described the cystoscopic examination gave no indication of renal disease but showed some marked ulceration of the bladder; tuberculin treatment failed to heal this but improvement followed after the removal of the kidney which was extensively diseased. It has been shown that until late in the disease renal tuberculosis may be confined to one kidney and on this fact rests the justifiability of the operation of nephrectomy. The surgeon must, however, be clear that the opposite kidney is healthy and capable of carrying on the renal excretory function, and he can generally make certain of this by the use of the cystoscope and the urine segregator. When, however, the data are not sufficient to justify a certain opinion, nephrotomy offers a chance of relieving the symptoms and at the same time affords an opportunity of deciding definitely the amount of urine secreted by each kidney. Should the result prove that the other kidney is functionally efficient the removal of the diseased organ may follow as soon as the general health will permit. This form of nephrectomy *à deux temps* is also advisable when the surgeon thinks that the patient cannot stand the complete operation at once. The nephrotomy will suffice to put an end to the pyrexia caused by toxic absorption, it will stop the infection of the ureter and bladder if the lumbar drainage is free, and it will give time for improvement of the general health. Still, if the patient can stand it, nephrectomy at one operation is preferable, for nearly the whole of the tuberculous disease present is removed at once.

An important question arises, What is to be done with the ureter? Whenever the disease of the kidney is at all extensive the ureter is sure to be affected also and the disease of the ureter is often visible by the cystoscope. In several of Mr. SYMONDS's cases the ureter was left, yet recovery followed, but he considers, and we agree with him, that it is well to remove the affected ureter in those cases in fat and from over-reduction of the bile pigment. The fat cleavage in the intestine might be defective owing to absence of the pancreatic juice. It might also be impaired by chronic intestinal catarrh. In such cases the fæcal fat might reach from 50 to 80 per cent. When the amount of fat was very excessive the pigment present in the motions was obscured, their appearance then being quite pale, or they might even be devoid of all colour. In other cases the colourless stools were due to the bilirubin having undergone excessive reduction on account of inordinate putrefactive processes in the upper part of the large intestine. Under normal conditions the bilirubin was reduced by the intestinal bacteria to urobilin, to which the normal colour of the fæces was due; if the reduction was carried beyond this stage the colourless chromogen, urobilinogen, was produced and the fæces were then deprived of their natural pigment. Such changes occurred in chronic intestinal catarrh, in tuberculosis of the abdominal viscera, in septic diseases, and also in some blood diseases.—Mr. M. J. Chevers read a paper on the Etiology of the Psoriatic and Allied Conditions. The paper gave several arguments in favour of the neuropathic etiology of psoriasis, eczema, pemphigus, and angio-neurotic œdema, and explained that the exudation in the latter three as compared to the dry scaliness of psoriasis depended on the individual peculiarity with respect to the permeability of the capillary walls, the degree of coagulability of the blood, and the variability of skin elasticity. Mr. Chevers thought that these troubles should not be classified as diseases originating in the skin but as objective symptoms of general functional disturbance.

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[1] THE LANCET, March 21st and 28th, 1908.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 8th, Dr. H. Waldo, the President, being in the chair.—Mr. W. Sampson Handley gave an address on Breast Cancer in Relation to the Lymphatic System, in which he propounded his views on the spread of cancer and explained his reasons for believing that secondary deposits were not the result of haphazard lodging of the cancerous emboli, but were subject to definite laws which he summed up under the permeation theory of dissemination by the lymphatics. He also described his method of treating lymphatic œdema by insertion of silk threads subcutaneously.—Mr. E. W. Hey Groves, in discussing the address, inquired whether there was any method by which the microscopic growing edge of the outward spreading lymphatic permeation of cancer cells could be determined or approximately located during life.—Mr. W. Roger Williams subjected to critical examination Mr. Handley's proposal to substitute "lymphatic permeation" for embolism as a general theory of dissemination. He considered that such a claim went far beyond what was justified by the ascertained facts. Restricted to local dissemination he thought that Mr. Handley might fairly claim to have captured most of the field for "lymphatic permeation"; and it was in this direction that valuable permanent results had been obtained. With regard to lymph gland dissemination and metastasis Mr. Williams thought that the facts adduced by Mr. Handley in favour of "lymphatic permeation" were far from conclusive; while in favour of embolism there was an immense mass of detailed evidence the cumulative effect of which was overwhelming.—Mr. T. Carwardine spoke of the practical surgical application of Mr. Handley's researches and asked whether in those cases of mammary cancer in which there was obvious enlargement of the supraclavicular glands there was also direct epigastric permeation into the upper abdomen, and, if so, which was likely to be the more advanced. For it seemed to him that operation might be contra-indicated by the presence of secondary glands in the supraclavicular fossa.—In reply Mr. Handley, among other remarks, said that he did not recognise a difference between local spread and metastasis, and brought forward the suggestion of "transcœlomic implantation" to explain some instances of remote metastasis. He did not deny that occasionally cancerous embolism might occur, but he was anxious to displace this as the chief part for metastases.

THE APPOINTMENT OF DR. J. T. C. NASH AS MEDICAL OFFICER OF HEALTH FOR THE COUNTY OF NORFOLK.—Dr. J. T. C. Nash, medical officer of health of the borough of Southend-on-Sea, whose eccentric treatment by his authority was recently noticed in our columns, has been appointed first medical officer of health for the county of Norfolk, where, we feel assured, his energy in preserving the public health and in forwarding the aims of the county council in this direction will be well employed.

Reviews and Notices of Books.

The Medical and Surgical Knowledge of William Shakespere. With Explanatory Notes. By JOHN W. WAINWRIGHT, M.D. New York: Published by the Author. 1907. Pp. 78.

American and Canadian literary men have ever been ardent admirers of Shakespeare and have frequently testified to this admiration in a practical and substantial manner. The works of Shakespeare have been discussed from almost every conceivable standpoint and many works have appeared dealing with his medical and surgical knowledge, notably one by Moyes first published in 1896. A student, nay, even a casual reader, of Shakespeare cannot fail to be struck with his numerous references to matters medical and surgical, displaying indeed a more or less intimate acquaintance with the medical lore of the times in which he lived. Of course, as is rightly pointed out by the author, Shakespeare wrote with a surprising amount of knowledge upon a variety of subjects of a widely different nature. He shows a wide acquaintance with law and theology, as well as mathematics, astronomy, and literature, and was mentally master of all time. It is not then a matter for much wonder that his writings in regard to medicine and surgery are distinguished by a similar far-reaching knowledge. All references relating to medicine are not given by Dr. Wainwright but only those which have appeared to him to possess the most interest. In those instances in which the meaning is obscure the doubtful points are elucidated by notes. The quotations are well chosen and the accompanying notes are in general useful. The work as a whole is instructive and ingenious and bears obvious marks of having been put together by a careful student of Shakespeare who at the same time was versed in medical and surgical affairs.

We must, however, take exception to Dr. Wainwright's note (p. 18) on the well-known passage from King Henry IV., Act 1, Scene 2, in which Falstaff asks the page, "What said the doctor to my water?" to which the page replies, "He said, Sir, the water itself was a good healthy water; but for the party that owned it he might have more diseases than he knew for." Here Dr. Wainwright says, "The value of urinary analysis was known centuries before Shakespeare's time." Analysis, however—that is to say, chemical analysis, or the separating the constituents, normal or abnormal—except by simple sedimentation of urine, was not known or practised until after Shakespeare's time. True, mediæval and sixteenth and seventeenth century books upon medicine are full of directions for the examination of the urine by *inspection.* For instance, the celebrated ninth-century writer, Isaac, whose works were translated from the Arabic into Latin by Constantinus Africanus (*circa* 1050), has left us a section, De Urinis, in which all kinds of indications are to be drawn from the colour, the smell, the taste, the "*complexio,*" and other characteristics. A fine edition of Constantinus's translation was printed at Lyons in 1515. He, or Isaac, mentions heating the urine. To come down to later times, Willis (1684) knew that turbid urines sometimes cleared up on heating and sometimes not, but analysis in any modern sense was of still later date.

Moreover, the delightful *Cautelae Medicorum* given by Arnold de Villa Nova, *circa* 1300 (Basle edition, 1585), p. 1454, show that the mediæval physician was quite aware that inspection did not give much information and that a judicious questioning was much more valuable. To come down some 700 years later than Isaac, Robert Recorde in 1599 printed a curious little book called "The Judiciall of Urine," which is mainly borrowed from mediæval writers and gives much the same instructions for the inspection. There likely to exert in the diminution of infantile mortality and also, which is perhaps even more important, in promoting the physical and intellectual welfare of the children who survive; and we see every reason to believe that the views so well advocated by Dr. THRESH are as sound economically as they are when regarded under their sanitary aspect. It is certain that there are dairies in which proper precautions with regard to cleanliness and water-supply are even now enforced and which nevertheless yield satisfactory profits to their proprietors. With regard to the cost of refrigeration Dr. THRESH points out that it would be easy for the smaller dairy farmers of any locality to unite their forces for the purpose, and that the supply of refrigerating railway vans has long been in operation in many foreign countries.

If the Bill promised by Mr. BURNS should be found on its introduction to be based somewhat upon the lines which Dr. THRESH has laid down, it should, we think, receive favourable consideration from the trade as well as from the public. The chief difficulty of enforcing its provisions would probably be found in the passive resistance to cleanliness of workpeople long accustomed to the conditions of filth which now prevail in dairies rather than in any increase of cost or diminution of profits. What these conditions of filth are may be read in almost every report issued by the Local Government Board concerning the sanitary state and administration of any country locality; and the details are usually so disgusting as to deprive us of any temptation to dwell upon them. It is certain that the customs in this respect which now prevail can only be overcome by great determination and continuous and close supervision on the part of employers who should, of course, be made responsible for any negligence which they permit. The Parliamentary opposition most to be dreaded is, we fear, that which will arise from interests which will be really imperilled and which will be imperilled because their continued prosperity is incompatible with the public welfare.

The Treatment of Soldiers Invalided for Tuberculosis.

THE committee appointed by the War Office "to consider the care and treatment after discharge from the army of soldiers invalided for tuberculous disease" has issued a preliminary report describing in outline a scheme which it puts forward for dealing with the matter. The committee, which consists of Surgeon-General Sir A. H. KEOGH, K.C.B., Lord LUCAS, Lieutenant-Colonel J. E. B. SEELY, D.S.O., M.P., Sir J. BATTY TUKE, M.P., and Mr. T. SUMMERBELL, M.P., with Colonel Sir E. W. D. WARD, K.C.B., K.C.V.O., as chairman and Mr. H. W. MOGGRIDGE of the War Office as secretary, has heard the evidence of a number of expert witnesses and has come unanimously to a general conclusion. Under the method at present in existence it is laid down that in the case of soldiers suffering from tuberculosis of the lung they shall be at once discharged from the army and sent to their own homes as soon as they are fit to travel, all responsibility in regard to them being then disowned. They are not awarded any pension unless they have earned it by length of service or unless it can be proved in any particular case that the disease was due to service or climate. The reason given for this regulation was the necessity that men suffering from the disease should be removed from contact with other soldiers, and it was found that its adoption was followed by a great reduction in the proportion of cases of tuberculous disease in the army; and the committee strongly upholds the necessity of so removing the patients. It points out that in practice the stringency of this regulation has been greatly mitigated, since the patients have usually remained in military hospitals under proper care and with adequate precautions for periods varying from four to six months, and have subsequently in many cases been sent to civil institutions through private or regimental charity. The committee is of opinion that the State should admit responsibility for the men and that suitable treatment should be organised. It supports this opinion not so much on the claims of the patients themselves as on the necessity for avoiding the danger to the civil population entailed by the discharge to their own homes of men suffering from a disease with which they are likely to infect others.

Having arrived at the conclusion that the State should afford means of treatment the committee has discussed two alternative methods for so doing, the first of which was the foundation of a central military sanatorium to which all the patients should be sent for treatment. This proposal the committee rejected after careful consideration on the following amongst other grounds. The results in America of a similar expedient have not been very successful, the benefit derived by the patients being markedly less than that obtained in the majority of civil institutions. It was calculated that the cost would not be less than that of the alternative proposal to be described below and that there would be in addition the large initial outlay necessary for buildings and equipment. It was further considered undesirable to augment the Royal Army Medical Corps by the addition of a staff of specialists in sanatorium treatment as would be a necessity if the proposed central institution were to be carried on to the greatest advantage. The proposal put forward by the committee as the best solution of the problem is that the army should make use of the rapidly increasing number of civil sanatoriums and that some of these institutions should be approached with the request that a certain number of beds should be reserved for the sole use of the army. It has some reason to hope that a sufficient number of beds will be obtainable in this manner to afford treatment to all soldiers who require it for a period of from three to six months. Under this scheme all soldiers who were *suspected* (the word is italicised in the report) to have tuberculosis would be at once removed from the military hospital, each being sent to the sanatorium nearest to his own home at which a bed was available. They would, as at present, be at once discharged from the army and would return to their homes after their period of treatment at the sanatorium and they would not be allowed to re-enlist. It is admitted that on this scheme those cases in which the disease had reached an advanced stage before it was detected would require to be dealt with separately owing to their being ineligible for sanatorium treatment. It is stated that such cases are rare in the army and it is proposed that efforts should be made to get such patients views on the digestion and absorption of proteins in the alimentary canal. In most other respects these "Essentials" are much the same as in the previous edition which was reviewed in THE LANCET of Oct. 21st, 1905, p. 1188. We shall only refer to the chief changes.

Some new illustrations and diagrams are introduced; some of the former are taken from Sherrington's work and one on neuro-muscular mechanisms in relation to reflex action is from McDougall's elementary work on psychology. The terminology as to reflex and other nervous actions adopted is that based on sensory surfaces as receptor fields, and so we have extero-ceptive stimuli which may be either noci-ceptive or non-injurious, intero-ceptive, and proprio-ceptive. There is a short account of Head's work on protopathic and epicritic sensibility which appeared in *Brain* in 1905.

About 35 pages are devoted to the master tissues (muscle and nerve) in contradistinction to the vegetative tissues (epithelium and connective tissue). In speaking of "heat production" (p. 42), we are told "but the heat evolved during rest of muscle is trivial." A figure of Erlanger's apparatus for determining the blood pressure in man is introduced. In dealing with the "starting mechanism of contraction," i.e., of the heart (p. 261), after noting the effect of galvanic shocks upon the isolated apex of a heart, it is stated that "if a stream of blood is passed through it, it will start contracting regularly and rhythmically." It might be well to indicate the part which internal pressure plays in the process. The diameter of capillaries is given but not their length. Perhaps the student would get a better grasp of one of the problems in relation to absorption if in addition to stating the length of the small and large intestine some data were introduced to show how the *valvulæ conniventes* on the one hand and the villi on the other enormously increase the superficial area both for absorption and it may also be for excretion. There is a short appendix dealing with some elementary facts of organic chemistry.

The work deals only slightly with histology and is illustrated by 181 figures in the text—some anatomical, a few histological, others of apparatus, and a number of excellent elementary diagrams. It is concise, lucid, and not too discursive, and should form an admirable introduction to the study of physiology by medical students.

LIBRARY TABLE.

Immuno-Chemistry. By SVANTE ARRHENIUS. New York: The Macmillan Company. 1907. Pp. 309. Price 7*s.* net.—This book deals with the methods of physical chemistry in their application to the study of the theory of *toxins* and antitoxins and is therefore calculated to be a scientific contribution of some importance in regard to the nature and treatment of disease. As is known, there have existed two schools of opinion in regard to the interaction of toxin and antitoxin. On the one hand, the German school, led by Ehrlich, maintained that the reaction was chemical in its nature; on the other, the French school, led by Metchnikoff, ascribed the effect of an antitoxin to purely physiological action. Professor Arrhenius adheres to the chemical view, although he admits that he cannot say that the arguments of Ehrlich are quite convincing, "since the erythrocytes may well be regarded as 'living,' even after their separation from the blood of an animal." The fact, however, that approximately the *n*-fold quantity of a toxin requires the *n*-fold quantity of antitoxin for its neutralisation is more certain ground in favour of the chemical hypothesis, and this has led to its general acceptance. Professor Arrhenius has worked hard at the subject and amongst other things has tried to show that the phenomena observed might be explained in the case, at all events, of the diphtheria toxin on the supposition that that toxin is a simple substance which slowly decomposes into an innocuous material that still neutralises antitoxin. These lectures on the immunity reactions were delivered at the University of California during the summer of 1904 and they put forward in an explicit way the contentions of the various workers in this field. The title, "Immuno-Chemistry," embraces the chemical reactions of the substances that are produced by the injection of foreign substances into the blood of animals, i.e., by immunisation. These substances are considered, therefore, in the book before us in regard to their chemical properties. There are in all nine chapters: the first is introductory; the second deals with the reversibility of reactions between antibodies; the third with the velocity of reaction (homogeneous systems); the fourth with the velocity *of reaction in heterogeneous systems*; the fifth with equilibria in absorption processes; the sixth with the neutralisation of the hæmolytic properties of bases and of lysins of bacterial origin; the seventh with the neutralisation of diphtheria toxin, ricin, saponin, and snake venoms; the eighth with the compound hæmolysins; and the ninth with the precipitins and their antibodies. The fact that we possess a work summarising the achievements which have been gained in the chemistry of immunisation is of the utmost importance to medical science and no one is better fitted to write upon this interesting aspect of the subject than Professor Arrhenius who has done so much to join physics and chemistry together in the elucidation of biological problems.

Tumours of the Cerebellum. By JOHN WYLLIE, M.D. London: H. K. Lewis. 1908. Pp. 109. Price 4*s.*—The author explains in his preface that this work is based on the careful analysis of a large number of recorded cases, all of which "were proved to be cerebellar tumours, either by operation or post-mortem examinations." There is little new to be found in the book but a good summary is given of the knowledge which at present exists in regard to tumours of the cerebellum. Dr. Wyllie also expresses the views which he himself has formed on the subject. Occasionally he finds himself in opposition to the opinions expressed by some of the most distinguished of living neurologists. For instance, he maintains that nystagmus is a very frequent symptom of cerebellar tumours, whilst it is usually held, or at least some authorities state, that although nystagmus is an occasional symptom of tumour in many parts it is not frequent in tumours of the cerebellum. This symptom may not present itself with the frequency of headache, vomiting, optic neuritis, or ataxia, but Dr. Wyllie is of opinion that it is often met with when the cerebellum is the part affected. We have perused this small volume with interest and commend it as a work by a careful observer on a condition which has during recent years attracted much attention.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. I., No. 5. March, 1908.—An interesting paper is contributed to the Epidemiological Section by Mr. R. C. Punnett, M.A., on Mendelism in Relation to Disease, which will repay the attention of those interested in recent advances in the investigation of problems of heredity. In the Medical Section Dr. Samuel West writes on the Acute Suffocative Catarrh of Laennec; in the Surgical Section Mr. A. H. Tubby on Coxa Valga; in the Pathological Section Mr. J. B. Leathes on Acidins in Pregnancy; in the Therapeutical Section Dr. Harry Campbell on the Therapeutics of Diet; in the Obstetrical and Gynæcological Section Dr. Martin Randall with Mr. T. W. P. Lawrence on Ovarian Dermoid with Secondary Cysts connected with the Omentum; in the Electro-Therapeutical Section Dr. H. Lewis Jones on the Principles of Ionic Medication; in the Odontological Section Mr. J. E. Spiller on the Dental Uses of Paraform; and Mr. W. J. Law, on the Termination of Nerves in the Teeth of Mammalians; whilst the Clinical, Dermatological, Laryngological, and Otological Sections are occupied with reports of many cases and specimens.

enacted in one of the ancient public clinics. This tableau, which is upon the body of the vase, displays seven persons, the central figure being the medical attendant, almost a youth. He is seated and engaged in bandaging the arm, just above the wrist, of a man standing before him. Behind the operator, and apparently intended as being attached to the wall of the saloon, or booth, in which the scene is situated, are three objects which M. Pottier considers to be cupping glasses.[2] In front of the surgeon is placed a basin for containing water with which to sponge the wounds. Beyond this and also facing the operator is a second patient seated upon a stool. He has the upper part of his left arm bandaged with a white material tied crossways over the biceps. His left foot is also tied up with a strip of red material. To the form and colour of these M. Pottier thinks some magical as well as medical import was attached. The other personages in the field of the vase are a man standing, of whose malady nothing can be detected beyond the presence of a large bandage across the chest and who is talking to a dwarf with disproportionately large shoulders and short swollen limbs and pointed beard. This diminutive figure is naked and illustrates most accurately the chief physical peculiarities of his type and is, from a medical point of view, the most valuable figure upon the vase. He carries over his shoulder a hare, no doubt indicating that he is the page of the medical officer with whom, as was common in Greek social life, the visitor wished to be on special good terms to insure prompt attention from his master and so had brought a gift. It would appear to have been a happy thought to utilise a dwarf as servant to a medical officer, thus providing him with a patient offering in his person a constant object of study. Beyond the dwarf the sixth person is standing with her left leg bandaged. The seventh figure is also standing but is mutilated and is very indistinct. The first four patients are all supporting themselves with stout sticks as if weak from loss of blood. The conclusion which Dr. Pozzi and M. Pottier arrive at is that the scene upon the vase depicts the bleeding of patients, a remedy frequently used in ancient therapeutics. Hippocrates recommended cupping at the limbs, preferably the arms, though sometimes the feet, and it is upon these that the bandages upon these figures are placed. Moreover, the bandages are not bound as they would be for fractures or recent wounds. One patient, it is true, has a bandage across the chest but Dr. Pozzi cites special cuppings thereupon, or upon the shoulders, as being mentioned by Celsus. This explanation of the tableau would explain the youth of the operator, he being engaged in a simple operation, and the middle age of all the patients. We know that Timarchus as a medical student was employed in his practice by Euthydicus and doubtless the young man shown upon the vase had a more experienced physician or surgeon with him at the municipal clinic. The essay of M. Pottier is furnished with a plate representing the whole scene upon the vase, spread out as a continuous flat picture, also of the new vase painting of the wounded athletes in the Athens museum. The publisher of the "Monuments et Mémoires Fondation Eugène Piot" for the Académie Française is M. Ernest Leroux of Paris.

SECRET REMEDIES AND QUACK MEDICINES IN SWITZERLAND.

SWITZERLAND is an eminently democratic country and has always been in the van against authority other than that derived from the people. Yet it does not go so far as to allow fools to be exploited by mischievous quacks without at least warning them. We learn from the *Feuille D'Avis de Montreux* of April 9th that the health authority of the canton of Vaud has, in response to many inquiries as to the value of secret remedies and "specialities," issued a warning putting the public on its guard against advertisements of nostrums. The notice goes on to say that the more alluring promises of cure are as a rule fallacious. There is no efficacious remedy against drunkenness, no infallible specific for tuberculosis or cancer, and no marvellous panacea for the re-establishment of health. Foreign "*specialistes*" have tried to enter the canton to exploit unfortunate invalids, but a rigorous application of the law has thwarted their projects. It is regrettable that there are no legal regulations similar to those against lotteries, so that the dangerous advertisements might be forbidden. The sanitary authority concludes by saying that it can only advise people never to have recourse to secret remedies the therapeutic effect of which is *nil*, the price of which is exorbitant, and the only effect of which is to delude the sufferer and to prevent him from applying for medical advice which might do him good. We congratulate the canton of Vaud on having so sensible a health authority and wonder when we shall see the London County Council issue a similar warning.

THE ETIOLOGY OF APPENDICITIS: AN EVER-PRESENT QUESTION.

THE cause of the apparently sudden outburst of appendicitis which has occurred within recent years has exercised many minds and the explanations have been numerous. In THE LANCET of April 11th, p. 1115, in "Notes from China," it was suggested that some anatomical peculiarities in the appendix in European races might predispose to appendicitis. An interesting pamphlet has recently appeared at Madras in which this problem has been attacked in a somewhat unusual way, for the writer, Mr. James Harris, L.M. & S., has attempted to explain not the increase of appendicitis in this country and in America but the comparative rarity of the disease in India. It seems to be clear that appendicitis is rare in India. In October, 1907, the editor of *Medical Missions in India*, the journal of the Medical Missionary Association of India, invited replies to the questions, What is your experience of appendicitis among natives of India? If in your experience it is rare, can you suggest a reason? The editor himself mentioned that he had never diagnosed a case of appendicitis in 18 years' practice in India and he suggested the simple diet of the people as the cause of their comparative immunity. 13 replies were received and though some of the writers had had experience of India extending over many years, yet they reported only 11 certain and five doubtful cases of the disease. Only two or three of those who wrote offered any opinion as to the reason for this immunity and these agreed that the main factor was the diet, though it was also suggested that the absence of violent exercises had some influence. One writer quoted with approval Mr. W. H. Battle's explanation that the introduction of steel rollers for the milling of flour has been responsible for the increase in Great Britain and America, as small particles of steel can be found in the flour; and steel-ground flour is almost unknown in India. Mr. Harris will have none of these explanations. He points out that natives in India generally bolt their food, that the grinding stones in India leave many stony particles amongst the material that has been ground, and that many seeds of fruits are swallowed whole. Yet in spite of all these likely causes appendicitis hardly ever occurs. Mr. Harris's explanation is two-fold. The first suggestion is that the habitual purgation which occurs in India prevents the lingering of irritating materials in the cæcum. We may quote the words of the pamphlet: "From the day, nay, even the hour, the Indian gentleman emerges from the fœtal state to infancy to the date of his which the general condition of the patient will justify the prolongation of the operation. Mr. SYMONDS thinks that it is less harmful to leave a ureter which is still supple but when the ureter is much enlarged and rigid the chance of its recovery is much less. Coincident disease of the bladder is a further indication for removal of the ureter either at the same time as the kidney or a little later, for it seems probable that recovery from the vesical tuberculosis is less likely if the discharge of tubercle bacilli from the ureter still continues. Lastly, the question of the possibility of removal of a localised tuberculous mass from a kidney, a partial nephrectomy, had to be considered. In one of Mr. SYMONDS's cases the kidney showed a very localised patch of tubercle, though some miliary tubercles were also present. *It seems probable that at a little earlier* stage a partial nephrectomy might have been possible. The commonest site of early deposit of tubercle in the kidney is the lower pole and when the disease appears to be limited to this position the removal of this portion only seems fully justifiable but we do not yet know whether the tuberculous ureter would recover if the irritation of urine were still present; it is possible since tuberculous affections of the bladder are not necessarily fatal. It is probable that slight cases of tuberculosis of the kidney may recover without operation, for in the lung it is certain that tuberculous nodules may obsolesce; but when the cystoscopic examination shows that the ureteric orifice is characteristically affected it *is certain that* the renal disease is hopeless and the sooner the organ is removed the better.

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[2] In reference to this subject it should be noted that Dr. C. P. Lambros of Athens in 1895 published a special treatise upon the phlebotomy of the ancients in Greek but presented a French translation of it, which may be found in the Archives de l'Académie de Médecine, to that society.

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The Milk Problem.

THE promise of the President of the Local Government Board that, at no distant date, he will introduce a measure for the better regulation and control of the national milk-supply, at once justifies a hope of the near approach of a great sanitary reform and, at the same time, renders it the duty of all who aspire to guide public opinion to pave the way for this reform by the diffusion of information concerning the conditions essential to its accomplishment. An important step in this direction has been taken by Dr. JOHN C. THRESH in a lecture delivered at the University of Birmingham on March 30th under the auspices of the Midland Counties branch of the Incorporated Institute of Hygiene, and we are indebted to the courtesy of the general secretary of the institute for an opportunity of submitting an outline of Dr. THRESH's views to our readers, while regretting that the limitations of space prevent us from publishing them in their entirety. After traversing a good deal of familiar ground, in relation to the usefulness of milk as an article of food both for children and for adults, and also to its qualities as a nutritive medium for bacteria, Dr. THRESH laid down the general principle that the points chiefly requiring attention are the healthiness of cows, the exclusion of dirt, and the maintenance of the milk at a temperature sufficiently low to check bacterial multiplication. In order to secure these essentials he would have all tuberculous cows destroyed under veterinary inspection, with compensation to owners in proper cases; and he would enforce the cleanliness of cowsheds, the purity of all water employed in or about a dairy, the regular grooming of cows, with careful removal of dung from their flanks or udders, the cleanliness of pails, milking-stools, and other utensils, and the cleanliness of the hands and clothes of milkers. The milk drawn under such conditions, unless sold for immediate consumption, should then be cooled to a temperature of 40° F. and protected from adulteration in locked churns, while the railway companies should be called upon to supply sheltered storage for such churns and to convey them in such a manner that the preservation of a low temperature should be secured. For the maintenance of these conditions he would place the inspection of cowsheds and dairies under the local sanitary authorities of every district, rendering it a duty to be done instead of a possibility to be neglected, and would give an appeal to the county or other superior authority in every case in which neglect was imputed. Dr. THRESH's few references to preservatives and his belief in the efficacy of low temperature in checking bacterial growth justify the conclusion that he would entirely prohibit the addition of chemicals, and while he admits that his suggestions would only extend as far as to dealers he appears to think that the proper care of milk in the homes of the purchasers may in time be hoped for as a result of "education." He would, however, require retail milk-sellers to be licensed annually, and would render the renewal of the licences dependent upon the careful observance of such conditions of storage and exposure for sale as might be laid down from time to time by the proper authorities.

It is obvious that the first inquiry of a milk-purveyor, either upon a large or upon a small scale, if the trade were confronted with proposals for legislation of this kind, would be as to its probable effects upon the profits of his business, and from this point of view Dr. THRESH's views are decidedly encouraging. He asserts that his demands are "not only reasonable and practicable and in the interest of the general well-being of the community, but that they will also serve the best interests of the great dairy industry," and he rests this opinion upon his belief that the "amount of milk used at the present time is only a fraction of the amount which should be used, and which will be used when a purer milk is available." He quotes some figures supplied by Dr. G. SOWDEN, the medical officer of health of East Ham, a district with a population of over 100,000 persons, chiefly of the working class. Dr. SOWDEN found that the amount of fresh milk used daily averaged a little less than three ounces per person, or one pint per person per week. The 100,000 persons used 950 dozen tins of condensed whole milk and 1800 dozen tins of condensed separated milk per week. "The total consumption of milk of all kinds is under two pints per person per week, and of this very nearly half is imported milk and over one-fourth is skimmed milk." Dr. THRESH points out that, while nearly half of the milk consumed in towns is of the imported variety, its cost is two or three times that of fresh milk of similar quality; and he argues that if "by gaining the sympathy of the public this sale (of imported milk) could be decreased, it would be of very great advantage to our milk producers and, what is even of greater importance, it would be to the advantage of the poor." There is abundant evidence to show the influence which a wholesome and sufficient milk-supply would be

Hastings, and Tunbridge Wells than elsewhere. Manchester and Glasgow were, as usual, the most sunless localities, but Birmingham and London were not much brighter. In London the total number of hours, 169, was 88 less than last year during the same period, and at Lowestoft the figure was 166 hours less.

—	Temperature.					Rainfall.		Sunshine.	
	Mean maximum.	Mean minimum.	Mean temperature.	Difference from average.	Mean diurnal range.	Total fall.	Difference from average.	Number of hours.	Difference from average.
	°	°	°	°	°	Ins.	Ins.		
Douglas (Isle of Man) ...	46	37	41·2	−0·1	9	15·7	+2·0	223	+41
Blackpool ...	44	35	39·5	−0·8	9	10·0	+0·2	267	−19
Llandudno ...	47	38	42·3	0·0	9	10·1	+0·5	301	+34
Pembroke ...	47	40	43·2	0·0	7	12·7	+0·2	295	− 8
Falmouth ...	48	41	44·6	+0·5	7	16·4	−1·1	312	−18
Scilly	50	44	46·8	+1·2	6	10·4	−2·1	321	−22
Jersey	48	39	43·4	−0·3	9	9·6	−2·2	392	+23
Torquay	49	39	43·7	+0·2	10	10·6	−2·3	332	− 7
Sandown (Isle of Wight) ...	49	38	43·3	*	11	9·0	*	410	*
Bournemouth...	47	36	41·6	*	11	9·3	*	336	*
Hastings	45	37	40·8	+0·1	8	6·7	−2·7	363	+28
Folkestone ...	45	35	39·8	0·0	10	5·7	−3·3	336	*
Margate	45	36	40·8	+0·4	9	7·1	+0·3	287	+ 1
Lowestoft... ...	45	34	39·4	−0·1	11	6·8	+0·4	283	*
Scarborough ...	46	36	40·8	+1·3	10	10·0	+2·2	282	*
Aberdeen	44	35	39·4	+0·9	9	9·4	−1·1	281	+ 4
Glasgow	44	36	39·9	+0·7	8	16·2	+3·2	140	−61
Manchester ...	45	36	40·2	+1·0	9	9·6	*	112	*
Birmingham ...	45	34	39·0	−0·2	11	8·2	+0·4	157	*
Nottingham ...	45	33	38·8	−0·3	12	7·7	+0·6	211	*
Harrogate ...	43	33	37·8	−0·3	10	10·3	+1·5	279	*
Bath	46	35	40·6	−0·4	11	10·3	+0·6	304	*
Tunbridge Wells ...	44	34	39·0	−0·1	10	9·9	+0·4	361	+82
London (Westminster)	46	36	40·9	+0·3	10	8·0	+1·0	169	+34
Dublin	47	38	42·8	+0·3	9	8·8	+0·4	290	−14

* No trustworthy average available.

MEASUREMENT OF RESPIRATORY MOVEMENTS.

OUR teaching concerning the mechanism of respiration has altered less in the last 50 years than that relating to any other subject embraced by the medical curriculum. To a large extent this apparent lack of progress has been due to the exhaustive and accurate account of the human mechanism of respiration published by Dr. Hutchinson in Todd's "Cyclopædia of Anatomy and Physiology" in 1852. With the introduction of x rays some nine years ago it was expected, and to a very considerable extent the expectation has been justified, that our knowledge of the respiratory movements of the diaphragm, ribs, and thoracic viscera would be revolutionised. As originally used, the x rays were too divergent in character to give accurate information as to the *extent* of these movements; for instance, earlier investigators estimated the total vertical movement of the domes of the diaphragm as varying from 75 millimetres to 90 millimetres (3 to 3½ inches). With more accurate instruments, such as Groedel's orthodiagraph, these movements are found to be much less than originally estimated. Working with this instrument Dr. J. F. Halls Dally[1] finds on examining 100 healthy individuals, varying in age between 15 and 35, that "the absolute range of movement of the diaphragm between deep inspiration and expiration in the adult male is, on the right side 34 mm., on the left side 32 mm. The range in adult females amounts to 27 mm. on the right side and 25 mm. on the left side." In all his measurements of the neck, clavicles, shoulders, and ribs, with the exception of the lateral expansion of the ribs over the left hypochondrium, Dr. Dally finds that the movements of the right side of the thorax exceed those of the left. Dr. Dally was amongst the first to recognise the importance of the "transradiant triangle" of the thorax. This is best seen when the thorax is examined obliquely; it corresponds to the posterior mediastinum of anatomical text-books, being bounded behind by the spinal column, in front by the posterior border of the heart and pericardium, and below by the shadow cast by the domes of the diaphragm and their contents. As an inspiration proceeds this triangle is seen to open up. The widening of the triangle was originally supposed by Keith[2] to be due to the inspiratory forward and downward swing of the heart, b Dr. Dally finds the widening of the triangle is due also to backward movement of the spinal column which takes pla towards the end of a full inspiration. In this movement th curvature of the dorsal region is undone to a certain degre Dr. Dally attaches a high importance to the spinal mov ment as a means of complete expansion of the lungs. I the paper just communicated to the Royal Society D Dally gives merely the average measurements of the respir tory movements. However useful such measurements ma be, only a complete statement of all his measurement with an accurate description of how they were obtained can be of real service to those who are at present investigating this subject.

THE ADMISSION OF WOMEN TO THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN official circular has been sent out by the Council of the College inviting Fellows and Members to give their opinion "Yes" or "No" on this subject. We are asked to say that an unofficial circular is about to be issued to Members regarding the admission of women to the *Membership* and *Fellowship*, and that in this circular it is suggested that Members should disregard the request of the Council of the College that the answers to the questions in the official circular should be in the form of simply "Yes" or "No." The authorities of the College hope that Members, with a view to avoiding confusion as regards the result of the poll, will record their answers on the official *balloting-card* in accordance with the instructions for voting contained thereon.

COST OF MEDICAL INSPECTION OF SCHOOL CHILDREN.

THE East Sussex education committee on April 7th adopted the report of the special subcommittee appointed to draw up a scheme for the medical inspection of children. *When the subject first came* before the education committee a prophecy was made that the carrying out of the provisions *of the Act* would necessitate an expenditure of at least £500 a year, there being nearly 26,000 children in 176 schools in the committee's jurisdiction. *Proceeding on the most economical* lines, the subcommittee finds that the cost of the working *of the Act* will be £800 a year. The initial cost *for the first year* amounts to £1371 16s., the difference between this sum and £800 being the estimated cost of the appliances. *It has been decided to* appoint a superintending medical officer whose whole time shall be into "incurable" wards, or failing this that they should be discharged as at present, the committee being of opinion that advanced cases of this kind are less of a public danger than those who are less ill and therefore able to go about, a view which is hardly likely to appeal to those who advocate the segregation of advanced cases. In regard to the cost of its proposal the committee states that the average number of soldiers invalided annually for tuberculosis of the lungs is about 400, and it estimates that, excluding the advanced cases and those who refused to remain in sanatoriums, the number remaining for treatment would not exceed 350. The committee suggests that in order to allow of sufficient accommodation 200 beds should be retained, each being able to accommodate two patients a year. It is thought that the cost of maintaining a bed will average about 30*s*. a week and the scheme would thus entail an expenditure of £15,600 per annum. The committee therefore estimates that the total cost of the scheme will not exceed £20,000 per annum and that a part of this will be counterbalanced by the fact that tuberculous patients will remain in military hospitals for a shorter time than at present. It is suggested that at first the Army Council might make a reasonable contribution towards the extension of a sanatorium which proposed to increase its accommodation, such contribution, however, to be met by a corresponding reduction from the annual cost as estimated above.

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[1] Proceedings of the Royal Society, Feb. 6th, 1908.

[2] THE LANCET, March 7th, 1903, p. 633.

The proposal to make some effective provision for the treatment of the tuberculous soldier is one with which we are in full sympathy. At present, after discharge from the army the unfortunate sufferer from pulmonary tuberculosis has either to seek admission to one or another of the civil charitable or paying institutions, with the chance that by the time he is admitted his disease is too far advanced to render him suitable for sanatorium treatment, or else to remain at home endeavouring to earn enough to support himself, in which he is handicapped by his lack of experience of civilian occupations. The scheme suggested by the committee, though obviously not perfect, is a serious attempt to deal with a difficult problem. The proposals are admittedly tentative and are doubtless capable of modification in detail if the general principle is accepted by the Army Council, for the committee states in its report that if it is so accepted it will proceed to elaborate it in detail. It seems to us that there are some few matters in connexion with the report which require careful consideration. The first is that the practical withdrawal from the civilian population of even 200 sanatorium beds is a serious limitation of the already scanty accommodation available for those of the poorer classes of the community affected with pulmonary tuberculosis, and in our opinion it ought clearly to be emphasised that a sufficiency of new beds should be established to avoid any such detraction from the resources provided for the civilian sufferers. It may be doubted whether, given the provision of means for treatment, the yearly number of cases will prove to remain at the low figure of 400, especially if very early and suspicious cases are at once drafted to sanatoriums, since there will be less likelihood of concealment of the disease on the part of the sufferers. The results achieved by sanatorium treatment under the proposed conditions should be very satisfactory, as the cases for the most part will be early cases in previously healthy adults, and a short period of observation in a military hospital should be of value in the proper selection of cases for sanatorium treatment. One defective feature of the scheme is the proposal in regard to advanced cases, for which more adequate provision is necessary if the army is going to assume responsibility for the tuberculous soldier. In civil life, apart from the Poor-law infirmaries and a few "incurable" wards or homes, little provision exists for treatment in institutions of advanced cases, and if the army is going to evade its responsibilities in regard to this section of its patients little advance has been made and it must not be forgotten that the failures from the sanatoriums will serve to swell the numbers of these "advanced" cases which, the view of the committee notwithstanding, are not the least dangerous from the point of view of infectivity.

Annotations.

"Ne quid nimis."

A GREEK MUNICIPAL HOSPITAL IN THE FIFTH CENTURY B.C.

IN THE LANCET of Jan. 12th, 1907, p. 104, a drawing was given, in illustration of "The Medical Art in the Homeric Period," of a scene depicted upon a Greek vase of Achilles binding up the wound of Patroclus. Since those notes were published M. E. Pottier has edited in the "Monuments and Memoirs" of the Paris Academy, funds for which were provided by the late M. Piot, a still more interesting, from the medical point of view, piece of ancient ceramics under the title of "Une Clinique Grecque au V^e Siècle." Several other delineations of the first aid applied to wounded warriors have previously been noted and some published—notably, the amphora in the Hope collection showing Sthenelos binding up the hand of Diomedes; a vase in the museum at Florence depicting soldiers binding each other's wounds; an Etruscan mirror at Bologna, showing Machaon, the primitive surgeon, performing the same office for Philoctetes; and a seated warrior having his limb dressed by a surgeon, engraved upon a seal given in the "Dictionary of Antiquities" of M. Saglio. There are also some figures of wounded legionaries having their limbs bandaged upon the Roman column of Trajan.[1] It will be noted that all these instances are connected with injuries received in warfare, while the new vase, for a reproduction of which we are indebted to M. Pottier, depicts a scene in a hospital, or clinic, of some city, probably Athens, in times of peace, and so is unique. We know from the classics, but more particularly from inscriptions, that the Hellenic cities used to have public places supported by the citizens where physicians and surgeons, provided with the necessary appurtenances, attended to the medical needs of the poorer members of the community. The cost of such arrangement, including the payment of the operators, was defrayed by a special impost. The *ἰατρικόν*, and the post or edifice placed at the disposal of the surgeons was termed an *ἰατρεῖον*. This physicians' tax is often mentioned in Græco-Egyptian papyri but there was devoted to paying salaries to the civic medical officers who had to take part in post-mortem examinations, to combat epidemics, and to give certificates of births and deaths. M. Pottier, fortified by the advice of Dr. Pozzi who, he tells us, in addition to his qualities as a practitioner, possesses the ardour of an antiquary, is quite certain that the scene depicted upon the new vase is to be considered as being cutting off the nose and ears. They were skilful in performing Cæsarean section and other abdominal operations, and are said to have practised inoculation against small-pox and to have discovered the art of cataract couching. The surgeon was recommended to acquire manual dexterity by cutting flowers, the hollow stems of plants and bladders filled with paste, and by putting sutures on skins. Health was thought to be promoted by the exhibition of an emetic once a fortnight, a purgative once a month, and blood-letting once a year. Among the causes of disease Karma, or Fate, was thought to take a prominent place. The murderer of a Brahmin was said to suffer from anæmia and a cow-killer from leprosy, thus assigning a physical cause for moral delinquency. In diagnosing disease palpation, percussion, and auscultation were recognised. In the palmy days of Buddhism in India, during the reign of Asoka in the third century, hospitals were erected and a regular system of medical administration was established throughout the country. With the decline of Buddhism these institutions disappeared. The contempt of the Mahomedan conquerors of Hindustan for the scientific knowledge of the Hindus and the diffusion of the European system of medicine contributed to a decline of Hindu medicine and surgery. The Sanscrit works became more inaccessible; imperfect copies were substituted, so that confidence was diminished, while superstition and quackery increased. Turning to the present condition of Hindu medicine Dr. Kugler describes native physicians in uncomplimentary terms. In a large majority of cases they are said to kill the patient by over-drugging or by poisoning with aconite, arsenic, or mercury. The excessive use of mercury accounts for the commonness of cases of ankylosis of the jaw, necrosis of the maxillary bones, and gangrene of the cheek. The native "doctors" frequently take advantage of the superstitions of the people who attribute many forms of nervous and mental diseases to devils. Hence the exorcising of devils and other methods of witchcraft are still practised. To-day there are comparatively few Hindu practitioners who endeavour to combine the modern European system with the teachings of the Ayur Veda. The majority practise hypocrisy and deception. Dr. Kugler hopes that as the years go by more attention will be paid to Ayur Veda medicine by all Indian students of medicine, so that what is good in it may be incorporated into a new system which, belonging neither to the East nor to the West, may be a universal system of medicine having for its object only the amelioration of human suffering and the prevention of disease.

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[1] There is also a vase now at Athens representing wounded athletes to which we propose to refer on another occasion.

INFANTILE AND JUVENILE TABES.

IN an interesting paper published in the *Wiener Medizinische Wochenschrift* of March 21st Dr. Otto Marburg discusses the general characters of infantile and juvenile tabes and records a case in a girl aged two years. The patient was the fifth child of a man who had contracted syphilis 20 years before. The child was born healthy and developed in a normal manner until after the age of one year, when it was noticed that she did not see as well as before. Ophthalmoscopic examination at the time revealed the existence of atrophy of the optic nerve. It was also found that the child could no longer lift herself up or keep her head up, and that although the arms and legs could be moved she could not walk. Shortly afterwards she developed peculiar attacks of dyspnœa with crowing inspiration and marked cyanosis. She was admitted to hospital under Professor Escherich. On examination the child was noticed to be pale, fairly nourished, and of normal development. She lay quietly on her back and was quite unable to speak; she heard sounds, laughed from time to time, and took her food naturally. The pupils were of less than medium size, the left being larger than the right, and the reaction to light was sluggish. There was no disturbance of the sensibility to pain. The power of the movements of the limbs was apparently not disturbed but the muscles of the back and of the neck were weak, so that the child could not sit upright or hold her head erect. The muscles were in general hypotonic and the tendon reflexes were absent. From time to time attacks of laryngeal spasm developed. Electrical examination did not afford any evidence of tetany and the characteristic macular changes found in the Tay-Sachs form of amaurotic family idiocy were wanting. The case was therefore regarded as one of infantile tabes following on congenital syphilis. Dr. Marburg, who in 1903[1] was able to collect 34 cases from the literature, now gives references to 17 additional cases and discusses the general features of the condition as recorded in the total of 51 cases which he has thus collected. In 34 of these there was a history of congenital syphilis, while in four syphilis had been acquired; in the remainder either no details were given or there was no evidence of infection. In only 12 of the cases was there a history of tabes or paralysis in the parents. One very striking example is of special interest: a tabetic mother had a family of three, of whom the eldest son suffered from juvenile tabes, the second son from paralysis, and the daughter from cerebral syphilis. In the 50 cases in which the sex was stated 29 were girls and 21 were boys—a striking contrast to the sex incidence in adults. The greater the number of cases studied the more the general similarity of the symptoms to those of adults becomes apparent. Disturbances of sensation were observed in 64 per cent., Argyll Robertson pupils in 74 per cent., and loss of reflexes in 86 per cent.—figures which are strikingly similar to those in adults. An exception, however, must be made in regard to ataxy and Romberg's sign which were present only in 56 per cent. and then not in any great degree. It is possible, according to Dr. Marburg, that this peculiarity may be due to the relatively mild course of infantile tabes. Optic atrophy, on the other hand, occurred in 44 per cent. of the cases, which is more than double the frequency of that condition in tabes in adults. Disturbances of micturition occurred in 48 per cent. of the cases and in some these appeared to be the initial symptom. Dr. Marburg lays stress on the importance of congenital syphilis as the basis of severe organic affections of the nervous system and on the necessity for careful observation of unusual nervous manifestations in children of syphilitic inheritance.

THE EARLY HISTORY OF THE HOME DEFENCE MOVEMENT.

AT the moment when the old order is giving place to the new in regard to the military forces for home defence it may be interesting to recall the fact that the Volunteer movement of 1852 owed its origin in no small degree to the active interest of the late Sir John Charles Bucknill, M.D., the alienist, whose name, coupled with that of Dr. Hack Tuke, are household words in the early history of scientific psychology. In the year 1852 a meeting was convened at Exeter, presided over by Lord Fortescue, to consider the necessity for the enrolment of a corps of citizen soldiers, especially with relation to coast defence. It was pointed out at that meeting that the last successful invasion of England—namely, that by William of Orange—was achieved by the landing of an army on the South Devon coast. Dr. Bucknill was the active spirit in this agitation and a motion was carried unanimously in favour of memorialising the War Office asking for permission to raise a force to be known as the Exeter and South Devon Volunteers. The required powers having been obtained, Dr.

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[1] Wiener Klinische Wochenschrift, No. 47, 1903.

ral dissolution he is subjected to the cruel act of purgation. urgative for everything and to everyone. The suckling abe, the hardy adult, and the decrepit old, everyone eceives a purge for any distemper, imaginary or real." he second factor in the prevention of appendicitis is, n Mr. Harris's opinion, the attitude adopted in defæcation y natives of India, and he has illustrated this by reproductions of two photographs. These show that the native athers up the fringes of his cloth into a ball and presses hem on the ilio-hypogastric region. He then squats down, he right foot pressed firmly on the ground and the right high pressing firmly on the right ilio-hypogastric region. he left foot is placed behind, resting on the toes, so that he left thigh forms a large angle with the left abdominal all. In this attitude *the cæcum is well compressed, the* egurgitation of fæces or gas from the lower bowels is prevented, and a stimulus to downward peristalsis is kept up; hus the cæcum is thoroughly emptied and the contents are riven lower. Then the native changes so that the position f the lower limbs is reversed, the left thigh being sharply exed and the right thigh extended; in this way the lower owel is emptied. Thus Mr. Harris maintains that frequent urgatives and the rational posture adopted by the Indian in he act of evacuation are the two main causes *that help to* he rarity of appendicitis among the Indians. We are nclined *to think that both of the* facts mentioned really ave an influence in preventing appendicitis. Constipaion certainly has a tendency to block the opening of the ppendix or to force fæcal materials into it. Therefore a egular emptying of the cæcum must tend to diminish he probability of appendicitis. The phraseology adopted is ccasionally rather peculiar. For instance, in objecting to the suggestion that the use of steel rollers in *grinding flour* is a cause of appendicitis in England, the writer says, "If there could be any lien *on such* a bleb of a cause, I can point out much more formidable ones in India." In speaking of the presence of particles of stone in the meal he says: "Leaving aside the direct pathological consequences the chances of swallowing small stones which the unskilled cook fails to remove from the rice are very great. A slow eater and a careful masticator when confronted with them after exhausting his ire on the household, might remove or spit out the offender and continue his meal when alone. In an assembly or in a public feast to put *one's finger* into the mouth to remove the stone or spit it out is a pollution and is indicative of low birth. In preference to this stigma one would easily wash in any number of them with impunity."

PROLONGED CONJUNCTIVITIS FOLLOWING CALMETTE'S OPHTHALMO-REACTION.

EVIDENCE is beginning to accumulate that the ophthalmoreaction of M. Calmette, which is most valuable and has attained world-wide popularity in such a short time, is not quite so innocuous as he has claimed. In THE LANCET of March 7th (p. 716) Dr. A. Maitland Ramsay has reported a case in which a violent reaction accompanied by ulceration of the cornea occurred and a considerable opacity, seriously impairing vision, remained. In the *Boston Medical and Surgical Journal* of March 12th Dr. Malcolm Mackay has recorded the following case. A woman came under observation on Nov. 23rd, 1907, complaining of "rheumatism" of the left knee. For one and a half years she had been troubled with a good deal of pain upon walking, although active and passive movements while sitting down were practically painless. At night she was often kept awake by aching in the joint and at times was awakened by the pain. Examination showed moderate diffuse swelling in and about the joint which was held slightly flexed but could be straightened. There was no redness or heat and the patella was not floating, although lateral movements produced a soft crepitus. There was marked tenderness over the head of the tibia at the external tuberosity about three-quarters of an inch below the articular surface. A cough had existed more or less for two years and there was a family history of tuberculosis. Examination revealed a "pulmonary lesion" and evidence of old spinal disease at the lower dorsal and upper lumbar region. A few tubercle bacilli were found in the sputum. As the patient wished the diagnosis of tuberculosis to be confirmed by an expert she was sent to one, and on Dec. 14th one drop of Calmette's 1 per cent. solution was placed in the right eye. The reaction promptly appeared and was very marked: photophobia, *lacrymation, and gumming of the eyelids* were very troublesome. A lotion of boric acid was used and the condition remained about the same for ten days and then subsided. On Jan. 20th there was recrudescence; the conjunctiva was red and the eye was partly closed. On the 25th the inflammation was severe, the bulbar and palpebral conjunctiva being involved with chemosis and gumming of the lids. Boric acid and zinc drops were prescribed and a boric acid ointment was applied to the lids which developed a row of small pustules. On Feb. 26th, more than ten weeks after the instillation, the conjunctiva was red and there was slight photophobia with some narrowing of the palpebral fissure. The conjunctivitis was confined to the eye into which the tuberculin was put. The patient had never previously had any trouble with her eyes.

THE WEATHER: DEC. 1st, 1907, TO MARCH 31st, 1908.

THE appended figures represent the chief meteorological elements from Dec. 1st, 1907, to March 31st, 1908, in various parts of the kingdom, some of the stations being well-known seaside resorts, others inland resorts, and others again some of the chief centres of population. Compared with the corresponding figures for the same localities published in THE LANCET a year ago the temperature and rainfall show an increase, while the number of hours of sunshine, owing to a much less sunny March, was considerably less. Compared with the average, however, the divergence of temperature was slight, as was also that of rainfall and sunshine for a great many of the stations, but several places in the south-west were a good deal drier than usual and some in the north and north-east appreciably wetter. The mean daily temperature ranged from 50° F. at the Scilly Isles and 49° or 48° at some other resorts in the south-west and at Sandown, Isle of Wight, to 44° at Tunbridge Wells, Blackpool, Glasgow, and Aberdeen, and 43° at Harrogate, while the mean cold of the nights varied from 44° at Scilly and 41° at Falmouth to 33° at Nottingham and Harrogate. Over the country generally the mean diurnal range was small, less than during the same period last year, the highest figure, 12° at Nottingham, being just twice as large as the lowest, 6° at Scilly. The difference in the mean warmth between Harrogate, the coldest place represented in the table, and Falmouth, the warmest place *on* the mainland, was 6·8°, while between Harrogate and Scilly the difference was just 9°. Sandown, Isle of Wight, was a trifle cooler than Torquay at night, but warmer than Bournemouth and Hastings both during the night and day. It will be observed that at Scarborough the mean temperature figures were almost identical with those in London and that both Dublin and Douglas, Isle of Man, were milder than Hastings and the south-east coast of England, while Blackpool had practically the same temperature as Aberdeen. Folkestone, Hastings, and Lowestoft had the least rain, and Falmouth, Glasgow, and Douglas, Isle of Man, the most, while the sunshine was more prevalent at Sandown, Isle of Wight, Jersey, provides a penalty for anyone not qualified as above who "takes or uses the title of veterinary surgeon or veterinary practitioner, or any name, title, addition, or description stating that he is a veterinary surgeon or a practitioner of veterinary surgery or of any branch thereof or is specially qualified to practise the same." The Kingston magistrates, who stated a case for the consideration of the Divisional Court, were of the opinion that the inscription used by the defendant could not be said to "state" that he was "specially qualified" to practise a branch of veterinary surgery but the Divisional Court, presided over by Lord Alverstone, has now held otherwise and the case has been remitted to the magistrates in order that they may convict. It was a point of some difficulty in the opinion of the Divisional Court, and although the Lord Chief Justice was strongly of the opinion that the magistrates had decided wrongly Mr. Justice Darling and Mr. Justice Ridley, who sat with him to hear the appeal, felt grave doubts and were by no means ready to follow him. Lord Alverstone was of opinion that the legislature meant that a person is not to indicate that he is specially qualified to treat diseases of dogs unless he has the necessary qualification, and he went so far as to say that in his opinion the Veterinary Act was intended to stop the treatment of domesticated animals in return for fees by persons who are not qualified unless they tell the public so. A point for the defence which required consideration lay in the wording of the section quoted which forbids the person using the inscription to "state" that he is specially qualified. The preceding section, intended to prevent false representations that a person is a Fellow or Member of the Royal College of Veterinary Surgeons, imposes a penalty for "stating or implying" by means of any title or description added to a personal name that its owner is such a Fellow or Member. The omission of the word "implying" in the 17th Section was dwelt upon on behalf of the defendant as being intentional and as demanding that the statement of special qualification should be definite and not merely made by implication. However, the Divisional Court has given a decision which should not merely protect the Royal College of Veterinary Surgeons against the invasion of its privileges but should also have considerable effect in protecting dumb animals against unnecessary suffering at the hands of unqualified persons, for the practice of the unqualified must always depend to a large extent upon his power to advertise his alleged skill. The case has considerable interest for members of the medical profession in that it calls attention to the weakness of the protection afforded to them by their own Act of 1858, as compared with that granted in 1881 to veterinary surgeons. The medical man and the human beings who are his patients are only protected against the quack who uses titles or descriptions implying that he is registered according to the law and not against one who states that he is qualified in such terms as those used by the defendant at Kingston. But apparently Mr. Justice Ridley would not approve of any further effort to protect the medical profession and the public, for he is reported in the *Daily Mail* to have said that "there was many a quack who was as good as a doctor."

A Herbalist Sued Unsuccessfully by the Society of Apothecaries.

At the Edmonton county court recently an action was brought by the Society of Apothecaries to recover a penalty of £20 from W. T. Gregory, a herbalist at Old Charlton, for attending, advising, and supplying medicine as an apothecary to a Billingsgate fish salesman who had died while being treated by him. The deceased had contracted blood poisoning through pricking his finger in handling skate, and after being attended by a medical man called in the defendant, who at one time was a fish salesman. Gregory undertook to cure him and applied plasters compounded with resin, turpentine, marsh-mallows, elderberries, and parsley. The defence was raised that the treatment thus accorded was surgical and not that of an apothecary, and his honour, Judge Tindal Atkinson, accepted this view of the matter, being of opinion that the case was surgical because the injury was sustained through an external cause, and because he thought that the defendant had acted as a surgeon in the treatment of what, he said, might be called a "minor surgical case." He accordingly gave judgment for the defendant, holding that he was not liable to pay the penalty claimed by the Society of Apothecaries. The case, like that of the "canine specialist" referred to above, shows the difficulty which such bodies as the Society of Apothecaries labour under in the effort to protect the public and their own members, difficulties which arise to some extent out of the use of loose and general expressions in Acts of Parliament. The decision arrived at seems to imply that acts which no surgeon would perform are surgical acts, and although the case no doubt required surgical treatment it cannot be said to have received it. The treatment afforded was, of course, not that which any "apothecary" of the present day would supply, but was at least as near akin to the treatment which an apothecary might be deemed likely to use as it was to that of a surgeon.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 17th, 1830.

MEDICAL CORONERS—CASE OF JAMES BUTLER.

To the Editor of The Lancet.

Sir,—The interest and advantage with which I have perused the excellent observations contained in your Journal, on the subject of non-medical coroners, induce me to submit to your notice some observations on a recent melancholy case, in which the life of an unhappy individual might have been saved, had there been in the country any public functionary whose peculiar duty was the investigation of such branches of jurisprudence as are connected with scientific knowledge.

The case to which I refer is that of James Butler, executed July 27, 1829, for firing the floor-cloth manufactory of Messrs. Downing at Chelsea, under very strong presumptive evidence as to his guilt, contradicted indeed by his strongest protestations of innocence to the last. When I first perused the details of his trial in the month of October last, I felt no difficulty in assigning as the probable cause of the conflagration for which he suffered, the spontaneous ignition of some of the material used in the process of the oil-cloth manufacture. Linseed-oil, lamp-black, and tow (substances largely used in the manufacture), are, under peculiar circumstances of juxta-position, very favourable to this phenomenon, as may also be considered the scrapings of the floor-cloth, often permitted to accumulate in considerable heaps upon the floor.

Such an opinion, if stated at the time of the trial, and supported by the various cases in which combustion has been known to arise spontaneously, and produce many lamentable conflagrations, could not, I consider, fail to have excited the attention of the judge and jury on the occasion; and although they might not by them have been deemed sufficient ground for another trial, would yet have arrested their decision, and excited an additional inquiry. This opinion I some time since stated in a letter to the editor of a morning paper, which was the cause of my introduction to a benevolent individual who had commenced an investigation into the case, and who has since, by rebutting every part of the moral evidence produced against Butler at his trial, succeeded in establishing the fact of his innocence beyond a doubt, and convinced me of the correctness of my opinion, as to the accidental origin of the conflagration.

I do not consider that, from the nature of the evidence before the jury, their verdict can, in any way, be impugned; a mystery hung over the case, which could only be removed by referring the calamity to a cause, of the existence of which they were unacquainted; but it is a melancholy instance of a case in which an irreparable injury has been inflicted upon an individual and his family, because no competent authority existed to intercept the necessary uncompromising denouncement of our penal code. As such, deeming that public justice requires that publicity should be given to the case, I beg to submit my observations to the readers of your invaluable Journal.

I am, Sir,
Your obedient servant,
A. Booth, Operative Chemist.

20, Church-street, Shoreditch,
April 3.

Mr. Booth's talents as a chemist, and the importance of the subject on which he writes, are sufficient to claim immediate insertion for his letter. It is right, however, to add, that we have but a slight acquaintance with the facts to which the writer adverts.—Ed. L.

devoted to the duties, the salary to be £400 per annum, with an allowance of £40 per annum for travelling expenses; also a male assistant medical officer at a salary of £250 per annum, with an allowance of £40 per annum for travelling expenses. The clerical work is to be carried out in the office of the secretary of the education committee. How the total of £1371 16*s.* is made up is shown by the following:—

	£	*s.*	*d.*
Officers' salaries and expenses	730	0	0
176 weighing machines, at £1 5*s.*	220	0	0
176 height measuring standards, at 3*s.* 6*d.*	30	16	0
360 copies of Snellen's test type (two patterns), at 10*s.* per dozen	15	0	0
176 screens, at 10*s.* each	88	0	0
15,000 cards, at 20*s.* per 1000	15	0	0
240 card cabinets (tin)	90	0	0
352 registers	50	0	0
15,000 notices to parents	7	10	0
Five medical officers' note-books, at 2*s.*	0	10	0
Sundries	125	0	0
	£1371	16	0

BACILLARY DYSENTERY.

WE have received a copy of a pamphlet on Bacillary Dysentery written by Dr. A. E. Taylor as a thesis for the degree of M.D. Cambridge. It is based upon an analytical study of 325 cases observed at Outtrim, South Gippsland, Australia, between August, 1902, and April, 1907. Dr. Taylor held the post of surgeon to the Outtrim and Jumbunna collieries, but in addition treated practically all the cases of illness in the inhabitants of the surrounding district, so that his observations are of special interest as a record of the general health of the population of the district, which comprised about 4000 persons. He gives a list of some of the more important conditions observed which include, in addition to the cases of dysentery, 116 cases of diarrhœa, 193 of infantile diarrhœa, 27 of enteric fever, and 19 of appendicitis. He is of opinion that defective sanitation is the chief factor concerned in the propagation of bacillary dysentery and, as an example, its rapid spread among the colliers is attributed to the fact that until recently there were no sanitary conveniences in the coal-pits and the pit water therefore became infected. The disease was most prevalent in the autumn months, chill and exhaustion being very potent predisposing causes. There was a slight preponderance of the cases among males, which is attributed to the greater frequency of exposure to infection and of predisposing debilitating conditions. The evacuations were examined microscopically and bacteriologically in a large number of cases and in no instance were amœbæ found, but invariably a motile bacillus was present the characters of which were in the main identical with those of the Shiga bacillus as given by Kitasato, save that it was more actively motile and was non-pathogenic to dogs. Dr. Taylor, referring to the work of Ohno,[1] who found when working in Manila that there are 15 varieties of the dysentery bacillus all shading into one another but distinguishable by fermentative, agglutinative, and other bacteriological tests, suggests that the bacillus varies in character in different parts of the world. He further believes that some degree of immunity to the disease is not uncommon; on the other hand, he states that one attack so far from leading to immunity seriously predisposes towards subsequent attacks. The duration of the incubation period in his cases usually varied from two days to a week and was most often three days; in one case, however, it was apparently as long as 20 days. Five of the cases were fatal but in only one of these was a necropsy allowed and in this one there was extensive ulceration of the mucous membrane of the whole of the large intestine. Rectal examination by means of a speculum was made in a few of the cases, revealing extensive ulceration in some of them, while in others nothing was seen except scattered areas of inflammation without ulceration. Three types were observed clinically—mild, ordinary, and severe. The onset was usually sudden and associated with severe pain and great prostration. The motions were at first those of foul diarrhœa, soon changing to mucus, pure or blood-stained. Blood appeared in them in 150 of the cases, slough-like membranes in 17, and pus in 21. Tenesmus of more or less severity occurred in 271 and vomiting in 163. The urine was usually dark in colour, of high specific gravity, but free from albumin, sugar, or casts. In three cases, however, a definite cystitis was present. On examination of the abdomen there was usually tenderness at some spots over the large bowel, varying in individual cases, and shown in a diagram appended to the pamphlet with their relative frequency. Relapses and second attacks were found to be very common. The cases lasted from two days to a week as a rule but exceptional cases extended to a period of several months. In regard to treatment, Dr. Taylor states that the mild variety requires at most a slight purge. For the ordinary and the severe cases he commenced treatment by giving a purge; for this purpose he recommends calomel in preference to castor-oil or sulphate of magnesium. If abdominal pain were severe a hypodermic injection of morphine was given at once but if possible hot fomentations with or without laudanum were used in preference. In the majority of cases this treatment proved effective but when it was inadequate rectal injections of boric acid, one drachm to the pint, were given. At first these caused pain and were rapidly rejected but they soon gave relief if they were persevered with and repeated every three hours. If this treatment failed an injection of silver nitrate (ten grains to the pint of water) was given three times daily. Dr. Taylor is to be congratulated on the use that he made of his opportunities for studying the disease and on the interesting record which he has made of his cases.

ANCIENT AND MODERN HINDU MEDICINE.

IN the March number of the *American Journal of Pharmacy* Dr. Anna S. Kugler deals in an interesting manner with ancient and modern Hindu medicine. The Hindus claim that the antiquity of their medical science exceeds that of any other people. It is comprised in the Ayur Veda, or "Science of Life," a work divided into 100 sections, each containing 1000 stanzas. Brahma communicated the Ayur Veda to Dakshprajapati who in turn passed it on to the Ashoini Kumars, the twin sons of the Sun. The oldest extant treatise on Indian medicine is that ascribed to a son of the Vedic saint Atreya, and hence called the Atreya Samhita. When asked questions by one of his pupils on the origin and treatment of disease, Atreya explained that the Ayur Veda could not be fully explained within the limits of human life and that his pupils would have to be content with his own composition which was completed within 1500 stanzas. The two most frequently quoted ancient medical writers among the Hindus are Charaka and Susruta, who dealt respectively with medicine and surgery. Charaka gave a list of 600 drugs which cause vomiting and purging, and described how remedies should be introduced into the body by means of enema syringes. No less than 125 surgical instruments are described in ancient Hindu works but the ancients are said to have understood so well the properties of drugs that surgical methods were seldom resorted to. Thus, abscesses were treated by plasters or poultices and urinary calculi by antilithics and diuretics. The Hindus were expert in plastic surgery, their operations including the transplanting of sensitive skin flaps and the forming of new ears and noses. Their skill in this direction was due to the punishment then so common in India of

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[1] The Philippine Journal of Science, vol. i., No. 8, 1906.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1908.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1908.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,795,757	1	1486	641	—	58	—	16	308	8	2513	6·8	—	135	50	65	135	—	10	—	60	455	1·2	5910	16·1	98
West Districts.																										
Paddington	150,923	—	43	13	—	2	—	—	5	—	63	5·4	—	5	1	2	—	—	—	—	—	8	0·7	173	14·9	132
Kensington	182,752	—	24	16	—	2	—	—	6	—	48	3·4	—	3	—	—	1	—	—	—	3	7	0·5	201	14·3	103
Hammersmith	124,012	—	18	12	—	1	—	1	5	—	37	3·9	—	5	—	1	—	—	2	—	1	9	0·9	140	14·7	64
Fulham	171,562	—	64	33	—	1	—	2	8	—	98	7·4	—	16	1	4	3	—	2	—	—	26	2·0	179	13·6	76
Chelsea	75,049	—	17	9	—	—	—	—	3	—	29	5·0	—	—	1	—	3	—	—	—	1	5	0·9	84	14·6	65
City of Westminster	170,545	—	54	14	—	2	—	1	6	1	77	5·9	—	1	2	1	—	—	—	—	2	6	0·5	215	16·4	112
North Districts.																										
St. Marylebone	128,867	—	30	12	—	—	—	1	17	—	60	6·2	—	2	3	1	—	—	—	—	3	9	0·9	172	17·7	85
Hampstead	92,654	—	24	8	—	—	—	—	4	—	36	5·1	—	1	—	—	1	—	—	—	—	2	0·3	70	9·8	51
St. Pancras	237,076	—	74	23	—	5	—	—	7	—	109	6·0	—	8	1	2	14	—	—	—	3	28	1·5	374	20·6	127
Islington	349,091	—	71	34	—	4	—	1	21	—	131	4·9	—	7	3	1	4	—	1	—	6	22	0·8	435	16·2	111
Stoke Newington	54,015	—	23	7	—	—	—	—	—	—	30	7·2	—	—	—	—	—	—	—	—	1	1	0·2	71	17·1	152
Hackney	235,253	1	88	34	—	2	—	1	17	—	143	7·9	—	10		7	2	—	—	—	6	26	1·4	264	14·6	102
Central Districts.																										
Holborn	54,466	—	12	4	—	1	—	1	5	—	23	5·5	—	2	1	—	—	—	—	—	—	3	0·7	87	20·8	81
Finsbury	98,007	—	21	16	—	1	—	—	12	2	52	7·1	—	3	2	3	6	—	1	—	2	16	2·2	141	19·1	76
City of London	19,252	—	4	5	—	1	—	—	2	—	12	8·1	—	—	—	1	1	—	—	—	—	2	1·4	37	25·1	—
East Districts.																										
Shoreditch	116,227	—	31	17	—	1	—	—	7	—	56	6·3	—	11	2	—	—	—	—	—	2	16	1·7	179	20·3	107
Bethnal Green	131,066	—	82	25	—	5	—	—	20	—	132	13·1	—	3	2	7	7	—	1	—	3	23	2·3	192	19·1	129
Stepney	310,706	—	143	57	—	4	—	—	38	—	242	10·2	—	18	2	4	24	—	—	—	6	54	2·3	422	17·7	91
Poplar	171,516	—	81	32	—	1	—	2	16	—	132	10·0	—	1	1	3	14	—	—	—	—	19	1·4	226	17·2	98
South Districts.																										
Southwark	210,442	—	32	18	—	2	—	—	11	1	64	4·0	—	4	3	2	9	—	—	—	5	23	1·4	308	19·1	122
Bermondsey	127,910	—	39	13	—	1	—	—	7	—	60	6·1	—	—	3	1	4	—	—	—	2	10	1·0	199	20·3	148
Lambeth	321,344	—	95	16	—	3	—	—	6	1	121	4·9	—	9	5	3	6	—	—	—	2	25	1·0	387	15·7	79
Battersea	183,873	—	57	32	—	3	—	1	15	1	109	7·7	—	3	3	4	2	—	1	—	4	17	1·2	219	15·5	124
Wandsworth	289,506	—	83	63	—	5	—	—	20	—	171	7·7	—	4	5	5	9	—	—	—	1	24	1·1	284	12·8	90
Camberwell	280,022	—	85	33	—	3	—	2	14	2	139	6·6	—	8	2	4	8	—	—	—	4	26	1·2	316	14·7	100
Deptford	117,539	—	48	20	—	1	—	—	11	—	80	8·9	—	2	2	3	3	—	—	—	—	10	1·1	136	15·1	65
Greenwich	109,110	—	29	24	—	4	—	1	11	—	69	8·2	—	—	1	2	5	—	2	—	—	10	1·2	119	14·2	107
Lewisham	156,627	—	71	36	—	2	—	1	8	—	118	9·8	—	9	2	3	3	—	—	—	1	18	1·5	156	13·0	76
Woolwich	131,346	—	53	14	—	1	—	1	6	—	75	7·4	—	—	1	1	7	—	—	—	2	11	1·1	125	12·4	70
Port of London	—	—	—	1	—	—	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

Bucknill was enrolled as the first recruit in the first regiment of Volunteers established on the new system in the United Kingdom. The corps was officially named the 1st Exeter and Devonshire Rifle Volunteers and proved the nucleus of the system which has now given place to the Territorial Force. His services in connexion with the movement were recognised by the erection by public subscription of a memorial embellished with a medallion portrait of the distinguished alienist in Northernhay, near Exeter Castle. It was unveiled by H.R.H. the Duke of Cambridge in 1895.

THE Ingleby lectures in connexion with the Faculty of Medicine of the University of Birmingham will be delivered on Thursdays, May 7th and 14th, at 4 o'clock, in the Medical Lecture Theatre of the University, by Mr. Christopher Martin, surgeon to the Birmingham and Midland Hospital for Women, who has taken for his subject Myoma of the Uterus.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia was held on April 13th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

A communication was received from the secretary of the Burlington Fine Arts Club requesting the loan for exhibition of an illuminated manuscript Psalter in the possession of the College. The request was acceded to.

The PRESIDENT then delivered his annual address, in the course of which he referred to the Royal honours that had been conferred on Fellows, and also mentioned the medals and scholarships which had been given by the College during the year. The Harveian oration and the lectures delivered during the year were then mentioned and the gifts presented to the College were again acknowledged. A brief review was also given of the principal events which had occurred in relation to the affairs of the College. The President then read obituary notices of those Fellows who had died during the year: Dr. W. H. Ransom, F.R.S., Dr. E. Markham Skerritt, Dr. Robert Barnes, Surgeon-General Sir Joseph Fayrer, Bart., Dr. Julius Dreschfeld, Sir W. H. Broadbent, Bart., Dr. G. F. Elliott, Dr. H. Montague Murray, Sir Alfred B. Garrod, Dr. F. Willcocks, and Dr. Oswald A. Browne. The President then expressed his thanks to all the officers of the College for their services during the past year and acknowledged the courtesy which he had always received from the Fellows.

Dr. J. E. POLLOCK proposed a vote of thanks to Sir R. Douglas Powell for his address and for the services which he had rendered to the College during his year of office. This was seconded by Dr. NORMAN MOORE and carried unanimously.

The REGISTRAR (Dr. E. LIVEING) read the by-laws regulating the election of President. A ballot for President then took place, when Sir R. Douglas Powell was re-elected by a large majority.

The SENIOR CENSOR (Dr. D. FERRIER) delivered to Sir R. Douglas Powell the insignia of the office of President, and the PRESIDENT gave his faith to the College. He expressed his thanks to the Fellows for having re-elected him.

The PRESIDENT then dissolved the Comitia.

MEDICINE AND THE LAW.

The Legal Liability of the Anæsthetist.

THE legal aspects of the anæsthetist's position when death occurs during anæsthesia produced with a view to the performance of a surgical operation were discussed at some length by Mr. R. Henslowe Wellington in his paper on the subject read before the Medico-Legal Society and reported in THE LANCET of April 4th, p. 1003. In conclusion, the learned coroner summed up his views by saying that the administration of any anæsthetic, whether for a local or a general anæsthesia, by unqualified practitioners, which was carried on to a very large extent throughout the kingdom, was a grave public danger and should, perhaps, be made a penal offence by statute. He had before dealt with the present position of the person administering the anæsthetic in cases in which death has followed its use and had defined the circumstances rendering him criminally liable by a quotation from Archbold's "Criminal Pleadings," where the editor says that "It seems that if a person, whether he be a regular practitioner or not, honestly and *bonâ-fide* perform an operation, or use a dangerous instrument, which causes the patient's death, he is not guilty of manslaughter; but if he be guilty of criminal misconduct arising from gross ignorance or criminal inattention, and not from a mere error of judgment then he will be guilty of manslaughter." Mr. Henslowe Wellington, although he made reference to the anæsthetist's liability to a civil action for damages, had before him mainly throughout his paper the question of a possible liability to prosecution upon a charge of manslaughter, rather than the risk of being sued under Lord Campbell's Act for civil damages. This, however, is a very real risk, and whether he deserves it or not an anæsthetist may be asked to pay damages by a widow in respect of the loss of her husband, and he may have a verdict found against him by a jury upon the civil question, although he has not been prosecuted for manslaughter and could not have been so prosecuted with any likelihood of conviction. The question of fact whether he has been guilty of negligence is one which a jury decides after the law has been explained by the judge, and a jury which might hesitate to send a fellow man to prison might desire that he should compensate a widow with an orphaned family for the result of an act which, to use general terms, he ought not to have done, or ought to have done better. Juries are composed of men with human sympathies and are not too always closely bound by legal definitions. The person without a medical qualification who administers an anæsthetic naturally and rightly runs more risk of an adverse verdict than the medical practitioner who does the same without having specially qualified himself to do so. Neither, however, can in any conceivable circumstances claim that he did not know that what he was doing involved possible danger to human life and each must be held to be aware to some extent of his own limitations. Without going into the question raised by Mr. Henslowe Wellington as to whether dentists qualified as such only should administer anything beyond nitrous oxide, it may be pointed out that anyone registered as a medical man or as a dentist who administers an anæsthetic has to consider that should a fatality occur it is quite possible that it will be suggested that he is liable for it criminally or, still more probably, civilly, and that he may then have the case put against him thus: that he undertook to do that which his training and experience did not qualify him to carry out successfully except in favourable circumstances; that at the same time his training and experience qualified him to know that unfavourable circumstances might arise and that a fatal result not only might but would be likely to follow upon his failure to recognise and to deal with them. The administration of anæsthetics by unqualified persons, referred to by Mr. Henslowe Wellington as a fit subject for legislation, is a public danger easily removeable. The present situation is that only persons duly qualified and supervised may sell certain deadly drugs, but that once sold they can be used with more or less dangerous effect by any person who may be rash enough to trifle with them. Inquiry of some kind into his conduct will ensue in all probability if death results from it, but not otherwise.

The Case of a "Canine Specialist."

The Royal College of Veterinary Surgeons is to be congratulated upon having won an appeal of considerable importance to it. Some little time ago it prosecuted under the Veterinary Act, 1881, a man who treated the diseases of dogs at a house in Cambridge-road, Kingston-on-Thames. He displayed his name there on a board, with additions thus: "M. Collinson, Canine Specialist. Dogs and Cats treated for all Diseases." He was not a Member of the Royal College of Veterinary Surgeons and was not on the Register of veterinary surgeons, nor did he hold the veterinary certificate of the Highland and Agricultural Society of Scotland, and he was prosecuted under Section 17 of the Statute referred to, which

Office, educational establishments, &c., £22,600. 5. Medicines, instruments, &c., except as in 1 and 2, £18,000. 6. Barrack services for hospitals, £29,000. 7. Hospital provisions, medical comforts, &c., £115,000. 8. Fuel, light, and water for hospitals, £25,000. 9. Hospital clothing, £2000. 10. Hospital stores and field hospital equipment, £10,700. 11. Works services, except maintenance of barracks included under (1), £81,800. Total, £1,434,700. The following shows the pay and allowances (for servant, lodging, fuel and light, and forage and stabling) per annum of medical officers in the army at home: Surgeon-General, £1447 16*s.* 3*d.*; Colonel, £1008 16*s.* 1*d.*; Lieutenant-Colonel (promoted before Jan. 9th, 1907, and specially selected for increased pay after eight years' service abroad), £802 9*s.* 7*d.*; Lieutenant-Colonel, £711 4*s.* 7*d.*; ditto (after three years' service if promoted on or after Jan. 9th, 1907), £802 9*s.* 7*d.*; Major, £583 9*s.* 7*d.*; ditto (after three years' service as such), £629 2*s.* 1*d.*; ditto (after 20 years' service if promoted before Jan. 9th, 1907, £702 2*s.* 1*d.*; Captain, £372 1*s.* 9*d.*; ditto (after seven years' full pay service), £399 9*s.* 3*d.*; ditto (after 10 years' full pay service), £472 9*s.* 3*d.*; Lieutenant on probation and Lieutenant, £325 19*s.* 2½*d.*; Quartermaster (minimum), £234 14*s.* 2½*d.*; ditto (maximum), £387 5*s.* 10*d.*

INDIAN MEDICAL SERVICE.

The King has approved of the following promotions and admissions to the Indian Medical Service:—Captains to be Majors: Victor Edward Hugh Lindesay (dated July 29th, 1907), Chintaman Ramchandra Bakhle, Roger Parker Wilson, Krisnaji Vishnoo Kukday, Christopher Dering Dawes, Clarence Barrymore Harrison, Nicholas Purcell O'Gorman Lalor, Thomas Henry Symons, Ernest Reinhold Rost, Hugh Ainsworth, Frank Addinsell Smith, John Wolfran Cornwall, Alfred Miller, Frederick Arthur Lucas Hammond, Sydney Price James, and Peter Dee (dated Jan. 29th, 1908). Lieutenants to be Captains: Arthur Francis Hamilton, Arthur Denham White, Michael Foster Reaney, Ralph Koper White, Norman Methven Wilson, John Stevenson O'Neil, Mathew Robert Cecil MacWatters, William Herbert Boalth, George Allick Soltau, John Cunningham, Herman Falk, and Charles Joseph Coppinger (dated Feb. 1st, 1908). To be Lieutenants: Hugh William Acton, Vivian Bartley Green-Armytage, Arthur Norman Dickson, Alexander Glover Coullie, Alexander James Hutchison Russell, Robert Ernest Wright, Dewan Hakumat Rai, William Hunter Riddell, Arthur Batoum Zorab, Arnold Thomas Densham, Frederic Allan Barker, Arthur Waltham Howlett, Arnold Newall Thomas, and Francis Shingleton Smith (dated July 27th, 1907).

The promotion of Major Robert Frazer Standage is antedated to Jan. 29th, 1907.

The King has approved of the retirement from the service of the following officers: Surgeon-General William Richard Browne, C.I.E, (dated April 1st, 1908); Lieutenant-Colonel William Frederick Thomas (dated Jan. 6th, 1908); Lieutenant-Colonel Sir Richard Havelock Charles, K.C.V.O. (dated March 20th, 1908); Lieutenant-Colonel Alfred William Alcock, C.I.E. (dated Dec. 29th, 1907); Lieutenant-Colonel Francis Wyville Thomson (dated Feb. 28th, 1908); Lieutenant-Colonel Frederick George Maidment (dated March 21st, 1908); and Lieutenant-Colonel John Charles Lamont (dated March 10th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Surgeon-Lieutenant John H. Stephen to be Surgeon-Captain (dated March 13th, 1908). 6th Lancashire: Surgeon-Captain Francis W. Bailey resigns his commission (dated March 9th, 1908). Francis William Bailey (late Surgeon-Captain) to be Captain (dated March 9th, 1908).

Rifle: The Queen's Rifle Volunteer Brigade, The Royal Scots (Lothian Regiment): Surgeon-Major John Pirie resigns his commission (dated March 16th, 1908). 2nd Volunteer Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Adam Wilson (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Tyne Volunteer Infantry Brigade) resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated March 4th, 1908). 24th Middlesex Volunteer Rifle Corps: Surgeon-Major Charles Graham Grant to be Surgeon-Lieutenant-Colonel (dated March 16th, 1908).

THE TERRITORIAL FORCE.

An Order in Council published in the *London Gazette* of April 10th gives the names under which certain medical units will be known on transference to the Territorial Force:—

Units of Volunteers.	Units of the new Territorial Force.	Name of County Association.
Aberdeen Companies, R.A.M.C. (Volunteers).	1st Highland Field Ambulance, R.A.M.C.	City of Aberdeen.
Seaforth and Cameron Bearer Company.	Highland Mounted Brigade Field Ambulance, R.A.M.C.	Inverness-shire.
Gordon Bearer Company.	2nd Highland Field Ambulance, R.A.M.C.	City of Aberdeen.
Black Watch Bearer Company.	3rd Highland Field Ambulance, R.A.M.C.	City of Dundee.
Glasgow Companies, R.A.M.C. (Volunteers).	Lowland Mounted Brigade Field Ambulance, R.A.M.C.	City of Glasgow.
Argyll and Sutherland Bearer Company.	1st Lowland Field Ambulance, R.A.M.C.	
Highland Light Infantry Bearer Company.	2nd Lowland Field Ambulance, R.A.M.C.	
1st Lothian Bearer Company.	3rd Lowland Field Ambulance, R.A.M.C.	City of Edinburgh.
Manchester Companies, R.A.M.C. (Volunteers).	1st East Lancashire Field Ambulance, R.A.M.C.	Lancashire.
Manchester Bearer Company.		
North-East Lancashire Bearer Company.	2nd East Lancashire Field Ambulance, R.A.M.C.	
Lancashire Fusilier Bearer Company.	3rd East Lancashire Field Ambulance, R.A.M.C.	
Liverpool Bearer Company.	1st West Lancashire Field Ambulance, R.A.M.C. 2nd West Lancashire Field Ambulance, R.A.M.C.	
Lancaster and Border Bearer Company.	3rd West Lancashire Field Ambulance, R.A.M.C.	Lancashire and Westmorland.
Cheshire Bearer Company.	Welsh Border Mounted Brigade Field Ambulance, R.A.M.C.	Cheshire.
Welsh Border Bearer Company.	South Wales Mounted Brigade Field Ambulance, R.A.M.C.	Herefordshire.
Welsh Bearer Company.	1st Welsh Field Ambulance, R.A.M.C.	Glamorganshire.
South Wales Border Bearer Company.	3rd Welsh Field Ambulance, R.A.M.C.	Monmouthshire.
Leeds Companies, R.A.M.C. (Volunteers).	1st West Riding Field Ambulance, R.A.M.C. 2nd West Riding Field Ambulance, R.A.M.C.	West Riding of Yorkshire.
South Yorks Bearer Company. West Yorks Bearer Company.	Yorkshire Mounted Brigade Field Ambulance, R.A.M.C.	
Sherwood Foresters Bearer Company.	1st North Midland Field Ambulance, R.A.M.C.	Derbyshire.
Leicester and Lincoln Bearer Company.	2nd North Midland Field Ambulance, R.A.M.C.	Leicestershire.
Stafford Bearer Company.	3rd North Midland Field Ambulance, R.A.M.C.	Staffordshire.
Home Counties Bearer Company.	1st South Midland Mounted Brigade Field Ambulance, R.A.M.C.	Buckinghamshire.
Worcester and Warwick Bearer Company.	1st South Midland Field Ambulance, R.A.M.C.	Warwickshire.
Wilts and Dorset Bearer Company.	1st South-Western Mounted Brigade Field Ambulance, R.A.M.C.	Wiltshire.
Gloucester and Somerset Bearer Company.	2nd South-Western Mounted Brigade Field Ambulance, R.A.M.C.	Somersetshire.
Devon Bearer Company.	1st Wessex Field Ambulance, R.A.M.C. 2nd Wessex Field Ambulance, R.A.M.C.	Devonshire.
Bedford Bearer Company.	Eastern Mounted Brigade Field Ambulance, R.A.M.C.	Bedfordshire.
Harwich Bearer Company.	1st East Anglian Field Ambulance, R.A.M.C.	Suffolk.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 3rd and April 10th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

Subscribers of Ten Guineas.

William Price, Southerndown, near Bridgend.

Subscribers of Five Guineas.

A. B. Duffin, London.
East Anglican Branch B.M.A., per John Gutch, Ipswich.
T. L. Morgan, Clydach Vale.
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Subscribers of One and a Half Guineas.

S. and F. Knaggs, Huddersfield.

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J. E. B.
George MacDonald, Ruabon.
Edmund Murphy, Cork.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on April 9th, Mr. HENRY MORRIS, the President, being in the chair.

Dr. ARTHUR KEITH was introduced and he made the declaration required on his admission to the office of Conservator of the Museum.

The best thanks of the Council were given to Mr. R. H. Burne for his services in carrying on the duties of Conservator of the Museum during the illness and since the death of Professor C. Stewart and an honorarium was presented to him. Mr. Burne has been anatomical assistant in the Museum since 1892.

The best thanks of the Council were given to Dr. Albert A. Gray of Glasgow for presenting to the Museum his collection of specimens of the membranous labyrinths of vertebrata.

It was resolved to continue the arrangements for supplying tea in the library.

The Jacksonian prize for the year 1907 was not awarded. On the recommendation of the Jacksonian Committee the following subject was selected for the Jacksonian prize for the year 1909: The Treatment of Surgical Affections by Vaccines and Antitoxins.

A vote of thanks was given to Mr. Edmund Owen for having acted as visitor to the examinations of the Egyptian Medical School for the year 1907.

In accordance with the recommendation of the Nomination Committee it was resolved that the deans of the Medical Faculties of the Universities of Leeds, Liverpool, and Sheffield should be informed that the Council, having consulted the several medical schools in reference to the proposal to alter the date of the Primary Examinations for the Fellowship, and having considered the various suggestions made, is of opinion that it is undesirable to make any change. The opinions expressed by the several schools varied greatly. With regard to the spring examination at present held in May, five schools suggested no change, four suggested April, two June, two March, one school suggested March or July, and one July. With regard to the winter examination held in November, seven schools suggested no change, four schools preferred September, and four schools December.

The Council proceeded to elect to the Fellowship Members of 20 years' standing and the two following Members were chosen—Mr. Thomas James Walker, consulting surgeon to Peterborough Infirmary; and Mr. Henry Pottinger Keatinge, director of the Egyptian Government Medical School at Cairo.

Mr. Bernard Pitts was re-elected a member of the Board of Examiners in Dental Surgery.

The PRESIDENT reported the delivery of the Hunterian lecture by Mr. W. Sampson Handley and of the Arris and Gale lectures by Dr. F. A. Bainbridge and Mr. M. Greenwood, jun.

A letter was received from Mr. J. Ward Cousins reporting the proceedings of the Central Midwives Board during the year. The best thanks of the Council were given to Mr. Ward Cousins for his services as the representative of the College on the Central Midwives Board.

It was decided not to hold a Fellows' dinner this year.

VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING MARCH, 1908.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·8 per 1000 of the population, estimated at 4,795,757 persons in the middle of the year; in the three preceding months the rates were 9·1, 8·4, and 7·8 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hammersmith, Chelsea, Hampstead, Islington, Southwark, and Lambeth; and the highest rates in the City of London, Registrar-General are, I believe, very valuable. They show us, for instance, that as compared with such a common disease as pneumonia the deaths from anæsthetics are quite trivial in number (41,825 from pneumonia, as compared with 183 from anæsthetics in the year 1906). The figures would be even more reliable if the possibility of having public inquiry in each case could be done away with altogether and the ordinary certificate of death substituted. That the number of deaths from anæsthetics is increasing is perfectly true, but I think that everyone who has had any experience of the surgical activity of late years will support my view that the increase is not even now out of proportion to the enormous number of people who are daily put under anæsthetics for some reason or another. The real difficulty in making a comparison arises from the practical impossibility of ascertaining with scientific accuracy the exact number of operations performed in the course of a year, and no attempt seems to have been made to do so. A very rough approximation might perhaps be arrived at in the following manner. At the hospital to which I am attached there are 221 beds; we manage to keep records of about 70 per cent. of the cases anæsthetised (the balance consists for the most part of dental cases and out-patients that are not admitted to the wards). An average of five years of these records shows that this 70 per cent. represents 770 administrations per annum. It may fairly be said, therefore, that the number of administrations in this hospital of 221 beds is not less than 1000 per annum. Again, I am informed that at the London Hospital last year, with 927 beds, upwards of 17,000 administrations were recorded. It is clear, therefore, that the surgical activity of these two institutions, with under 1200 beds, is not less than 18,000 yearly. If the Medical Directory be consulted it will be found that, excluding the Poor-law infirmaries, the ophthalmic and dental hospitals, and many purely medical charities, at least 36,000 hospital beds are in use in England and Wales alone. Worked out on the above lines I think it may fairly be concluded that there cannot be less than half a million administrations every year. My own impression is that if a proper allowance be made for the above exceptions and for the private administrations undertaken throughout the country one million would not be an excessive figure. This is, of course, only a very rough approximation, but I have ventured to make it, imperfect as it is, because I am convinced that many who talk so glibly about the number of deaths from anæsthetics have not, even in their own minds, attempted to form any conception of the ratio of those deaths to the number of operations actually performed.

Classification.—The next difficulty which arises in connexion with this inquiry is that of assigning to the anæsthetic its exact share in any fatality that may occur upon the operating table. Neither the post-mortem room nor the pathological laboratory affords us any information of a positive character upon this point. In other words, it is impossible to say, by examination of a body after death, whether a patient did or did not die from an overdose of an anæsthetic. The only evidence that we have to rely upon is clinical evidence obtained under conditions of stress and strain which are not conducive to accurate observation or correct interpretation. As examples of the difficulty to which I am now referring I may perhaps instance the following typical cases. A man meets with an accident necessitating an immediate operation, during the course of which he succumbs. In such a case an inquest must, and should, be held, but in my opinion the inquiry should be confined to the "accident" alone and should not be allowed to wander off into side issues as to whether or no the anæsthetic was properly administered. If the latter course be pursued there can be no logical limit to the inquisition; the judgment, skill, and qualifications of the operator must be investigated, as well as the conduct and resources of the institution. From every point of view such a proceeding seems to me intolerable. Again, it is very well known that certain pre-existing conditions render the performance of an operation and the administration of an anæsthetic more dangerous than usual; for instance, Graves's disease, acute septic conditions (especially about the neck), advanced diabetes, status lymphaticus, &c. Of these the pathological condition known as "status lymphaticus" has of late been very prominently brought before the medical world, some people going so far as to assert that its presence, or suspected presence, in any given case should absolutely contra-indicate the administration of any anæsthetic whatever. There can be no question as to the pathology, but the clinical significance of the morbid condition is rather more doubtful, and it is certainly premature to point to any one symptom or sign, such as the swelling of the papillæ at the base of the tongue, as a contra-indication to the administration of chloroform. In this connexion it is not a little curious to note that in the first descriptions of the disease the condition was put forward as an explanation of many cases of sudden death, irrespectively of anæsthetics or operations. In any event it is obviously absurd to assume that the anæsthetic is alone to blame for the deaths which occur in patients who are operated upon in these states, nor should the administrator alone be called upon to bear the brunt of the inquisitorial investigations. In my experience the above cases form the basis of the majority of the sensational reports which appear in the lay press under the heading "Death from Anæsthetics"; not only so, but I am inclined to think that they constitute a considerable number of the deaths included by the Registrar-General under the heading "Anæsthetics for Operation."

There is still a third class of case to which a certain, though I believe a small, number of deaths must be ascribed. I allude to them with some trepidation, but at the present juncture it would not be right to ignore them altogether; I mean the cases in which the death is due to some error of judgment on the part of the operator, or to some unforeseen accident occurring during the course of the operation. Why is the administrator to be made the "whipping boy" in such cases? and how is it possible to avoid doing so unless in every instance the highly objectionable plan be adopted of insisting upon a public investigation in each case that dies during or within a few hours of an operation?

If due allowance be made for the above "borderland" cases, and if the enormous number of administrations be taken into account, I believe that every unprejudiced person must come to the conclusion that the evidence in favour of creating a public scare on this point is insufficient. I am myself much more inclined to the opinion that the public is, on the whole, to be congratulated upon the skill and care displayed in its service, and that the profession has every reason to be proud of the results obtained under difficult and dangerous conditions. I deprecate most emphatically all endeavours to prejudge the point at issue by sensational appeals to the public and protest against its being put forward that "some anæsthetists" *object to* any inquiry being made into their methods and results. It is one of the most cherished traditions of the medical profession that it has never required such *unseemly stimulation* and there is no reason to believe that the administrators of anæsthetics have ever shown themselves behindhand in maintaining this tradition.

Remedies.—Those who are responsible for raising the present discussion have suggested various remedies for what they term the excessive death-rate.

First we have a series of remarkable recommendations made by the coroner for the City of London. The chief proposal is that an inquest should be held in every case of death during anæsthesia (at present some coroners, very properly, I think, exercise a discretion in the matter). Bound up with this proposal are others which, if adopted, would not only place the administrator on his trial before the coroner in every case, but would make the latter the official censor, not only of all hospitals and public institutions, but also of the whole body of the medical profession. This may not have been the original intention of these secondary proposals, but I feel sure that it would be their effect in practice. If once this principle were accepted in regard to one particular department of practice the coroners themselves would find it difficult to resist suggestions to hold an inquiry into all deaths taking place in public institutions. Whether this will ever be considered advisable or not the proposal is, to say the least of it, somewhat premature. It seems also to be proposed to constitute the coroner's court into a sort of scientific "court of inquiry" into the whole question; such a proposal is, of course, simply ludicrous, as anyone who has had any experience of the procedure in a coroner's court must agree.

The next proposal is that it should be made a penal offence for an unregistered medical practitioner to administer an anæsthetic. Apart from difficulties connected with the education of medical students, this proposal must, I am afraid, be looked upon as one of those "counsels of perfection" which it is so easy to formulate and so difficult to put into practice. In the first place, it would involve the repeal and re-enactment of the Medical and

Bethnal Green, Stepney, Poplar, Deptford, Greenwich and Lewisham. A further considerable decline in the prevalence of scarlet fever was recorded last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Stoke Newington, Bethnal Green, Stepney, Poplar, Deptford, Lewisham, and Woolwich. The Metropolitan Asylums hospitals contained 3150 scarlet fever patients at the end of last month, against 4956, 3866, and 591 at the end of the three preceding months; the weekly admissions averaged 336, against 458, 423, and 410 in the three preceding months. The prevalence of diphtheria has also showed a continued decline in recent months; the greatest proportional prevalence of this disease last month was recorded in Fulham, the City of London, Bethnal Green, Poplar, Wandsworth, Greenwich, and Lewisham. The number of diphtheria patients remaining under treatment in the Metropolitan Asylums hospitals, which had been 1168, 1135, and 1184 at the end of the three preceding months, had declined to 1081 at the end of March; the weekly admissions averaged 131, against 155, 150, and 49 in the three preceding months. Enteric fever was slightly less prevalent than it had been in the previous month; among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded in St. Pancras, Bethnal Green, Battersea, Wandsworth, and Greenwich. There were 73 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 119, 96, and 79 at the end of the three preceding months; the weekly admissions averaged 10, against 18, 12, and 10 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Finsbury, Bethnal Green, Stepney, and Greenwich. The 16 cases of puerperal fever notified during the month included two belonging to Fulham, two to Poplar, and two to Camberwell. Of the eight cases notified as cerebro-spinal meningitis two belonged to Finsbury and two to Camberwell.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending March 28th the deaths of 5910 persons belonging to London were registered, equal to an annual rate of 16·1 per 1000; in the three preceding months the rates were 15·2, 17·5, and 17·4 per 1000. The death-rates last month in the several boroughs ranged from 9·8 in Hampstead, 12·4 in Woolwich, 12·8 in Wandsworth, 13·0 in Lewisham, and 13·6 in Fulham, to 19·1 in Finsbury, in Bethnal Green, and in Southwark, 20·3 in Shoreditch and in Bermondsey, 20·6 in St. Pancras, 20·8 in Holborn, and 25·1 in the City of London. The 5910 deaths from all causes included 455 which were referred to the principal infectious diseases; of these, 135 resulted from measles, 50 from scarlet fever, 65 from diphtheria, 135 from whooping-cough, 10 from enteric fever, and 60 from diarrhœa. The lowest death-rates last month from these diseases were recorded in Paddington, Kensington, the City of Westminster, Hampstead, Stoke Newington, and Holborn; and the highest rates in St. Pancras, Fulham, Finsbury, Shoreditch, Bethnal Green, Stepney, and Lewisham. The 135 deaths from measles were 100 fewer than the corrected average number in the corresponding periods of the five years; this disease was proportionally most fatal last month in Hammersmith, Fulham, Hackney, Shoreditch, Stepney, and Lewisham. The 50 fatal cases of scarlet fever exceeded by 20 the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease was registered in St. Marylebone, Finsbury, Shoreditch, Bermondsey, Wandsworth, and Deptford. The 65 deaths from diphtheria were six in excess of the corrected average number for the corresponding weeks of 1902–06; the highest death-rates from this disease were recorded in Fulham, Hackney, Finsbury, Bethnal Green, Battersea, and Deptford. The 135 fatal cases of whooping-cough showed a decline of 54 from the corrected average number; this disease was proportionately most fatal in St. Pancras, Finsbury, Bethnal Green, Stepney, Poplar, Southwark, Greenwich, and Woolwich. The ten deaths referred to "fever" were slightly fewer than the corrected average number in the corresponding period of the five preceding years; of these ten deaths, two belonged to Hammersmith, two to Fulham, two to Greenwich, and one each to Islington, Finsbury, Bethnal Green, and Battersea. The 60 fatal cases of diarrhœa were equal to the average number; the greatest proportional mortality from this disease was recorded in St. Marylebone, Hackney, Finsbury, Bethnal Green, Southwark, and Battersea. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 22 per cent. below the average.

Infant mortality, measured by the proportion of deaths under one year of age to registered births, was equal to 98 per 1000. No deaths among children at this age were registered in the City of London. The lowest rates of infant mortality were recorded in Hammersmith, Chelsea, Hampstead, Deptford, and Woolwich; and the highest rates in Paddington, the City of Westminster, St. Pancras, Stoke Newington, Bethnal Green, Southwark, Bermondsey, and Battersea.

THE SERVICES.

APPOINTMENT OF DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

Inspector-General James Porter, M.D., C.B., has been appointed Director-General of the Medical Department of the Royal Navy in succession to Inspector-General Sir Herbert M. Ellis, K.C.B., who has resigned. The new Director-General entered the service as surgeon in 1877, was promoted to Staff Surgeon in 1889, and Fleet Surgeon in 1898. In 1900 he was promoted to the rank of Deputy Inspector-General and two years ago he became Inspector-General. He has been principal medical officer at Gibraltar, Chatham, and Haslar, while in a recent issue of THE LANCET we called attention to the constant war services of this distinguished officer. The official record in "The Royal Navy List" is as follows:—

Surgeon of *Orontes* during Egyptian war, 1882 (Egyptian medal, Khedive's Bronze Star); served on shore with the Royal Marine Battalion defending Suakin, from May, 1884, till the battalion was recalled in May, 1885, and was engaged in the operations in the Eastern Soudan, 1884–85; present at the actions at Hasheen, March 20th, 1885; attack on Sir J. McNeil's Zareba, Tulufik, March 22nd; the attack on the square of Guards and Marines, March 24th, and at the taking and burning of Tamaai, April 3rd (Suakin, 1885, To Frek Clasps); landed from the *Doris* during the Boer war, 1899–1900, and was in medical charge between Oct. 20th, 1899, and Oct. 12th, 1900, of the naval forces employed—(1) in defence of Stormberg; (2) in Lord Methuen's advance from Belmont to Magersfontein; (3) in Lord Roberts's advance from Enslin to Belfast *viâ* Klip Drift, Paardeberg, Pretoria, &c.; (4) with General French's column from Belfast to Barberton *viâ* Carolina; medal with eight clasps inscribed "Belmont, Modder River, Relief of Kimberley, Paardeberg, Driefontein, Johannesburg, Diamond Hill, Belfast"; present at Graspan (with the assault), Magersfontein, Poplar Grove, Capture of Pretoria; twice mentioned in despatches; promoted to Deputy-Inspector of Hospitals, November, 1900, for above services; C.B., June 26th, 1902.

We feel assured that the Medical Department of the Royal Navy will be strengthened by all possible means under his dispensation.

ROYAL NAVY MEDICAL SERVICE.

The following appointments are notified:—Inspector-General: T. D. Gimlette, C.B., to Haslar Hospital. Surgeon: A. R. Schofield to the *Ringdove* on recommissioning. Civil Practitioner: H. H. Jackson to be Surgeon and Agent at Newbiggin. Fleet Surgeons: John Menary to the *Vengeance*, on recommissioning; and H. B. Marriott to the *Doris*. Staff Surgeons: R. W. Stanistreet to the *Pandora* and to the *Perseus*, on recommissioning; C. J. E. Cock to the *Pandora*; and E. F. Mortimer to the *Vindictive*, on recommissioning. Surgeon: H. B. German to the *Vengeance*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Major R. J. Blackham has been appointed to officiate as specialist sanitary officer, Western Area, Southern Command, during the absence on four months' leave of Lieutenant-Colonel Caldwell.

Lieutenant-Colonel Delaware L. Irvine is placed on retired pay (dated March 28th, 1908).

MEDICAL AND HOSPITAL SERVICES FOR THE BRITISH ARMY.

Accompanying the army estimates for the financial year commencing April 1st, 1908, is a statement summarising the total provision made therein for medical and hospital services as follows: 1. Medical establishment (officers, £576,700; warrant officers, non-commissioned officers, and men, £344,900; nurses, civilians, &c., £113,100), £1,034,700. 2. Royal Army Medical Corps, Militia, £21,900. 3. Medical establishment of the Territorial Force, £74,000. 4. Medical staff at War happened to be a small quantity the coroner and jury seem satisfied, and *vice versâ*, not knowing that the amount used is of less importance than the method of using, and that a good administrator may successfully anæsthetise a patient in the same time that a bad one may cause a fatality, although the latter may have used only a fraction of the quantity employed by the former.

I am, Sir, yours faithfully,
J. D. MORTIMER.
April 11th, 1903.

HUMANE SLAUGHTERING OF ANIMALS.

To the Editor of THE LANCET.

SIR,—In the excellent article on this subject in your issue of March 28th I think the description of the Chatham abattoir is somewhat misleading. It is stated "at Chatham the animals are brought to a place just outside the walls of the great hall, here they are felled and then only is a sliding door opened and with the aid of ropes and pulleys the carcass is promptly drawn into the large hall." The method of slaughtering adopted at Chatham is, however, different from this description. The animals are brought into the waiting pens, then taken into the slaughter hall, where they are felled and bled, the carcasses are then dragged into the large meat-dressing room and afterwards conveyed on overhead runners to the cooling room. After each operation the slaughter hall is cleansed from blood and other animals brought in from the waiting pens. This arrangement entirely conforms to the recommendations of the Commissioners on Humane Slaughtering. The slaughter hall is divided into four slaughter pens by dwarf brick walls, thus preventing any animal from seeing another being killed, or from the sight or smell of blood. These walls only extend to half the width of the court, allowing ample space for circulation and the veterinary inspectors, whilst it also allows the superintendent's office to be placed in such a position that this official can have full command over the slaughter hall, practically without leaving his office.

I am, Sir, yours faithfully,
R. STEPHEN AYLING F.R.I.B.A.
Dartmouth-street, Westminster, S.W., April 1st, 1903.

OSCILLATORY CURRENT CAUTERY.

To the Editor of THE LANCET.

SIR,—In the *Daily Telegraph* of April 4th appears a communication from its Paris correspondent upon the experiments now being carried out on wireless telephony at the Eiffel Tower by Dr. Lee de Forest. The final paragraph of the communication is of very great interest to the medical profession generally, so it may be as well to quote the salient points :—

> Incidentally Mr. de Forest has made what may be considered a new discovery. The current from his apparatus had burnt his hands, and he at once concluded that this would be a very simple way of cauterising wounds with electricity and without pain. He made some demonstrations at the Saint Louis Hospital in the presence of Dr. Pozzi and other well-known surgeons, who, he says, were quite enthusiastic over his discovery.

Now, we, in England, are not in the least indebted to either France or America for this discovery, insomuch as it was anticipated in England as far back as December, 1906, when I was experimenting with continuous oscillations of electricity with a view to their therapeutic application. I very soon found that, whenever the retardation was more due to the inductance of the shunt circuit than the capacity thereof, any fingering of the solenoid, constituting the inductance, invariably resulted in the smell of burnt flesh and subsequent destruction of the epidermis of the fingers implicated, and this without any pain at the moment of contact. It occurred to me that, in this phenomenon, we have a means of rapidly and practically painlessly destroying malignant growths, and nævi, situated in spots which are inaccessible to other applications of electric or radio-active measures, such places, for instance, as the inner canthus of the eye.

In order to ascertain the length of time in which such a destruction of tissue would be repaired and in order to give some guide by which we might forecast a cure, on Dec. 28th, 1906, I submitted the first metacarpo-phalangeal knuckle of my right hand for a few seconds to the fat, hot spark from the inductance solenoid. At once and absolutely without pain a small hole was drilled clean through the skin. There was no eschar, as in an ordinary burn, but a simple circular tunnel as if of a drill through steel. I protected the spot by simply covering it from the air and daily watched the process of healing. At first nothing occurred but a very slight moisture or exudation of clear lymph. In about ten days the circumference was slightly raised and elastic and in a little more than a fortnight the exuded lymph formed a scab. At the end of rather more than five weeks the scab fell off and left a smooth skin beneath ; and now, at the end of 15 months, it is very difficult to see where the lesion was produced. I did not immediately rush off to demonstrate this phenomenon, but with British phlegm have been busying myself in steadily perfecting the method, so that it may be used with the greatest effect and with the greatest safety to the patient. The apparatus is now complete.

I do not wish for a moment to detract from the merit of Dr. de Forest's discovery of this phenomenon, which is absolutely original and independent of mine, but I do wish to show that electro-therapeutics in England maintain their place in the front rank and that this so-called new discovery in Paris was anticipated in England at least 15 months previous to the present announcement.

I am, Sir, yours faithfully,
HORACE MANDERS, M.D. Brux.
Harley-street, W., April 6th, 1903.

THE TREATMENT OF "MANIA" (?).

To the Editor of THE LANCET.

SIR,—Dr. Robert Jones's able and thoughtful letter in your last week's edition on this topic must, I feel sure, be welcomed by everyone interested in the treatment of mental disease. More especially must this be the case when it is recognised that after 30 years' experience as a medical attendant in huge asylums for the insane he is so definitely of opinion that "the proper treatment of insanity must be the study of each case upon its merits." This is the gospel I have preached during a period of 35 years' experience of insanity, and that experience makes me more and more impressed with the stern necessity for an intimate study of the temperament, character, and habits of each patient if a successful issue of one's treatment is to be hoped for. Pathological research may some day help us and guide us in our treatment I admit, but in my humble opinion never so much as careful individual clinical study.

Hard and fast rules as to rest, change, drugs, diet, &c., are impossible, and the idea that a physician can in half an hour's consultation map out a definite line of successful treatment in any case of mental disorder is to my mind quite fallacious. I am the greatest believer in "the influence of one mind upon another, whereby qualities such as insight, tact, common sense, inspired by a feeling of brotherhood and sympathy" are made so valuable, but such influence must be the outcome of knowledge of the character, the temperament, and the absolute workings of the mind of your patient. To obtain this knowledge individual attention is necessary, and how this can be gained in the huge asylums of to-day passes my comprehension. The study of the evolution of delusion in many recent cases of insanity is an individual one, and the value of such study cannot be over-estimated.

Dr. Henry Maudsley, in making his munificent offer to the London County Council, has emphasised all these facts, and it is to be sincerely hoped that when the House of Commons has sufficient time to discuss the serious question of the present legalised treatment of insanity it will do all in its power to give facilities for the early and individual treatment of mental disease.

I am, Sir, yours faithfully,
LIONEL A. WEATHERLY, M.D. Aberd.
Bournemouth, April 12th, 1903.

OPEN WINDOWS AND ADENOIDS.

To the Editor of THE LANCET.

SIR,—In one of your annotations last week attention was drawn to Professor William Thomson's observations with regard to cold and damp air. His researches appear to me to corroborate my contention that the method of ventilating rooms by keeping the windows open on cold and damp nights is a serious error. For among other things he points out that dried and heated air has a much more powerful oxidising influence on the blood than cold and damp air. His observations should, I think, be considered by those who on *a priori* grounds believe that open windows in cold and damp weather can have nothing to do with adenoids, unless it be in the way of preventing them. If the various other arguments and figures which I brought forward should not be considered sufficient to establish the fact that children brought up on the open window principle suffer much more frequently

TERRITORIAL FORCE—(*Continued*).

Units of Volunteers.	Units of the new Territorial Force.	Name of County Association.
Maidstone Companies, R.A.M.C. (Volunteers).	South-Eastern Mounted Brigade Field Ambulance, R.A.M.C. 1st Home Counties Field Ambulance, R.A.M.C. 2nd Home Counties Field Ambulance, R.A.M.C.	Kent.
East Surrey Bearer Company.	3rd Home Counties Field Ambulance, R.A.M.C.	Surrey.
Sussex and Kent Bearer Company.	2nd Eastern General Hospital, R.A.M.C.	Sussex.
2nd London Bearer Company.	London Mounted Brigade Field Ambulance, R.A.M.C.	County of London.
3rd London Bearer Company.	1st London Field Ambulance, R.A.M.C.	City of London.
4th City of London Bearer Company.	2nd London Field Ambulance, R.A.M.C.	
London Companies R.A.M.C. (Volunteers).	3rd London Field Ambulance, R.A.M.C.	County of London.
Woolwich Companies R.A.M.C. (Volunteers).	4th London Field Ambulance, R.A.M.C. 5th London Field Ambulance, R.A.M.C. 6th London Field Ambulance, R.A.M.C.	

THE RECOGNITION OF THE MEDICAL PROFESSION IN THE ARMY.

Referring to the compliment paid so graciously to Colonel D. Bruce, C.B., R.A.M.C., when Queen Alexandra and the Dowager Empress Marie of Russia visited his laboratory at the Royal Military Hospital recently, the *Army and Navy Gazette* says it "was richly deserved. ...... Early in his career as an army medical officer he came to recognise the extent of the mischief done to human life by diseases which he held to be preventable, and he set to work in a modest way to do what he could to alleviate suffering. At that time the War Office had scarcely been brought to realise that the army doctor had any cause to complain of the position assigned to him in our military system. He was regarded as a 'grumbler' only, no thought being paid to the real reasons for his dissatisfaction with his position—that it gave him no proper opportunities for the exercise of professional skill. When changes came in the attitude of those at headquarters Colonel Bruce was one of the first to avail himself of his chances for prosecuting his inquiries, and the success which has hitherto attended his investigations may be taken as proof of the soundness of the better methods that now prevail."

THE COOKING ARRANGEMENTS AT CHATHAM NAVAL HOSPITAL.

Mr. Jenkins, in the House of Commons, recently asked the Secretary to the Admiralty whether he was aware that at the Chatham Naval Hospital there are at present only one cook and an assistant engaged in serving the 320 patients and nine officers, which results in badly cooked food being served to the patients, thus retarding their recovery; and whether he would take steps to have a more adequate staff provided. Mr. E. Robertson, in his reply, said that the staff actually employed, which consisted of one cook and two assistant cooks, was considered adequate and compared favourably with those at Haslar and Plymouth. He could not find that there was any justification for the suggestion contained in the honourable Member's question. Parliamentary answers are so often evasive that we hardly think Mr. Robertson expected to be understood literally in his reply. Bearing in mind that in a large general hospital, always having a certain proportion of serious cases under treatment, the services of a trained cook are indispensable both night and day, it can scarcely be maintained that the Admiralty scale, as stated by Mr. Robertson, errs on the side of extravagance or even of liberality. And when we compare the number of cooks and cooks' mates allotted in a flagship, for example, to the admiral's mess, ward-room mess, gun-room mess, and warrant officers' mess, it leaves us with the impression that this matter merits careful inquiry by some competent and impartial authority.

SOLDIERS' TEETH.

It has been decided that a soldier who as the result of (*a*) injury received whilst on duty otherwise than through his own fault or (*b*) wound or injury directly attributable to active service incurs loss of teeth may in future be provided with artificial teeth at the public expense.

Correspondence.

"Audi alteram partem."

THE CASE OF CROPPER v. STOKES.

To the Editor of THE LANCET.

SIR,—In reference to the recent action, in which I was defendant, will you allow me to take advantage of your space to thank the numerous kind friends who have interested themselves on my behalf, and especially those gentlemen who have been good enough to sign the memorial to Judge Edge. The case has been already briefly but fully detailed by Dr. B. G. Morison in THE LANCET of April 4th, p. 1031, so I need not enter further into it. All I have to state is that acting under the advice of the Medical Defence Union, in whose hands I fully believed my interests to be secure, I resisted an effort on the part of executors to avoid payment of certain reasonable fees for medical attendance. My action in this case has throughout been perfectly simple and straightforward; the position which I adopted at the outset I still maintain and have nothing to retract. With regard to the judgment itself, as such, I take no exception, although I cannot concur in it. The preponderance of evidence, as is almost unavoidable in many actions of this kind, was on the side of the plaintiffs, and it was perhaps to be expected, although a great surprise to me, that Judge Edge gave a verdict in their favour. I submit, however, that a mere deficiency of evidence is not sufficient basis on which to found the denunciations which were levelled against me. I maintain that his remarks, which have caused me great pain and annoyance, and very probably injury as well, were entirely undeserved by me and were not justified by the circumstances of the case.

I am, Sir, yours faithfully,
Highbury-place, N., April 13th, 1908. H. FRASER STOKES.

DEATHS DURING ANÆSTHESIA.

AN ANÆSTHETIST'S POINT OF VIEW

To the Editor of THE LANCET.

SIR,—At somewhat irregular intervals the question of the mortality which occurs from or during the anæsthetic state becomes the subject of acute discussion in professional circles. On the last occasion (about 18 years ago) the point at issue was simple and scientific and strictly germane to the subject of anæsthetics; it was whether the immediate cause of death was cardiac or respiratory failure. At the present moment there seems to be a tendency to start another discussion upon "Deaths under Anæsthetics," but from the way the matter has been raised the side issues involved seem to have become of far greater importance than the original question itself.

Statistics.—Complaint is made that the figures furnished by the Registrar-General afford no criterion of the number of deaths which actually occur during the inhalation of an anæsthetic. But even if such be the case, it only tends to prove that those who furnish him with his facts hesitate to put down under this particular head cases in which there is a reasonable doubt as to the immediate or most important cause of death. It would surely be much more misleading to include under the heading "Anæsthetics for Operation" such cases as severe accident or advanced disease. In this, as in any other case, the figures of the Registrar-General can only be used for purposes of comparison with other causes of death or with deaths from the same cause in other years. It seems to me that it would be just as reasonable to complain that the figures given for the deaths from pneumonia or scarlet fever for any one year are inaccurate because the diagnosis might be open to question in some cases and, in any event, had not been verified by a coroner. Used in the way I have indicated —i.e., for purposes of comparison—the figures of the

As a consequence of the decrease of disease among the loose women of the town the Würtemberg army is the purest of the German Empire. The number of Würtemberg soldiers contracting venereal disease during the course of a year only amounts to 6·4 per 1000. On the other hand, the Prussian, Saxon, and Würtemberg army included give an average of 19·4 cases per 1000. In the French army the proportion is 29·9 per 1000; in the Austrian army 57·5 per 1000; in the Italian 91·5 per 1000; and in the British army 122 per 1000. For ten years now the Würtemberg army has shown the lowest figures in regard to venereal disease. This is probably due to the method of constantly arresting not recognised prostitutes but any woman who is suspected and of examining not merely for syphilis but also for gonorrhœa. A small platinum spoon is introduced in the urethra to collect secretions for microscopic examination; also after the menses the cervical secretions are examined for gonococcus. The full details concerning every woman examined are carefully entered in a register, so that a complete sexual history is kept. Red strokes relate to syphilis and blue strokes to gonorrhœa. Such records spread over many years and by the coloured lines reference is quickly made. When a woman is found to be diseased she is forced to go to the hospital. Here there is a special ward and these patients are carefully separated from the other female patients. If the nature of the disease is not infectious the woman may be treated at home but the attendant medical adviser must certify to the police once a week that there is no danger. Finally, it should be mentioned that there is a female member of the police force present at the examinations of the women, and she endeavours to persuade them to lead a better life.

Of special interest to the British public is the history of the Stuttgart public slaughter-house. In England the whole question of meat-supply has to be dealt with and the experience at Stuttgart may be considered useful as showing "how not to do it." According to old church records a public slaughter-house was built at Stuttgart in the year 1509. A stone bearing an inscription still remains and it is dated 1585. The words carved in the stone are:—"Oh! flish das ider meizer Tesh nit alzeit Pflung hut das rech ich Got," which might be translated as: "Oh! flesh that in the butcher's pocket not always has *fins* that I leave to the revenge of God." In other words, Divine wrath is called down on the unscrupulous butchers who attempt to sell diseased meat. It would seem as if the slaughter-house remained public or municipal property up to July 18th, 1738, when it was sold to the Butchers' Union for the absurdly low price of 600 florins. In those days, and for many years, only sufficient cattle were killed for the needs of the town. But in the course of time and as the facilities of communication increased people came from the outskirts for their provisions. The accommodation then became insufficient. The slaughter-house was too small and a nuisance to the neighbouring dwellings. Therefore in 1866 the Butchers' Union built an abattoir near the King's wood garden which was intended only for the slaughtering of cattle. In time, however, the city authorities interfered and ordered the butchers to take the smaller animals, such as sheep, to the abattoir. As early as 1869 the accommodation of the new slaughter-house was already found to be totally insufficient. Not only were cattle from outlying districts brought in but they arrived from abroad, from Holstein and from Russia. New stabling had to be provided and the Butchers' Union built a stable for 200 cattle some distance away. In the course of time, and enlightened by the example of other German cities where the building of municipal abattoirs had proved so great a success both from the sanitary and from the financial point of view, the municipality and people of Stuttgart realised what a serious blunder was committed when the public slaughter-house was sold to the Butchers' Union. But now a vested interest had been created and it could not be abolished without making great sacrifices. The abattoir monopoly, which had been sold to the Butcher' Union in 1738 for 600 florins, was bought back by the city for the sum of 775,000 marks. It was in 1890 that the city determined to build a modern and model abattoir with a cattle market large enough to satisfy the requirements of a population of 380,000 inhabitants. The contract stipulated that the city might take possession of the abattoir belonging to the Butchers' Union in 1900 and use it until they had built their own which is to cost 5,000,000 marks (£204,000).

When the new abattoir is ready for use the fees charged for slaughtering will be increased, for the slaughter-house must be made to pay. Some years ago a municipal commission made special arrangements with the butchers to establish a price for the retail sale of meat. This meat tariff does not work well. The butchers consented to its establishment so as to get rid of the *octroi* or town dues that used to be levied on all animals brought in. The Stuttgart *octroi* was abolished in April, 1905, and the tariff for the sale of meat has four years more to run and will probably not be renewed. In 1849 and at other times the State and the local authorities have endeavoured to fix the retail price at which meat should be sold, but it does not seem to work satisfactorily. Laws of Jan. 12th and March 30th, 1905, appointed the commission to regulate the price of meat. A veterinary surgeon nominated by the city presides; then there are one member of the Butchers' Union, one representative of the cattle dealers, one representative of the dealers in smaller animals, and the business manager or economic superintendent, as he is called, of the slaughter-house. This commission met no less than 153 times in 1906. Not only is the price of meat fixed but great care is taken to see that it is only sold when sound and in a wholesome condition. Thus in 1906 there were at Stuttgart 247 retail butchers and they received 2878 surprise visits from inspectors. Then there are 885 retail stores, not regular butcher's shops, but places where some kinds of meat, and more especially sausages, are sold; the number of visits and examinations made amounted in all to 8885. At the 14 fish and poultry dealers 167 inspections were made. At the public market and during fairs 35 more inspections took place. Thus, taken altogether, commendable activity was displayed. Yet with all this only in 165 cases was it found necessary to prosecute and these proceedings were nearly all settled by the payment of fines.

Though the butchers will have to pay higher fees for slaughtering in the new abattoir, this will be compensated by the much greater profits which it is believed that they will derive from the bye-products. They have been authorised to form a trust for the conjoint working of the various industries connected with these bye-products and this is one of the most profitable phases of the whole business connected with the slaughtering. The municipal statistics show what is the extent of the abattoir business and also they demonstrate the increase of poverty and depression in Germany. In 1905, 142,402 animals (weighing 12,252,398 kilogrammes) were slaughtered, but in 1906 there were only 138,281 animals (weighing 12,187,409 kilogrammes) slaughtered. This, in spite of a constantly increasing population, indicates a falling off in the consumption of meat which in 1906 amounted to 64,989 kilogrammes. If Cannstatt and the other suburbs are included, the grand total is 162,652 head in 1905 and 156 970 in 1906, or 5683 animals less. But what is more significant than the number of animals killed for food is the character of these animals. A far greater proportion of cows and heifers were brought in for slaughter. Then, as there is more poverty and therefore less demand for the expensive portions of meat, many of the best cuts are imported from the surrounding districts. Now of the animals killed in 1905, the number found to be diseased was 21,527; but in 1906, out of a smaller number killed, a greater number were diseased—namely, 22,865, showing an increase of 1338. In 1906, there were 7528 cases of tuberculosis, as against 6533 in 1905, an increase of 998. Of these animals, after destroying the diseased parts, there were left for consumption 21,697 kilogrammes in 1906 and 20,373 kilogrammes in 1905, an increase of 1324 kilogrammes. Of what was left to be sterilised and cooked by the *Freibank* there was no change worth mentioning—1036 animals in 1905 and 1065 animals in 1906, an increase of only 29 animals. The number of animals that are totally destroyed as absolutely and in every part unfit for food is, of course, less where the *Freibank* exists, though it is doubtful if the British poor would consent to purchase food known to have been diseased, however carefully it might be sterilised. With the increase of distress the number of horses, as well as of inferior cattle, consumed as food naturally augmented—namely, 277 in 1906, as against 255 in 1905; but counting the carcasses brought in from the outside there was an increase of 26 horses used as food in 1906.

Finally, the financial situation must be considered, and the growth of abattoir business may be illustrated by the fact that the fees paid for slaughtering amounted to 8335 florins in 1866, to 67,763 marks in 1876, to 60,491 marks in 1866, to 88,317 marks in 1896, and to 105,900 marks in 1906. If we take the budget for this last-mentioned year the

Dental Acts, for, as is well known, these Acts do not forbid anyone to practise; they merely afford a *minimum* of protection to the public, and indirectly to those who are duly qualified. I quite agree, of course, that it is very desirable that the Acts should be re-enacted in this sense so as really to protect the public and discourage quackery, but I can hardly believe that it will be possible to do this on the side issue of anæsthetics. Nor am I quite convinced that the advantage, as far as anæsthetics are concerned, would be worth the trouble involved. I am extremely doubtful whether many administrations are undertaken by unqualified people in the present day, the risks are too great, and it is even more doubtful whether many, if any, deaths can be attributed to this form of illicit practice. I have no doubt, too, that a good deal of opposition will be met with from the dental side unless the holders of the L.D.S. are specifically included in the term "registered practitioner." In these circumstances it does not seem to me to be very dignified or wise "to cry for the moon."

The proposals which have my most hearty sympathy are those which urge upon the medical examining and educational bodies the absolute necessity of affording the medical student additional facilities for obtaining experience and practice in this particular branch of practice. The proposals now made run very much upon the lines laid down by me in a paper published in THE LANCET of May 28th, 1892, p. 1176. Since that date the Society of Anæsthetists has been largely instrumental in obtaining considerable improvement, but no doubt there is still room for more to be done in this direction, and I gladly welcome the revival of the movement. As an addendum to the education of the medical student I would myself put forward the importance of educating the public. The lay mind is apt to run from one extreme to the other in anæsthetic as in other matters—from carelessness to abject fear—and I am not quite sure which is the worst condition.

Under the head of carelessness I would include insistence upon being given an anæsthetic for trivial examinations and operative procedures; the demand which patients sometimes make for chloroform for simple tooth extraction, and the occasional development of the "chloroform habit" in those who suffer from neuralgic pains. But the form of carelessness to which I would particularly draw attention is that in which a patient who is about to be operated upon ties the hand of the operator and embarasses the practitioner in attendance by insisting upon the latter giving the anæsthetic. I firmly maintain that this is wrong, and that only in exceptional circumstances should the anæsthetic be given by anyone who has a personal or professional interest in the operation to be performed, the danger being, of course, that his attention is apt to be distracted from the anæsthetic to the work of the surgeon. I do not in any way wish to imply that a specialist should always be called in, that is often quite impossible and unnecessary, but I do think that in such cases a neighbouring and disinterested practitioner should be asked to undertake the responsibility. As an example I may perhaps briefly relate a personal experience. A good many years ago I gave an anæsthetic for the examination of a lady by a particularly enthusiastic gynæcologist. A considerable degree of relaxation was necessary. On passing the speculum a very interesting and unusual pathological condition was discovered and nothing would content my enthusiastic friend but that I should come to the foot of the bed and look at the curiosity. On my return to my proper position I found the patient slightly livid and the respirations obviously failing. Slight pressure on the chin, &c., quickly restored matters, and at this distance of time I cannot remember exactly whether *anyone* but *myself* was aware of the jeopardy in which the patient's life had been placed, but I think not. This exemplifies what may, and I believe often does, occur, and I was that day taught a lesson which I hope I shall never forget. This too, I fancy, is one of the reasons why accidents are more common at the hands of the junior members of the profession, who are generally much more keen about the surgical procedures than about the somewhat monotonous process of administration. In hospital practice especially some of the most troublesome cases are those in which the patient comes to the operating theatre in a condition of mortal dread of the anæsthetic. It is in such cases that extremely sudden, and I believe quite unavoidable, death is apt to occur in the practice of any anæsthetist, however great his skill, however large his experience; it is the sword of Damocles that hangs over the head of each one of us. To a great extent this state of terror is engendered and enhanced by the sensational paragraphs and headlines of the lay press and by the injudicious utterances of people "clothed in a little brief authority," against which I would earnestly protest.

The City coroner suggests that a Royal Commission should be appointed to consider the question of deaths under anæsthetics. If the terms of reference to such a commission could be so arranged as to include an inquiry into the desirability of adopting the Scotch inquisitorial system, or, at any rate, of holding the coroners' courts *in camerâ*, I fancy that the medical profession would nearly unanimously accept the suggestion.

I am, Sir, yours faithfully,
J. FREDK. W. SILK, M.D. Lond.,
Anæsthetist and Teacher of Anæsthetics at King's College Hospital.
April 11th, 1908.

To the Editor of THE LANCET.

SIR,—I have thought that the outcome of a fairly extensive experience, not only as an anæsthetist to general and special hospitals but also as a general practitioner, may be worth contributing to this discussion. I would say that I agree thoroughly with every proposition laid down by Dr. J. F. W. Silk and in the main with those of Mr. H. Bellamy Gardner, but I would limit their application to administrations conducted by those who can claim to be considered specialists. As regards the knowledge, either theoretical or practical, of the "average medical man"—recently qualified or otherwise—I have been driven to conclude that there is much room for improvement and that many belong not merely to "those who don't know" but to that much more dangerous class "those who don't know that they don't know." Mistakes are commonly committed and remarks are commonly made which show only too evidently an ignorance of the first principles of the subject. Cases have occurred, even fatal ones, in which an anæsthetist of any experience would have foreseen great difficulties, whereas he by whom the duty was undertaken obviously failed to do so and was unable to cope with them when they arose. Although it is true that faulty administration is comparatively very seldom the direct or sole cause of death, one hears much too often of instances where it has caused considerable anxiety and materially interfered with the success of the operation.

Until the examining bodies take this matter more seriously I am afraid one cannot hope for much alteration. In the stress of preparation for examination a student can hardly be expected to trouble much about a subject which, as he would say, "does not pay," for even when instruction is required there is little probability that a single question will be asked, and if it be that much importance will be attached to his answer. This has an unfortunate effect as regards the inability of many practitioners and men on the junior staff to give an anæsthetic for a simple operation without causing discomfort to the patient and trouble to the surgeon, even if worse results be avoided. But when improvement takes place the fact will still remain, as pointed out by "F.R.C.S." in THE LANCET of Feb. 8th last, that "for the proper conduction of a large proportion of operations done at the present time special skill and experience are as needful in the anæsthetist as in the surgeon, and the average practitioner cannot expect to be any more capable of replacing the one than the other."

Practitioners in this country are not usually expected to undertake a lithotrity or a gastro-jejunostomy, and it should be more generally realised by them, and by such surgeons as *Dr. T. D. Luke* describes, that for the average medical man the field of anæsthetisation has its limits no less than the field of surgery. It seems to me, therefore, that every student should be made to go through such instruction as would enable him to act in cases not requiring special skill and should be made aware of the circumstances under which special skill is needed and should be procured except in emergencies. I do not see how more can be accomplished during the ordinary five years' course, but his knowledge to this extent should be thoroughly tested.

As regards the present system of inquiry into deaths which have occurred during anæsthesia, it can hardly be doubted that it is unsatisfactory, and Dr. F. J. Waldo's paper only strengthens this impression. On reading the reports one cannot help being in many cases struck by the futility of the questions and by the danger of the little knowledge possessed by the coroner. For example, the administrator is often asked, "How much chloroform did you give?" and if this it was decided to recommend the education committee to arrange for the inspections to be carried out by the medical officers of health. *It does not seem to have been considered necessary to provide for any general supervision or control of the inspections.* This is to be regretted and it will be a great mistake if any attempt is made to collate the reports of the inspecting medical officers in the offices of the committee by an official who is not a medical man and who would not therefore be able to appreciate the importance of the results that it is anticipated will be obtained by the systematic inspections which it is proposed to make.

Special Accommodation for Convalescent Lunatics.

The chairman of the committee of visitors of the Three Counties Asylum for Carmarthenshire, Cardiganshire, and Pembrokeshire recently proposed to the committee that arrangements should be made for the treatment in a separate building of those patients who it might be expected would within a reasonable period be restored to health. He expressed the opinion that it was especially depressing for this class of patient to be constantly associated with those whose condition was hopelessly incurable. In order to give practical effect to his proposal he suggested that a new house should be built for the medical superintendent whose present residence might then be utilised for the convalescent lunatics.

Flogging Sentences at Glamorgan Assizes.

The large number of robberies with more or less violence which have occurred in the streets of Cardiff has been a matter of concern for some time not only to those whose business it is to keep down crime but also to those residents who have been obliged to traverse certain parts of the borough in the neighbourhood of the docks and in the centre of the town. During the past year there have been no fewer than 27 persons committed for trial for the offence referred to. It is satisfactory, therefore, to find that at the assizes held at Cardiff Mr. Justice A. T. Lawrence has shown his determination adequately to punish those who are convicted before him of such a crime by sentencing them not only to terms of imprisonment but to receive in addition a flogging with the cat. In sentencing one prisoner who had been found guilty of brutally assaulting and robbing a haulier his lordship said: "It is a very serious offence and one I should not be doing my duty if I did not attempt to repress as far as lies in my power. I know there are some humanitarian people who object to the use of the lash, but when we have to do with persons of *your class I do not think there is* any other way of teaching you and of convincing you that it is a game that is not worth the candle. You must know that if you come to this court for committing a robbery with violence you will assuredly suffer not only imprisonment, about which you do not appear to care very much, but also by your person receiving chastisement."

April 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

A Suggested Colony for Sane Epileptics in Scotland.

AT a recent meeting of the adjustment committee of the parish councils of Edinburgh, Glasgow, and Govan, a remit was submitted from Edinburgh parish council in favour of the establishment by joint action of the three parishes and of other large parishes in Scotland of a colony for the treatment of sane epileptics. From the returns it is seen that at Jan. 1st, 1900, there were in Scotland 443 chargeable sane epileptics, and returns from the three parishes for 1905 showed that the number chargeable in Edinburgh was 29, in Glasgow 74, and in Govan 46, making a total of 149. Out of this total 15 from Edinburgh, 34 from Glasgow, and 20 from Govan were recommended as suitable for the proposed colony. It was decided by the committee that the figures relating to the three parishes did not justify any urgent necessity for the establishment of a joint colony, and also that in view of the Royal Commission on the Poor-law and the Feeble-minded further consideration should be deferred.

The Water-supply of Aberdeen: Important Report.

There have just been issued to the members of the Aberdeen town council copies of the report prepared by *Professor* D. J. Hamilton and Professor Matthew Hay embodying the results of their examinations of the water-supply of the city. The report shows that chemical and bacteriological examination of the water-supply was carried out weekly for a period of 14 months, commencing with November, 1906. The water, as was already well known, was found *to contain a remarkably* small proportion of saline matter and is in that respect much above the usual *standard of water-supplies.* During the first three months of 1907 there was a somewhat curious increase of chlorides to nearly double their usual amount. This was apparently not due to sewage pollution, *however, for a sample of water from the Dee* above Braemar gave also an increase of chlorides. The amount of "free ammonia" and of "albuminoid ammonia" was usually within the limits for a potable river water, but on some occasions the limit for albuminoid ammonia was exceeded. As regards the bacteriological examination the results were more decisive, especially in reference to the bacillus coli. The number of germs or germ colonies growing at 20° C. varied from 90 to 2770 in one cubic centimetre of the water, but both these figures were exceptional, *the usual range being from about 200 to 700.* The maximum limit for *a good river water* is usually stated at 500. The number of germs growing at the temperature of the human body varied from 2 to 58, but was seldom above 20. The maximum limit for a good river water is put at 50. The bacillus coli was on many occasions detected in as little as one cubic centimetre of the water, whereas really first-class water should not give evidence of the bacillus coli in the centrifugal residue of 100 cubic centimetres of water. Much of this pollution is probably due to surface drainage from grazing lands occupied by cattle or sheep and to cultivated land that has been recently manured, but part is *almost certainly due to* domestic sewage. Professor Hamilton and Professor Hay conclude their report as follows. "In view, therefore, *of the results* of our examination of the water-supply and of our knowledge of the impracticability of adequately protecting the river *against* domestic pollution, we have no hesitation in expressing the opinion that the water-supply of the city in its present *condition* is dangerous, and that steps should be taken *either to* filter the water or to obtain a supply from a source *not open to* domestic pollution. Filtration of the present *supply* is, in any case, advisable in order to remove the turbidity which is so frequently observed after wet weather."

April 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland: Election of Examiners.

A MEETING *will be held on Tuesday,* May 5th, at 4.30 P.M. to elect examiners. Graduates of any University which may be *from time to time recognised* by the College will be eligible for election as examiners in the subjects of general education. All the other *examiners* will be Fellows or Licentiates of the College or *professors or lecturers* in any school of medicine recognised by the College. Candidates are requested to lodge their applications in writing with the registrar, at the College, on or before Tuesday, April 28th, at 10 A.M.

Dublin Abattoir and Slaughter-houses.

The claims of the Dublin abattoir on popular favour are about to be tested sharply. The expenditure *on that* institution is said to increase, while the income is surely decreasing, and *so* "the concern is farther off than ever from paying its expenses." So says the report of the estates and finance committee of the corporation of Dublin *for the* year ending March 31st, 1908. Three causes have been assigned by the superintendent, each of which is of high interest to the public from both the sanitary and the financial point of view. 1. *The tolls from the* army authorities have dropped from *50s. weekly to 10s. The contractor* was bound to kill there all the animals of which the meat was supplied to the army; *the change made in the* contracts results in the supply of tinned meat in the proportion indicated by the above-*mentioned decrease of* tolls. 2. The second, "perhaps the most important, cause, and one which is remediable, it *appears, is the system* adopted by a large number of owners of private slaughter-houses of subletting their premises *either at a* weekly rent or at so much per head of cattle slaughtered. This system, which is largely on the increase, *has a very serious* effect on the earnings of the abattoir." A from adenoids than those who sleep with closed windows, it may at least be admitted that they, together with Professor Thomson's observations, show that serious and immediate attention should be given to the subject. The hope was expressed that Professor Thomson's paper would be "carefully considered and its lessons acted upon." To do this surely we should be justified in advocating that windows ought not to be kept open on cold and damp nights, in the sleeping rooms of children at least. I believe that from 80 to 90 per cent. of "adenoids" could be almost immediately prevented by the promulgation of this doctrine, for there is no doubt that mothers would willingly adopt it at once if they had the sanction and authority of the medical profession. I am, Sir, yours faithfully,

Wimpole-street, W., April 13th, 1903. J. SIM WALLACE.

SMALL-POX AND DISINFECTION ON BOARD SHIP.

To the Editor of THE LANCET.

SIR,—Your correspondent "J. F. B.," whose letter on the above subject appeared in your issue of March 21st, asks for reference to articles or records of experiments indicating the value of formalin as a disinfectant in such circumstances. Klein, Sommerville, and others have done experimental work on the germicidal efficiency of formalin. In the *British Medical Journal* of July 2nd, 1904, experiments are recorded by Sommerville in which formalin is put in competition with carbolic acid in the destruction of B. typhosus and the results show that the coefficient of formalin is 0·4, taking that of carbolic acid as 1·0. In the *Sanitary Record* of Nov. 29th, 1906, Sommerville and myself, working with a modification of the above method, in which various organic matters (serum, gelatin, mucin, &c.) are introduced, record a coefficient for formalin ranging from 0·2 to 0 3; and in the same journal of May 9th, 1907, working with larger quantities of organic matter, we find the same coefficient for this body—viz., 0·2 to 0·3.

It is clear that fumigation with any body of such low germicidal strength must be a most unsatisfactory method of disinfecting ships. The same remark applies to fumigation with SO_2. Nearly 30 years ago the whole question of the disinfectant value of this gas (SO_2) was investigated in Germany by Koch, Wolfhügel, Hüppe, and Proskauer, and the report of these experts stated that sulphur dioxide, with or without water, dry or damp, was entirely useless for the disinfection of spores and quite unreliable for the disinfection of sporeless organisms in the presence of any superficial protection. It was further demonstrated that in practice the unequal diffusion of the gas and its loss through various causes rendered the disinfectant value much less than in the laboratory experiments, and these scientists strongly recommended that disinfection by sulphur dioxide should be entirely abandoned. Dujardin-Beaumetz, Cassedebat, Sternberg, and others have described the use of this gas as wholly unreliable, a farce, and simply ridiculous. The vapours of formalin and sulphur dioxide, lacking, as they are, so largely in germicidal efficiency, are now superseded by the application of liquid disinfectants of high coefficiency. A mop or spray and warm watery dilution of one of these form the most effective implements for the disinfection of the various apartments, berths, &c., aboard ship.

I am, Sir, yours faithfully,
J. T. AINSLIE WALKER, F.C.S.

Kew Gardens, April 11th, 1908.

SUSSEX MILK-VENDORS FINED.—The sequel to samples of milk from Sussex being taken at Thornton Heath station, London, at the latter end of February, came before the Croydon magistrates on April 7th, when the Etchingham Milk and Cream Company, Limited, and John Everatt, of Cooksbridge, were fined, the former company £3 and costs and the latter defendant £2 and costs, for selling to retail dealers milk deficient of fat. In the case of the defendant company it was stated that the railway company (the South-Eastern and Chatham Railway) had complained of the condition of the churns; and in the other case the defendant said that he did not seal his churns because the railway company (the London, Brighton, and South Coast Railway in this case) reserved the right to inspect them. 8 per cent. of added water was found in the sample of milk from Cooksbridge and in the other case the milk was deficient of 40 per cent. of fat.

SANITATION AND THE SLAUGHTER-HOUSE AT STUTTGART.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

WINE FOR THE POOR.—MEDICAL INSPECTION OF SCHOOL CHILDREN.—SUCCESSFUL MEASURES AGAINST VENEREAL DISEASE.—THE WÜRTEMBERG TROOPS THE LEAST CONTAMINATED.—SALE AND RE-PURCHASE, AT GREAT LOSS, OF THE ABATTOIR.—INSPECTION AND CONTROL OF MEAT.—THE COST.

STUTTGART among its many attractions affords points of special interest to the student of sanitation. By reason of its importance and population it holds the twelfth place among the 36 largest towns of the German Empire. Since 1877 its medical officer of health has not been allowed private practice but must devote his whole time to the public service. In 1883 a second medical officer was appointed whose principal task is to attend to prostitutes and to prevent the spread of venereal disease. A third medical officer was nominated to superintend the insane and the poor-house. Finally, in 1903, a bacteriological institute was established. The chief medical officer of health has to watch over the work of the other officers. He has also to instruct and to advise the town councillors and the police in all matters relating to insanitary dwellings, drainage, factories, milk, food, and drug supplies, the care of the insane, &c. The city, which used to consist of only seven, has now 14 wards. There are several "doctors of the poor" who receive from the municipality £25 a year and have to give full medical attendance to the indigent living in their wards. They also have to advise in regard to the care of orphans and decide the amount and nature of the relief that should be given. Thus, in 1906 the food given to sick persons amounted to 13 500 portions and 4551 litres of wine. From this it will be seen how in Suabia wine is considered an important article of diet and a help in restoring the strength of the sick; indeed, this is another illustration of the fact that in wine-growing countries the fear of intemperance is not entertained.

In regard to the medical inspection of school children the question has not been neglected, but at the time of my visit the authorities were waiting to discover the right way of organising this service. There was a risk of a conflict of authorities. Dr. Krauss, the first medical officer of the city, was sent all over Germany to study what had been done elsewhere, but the results of his investigations were not at all satisfactory. In the meanwhile the chief medical officer of health receives twice a year in his own surgery all the school-children. The first examination is very thorough and conducted for the purpose of discovering any constitutional defect. If this is found, the medical officer decides whether the child should be sent to the salt baths, to a school colony in the country or on the hills, or what other mode of treatment is necessary. Whatever has to be done, it is done forthwith. The cost is at once defrayed by the city but the public authorities sometimes endeavour to recover the whole or part of the outlay from the parents. Also the cost is at times in part met by the insurance to which the parents contribute. In any case the treatment of the child is taken in hand at once and this is not delayed by questions as to who should pay the cost.

It is, however, in coping with venereal disease that the authorities at Stuttgart have been most successful. The system adopted differs considerably from that which prevails in most other towns. There are in Stuttgart, in spite of its population of 260,000 persons, only 16 women regularly inscribed as prostitutes. These women voluntary inscribe themselves so as not to be troubled by the police and present themselves for periodical examination. The real measure of protection adopted is that of establishing a very careful watch in the streets. Whenever there is reason to believe that a woman is practising prostitution she is arrested and examined. In 1906, the last year for which I was able to obtain figures, 1172 women were thus examined. Of these, two had soft ulcers; 118 had gonorrhœa, and of these 15 had syphilis as well; and there were 45 cases of syphilis. Thus there were 180 cases of venereal disease out of 1172 women examined. This represents a considerable decrease as compared to the figures given some years ago. The percentage of disease is now reckoned as 0·17 per cent. soft ulcers, 11·3 per cent. gonorrhœa, 5·1 per cent. syphilis; total, 16·6 per cent.

border of small vesicles, was excised, serum was administered twice, and the patient is doing well. It is believed that the disease was contracted when the man was working at a city hide store, in which some hides were being prepared for shipment. None of the workers in the same place up to the present are affected.

Hospital Abuse in Belfast.

For some time past there has been considerable dissatisfaction expressed by both general practitioners and hospital staffs in Belfast that people who are quite able to pay medical men receive gratuitous advice at the Belfast hospitals, more especially in the extern departments. Certain circumstances have accentuated this feeling. In the first place, there is undoubtedly a tendency always in a place like Belfast—where there is a medical school—to a plethora of medical men, and for the same reason a large number of medical men will be found specialising in every department. Further, the present business depression, due to the staple industry of Belfast—linen—being in a very unsatisfactory condition owing to the American money panic, has not improved matters for the medical profession. During the year 1907 there were 29,433 extern patients in the Royal Victoria Hospital. Some days the numbers exceeded 400, and the extern surgeons and physicians, struck with the fact that well-to-do people were sometimes attending, brought the matter before the medical staff and board of management with the result that a joint sub-committee of some of the staff and some of the board of management was formed to consider the matter, and after some very harmonious meetings decided [1] that the arrangement in regard to 1*d.* a week subscribers of *bonâ fide* working classes should remain as before. For at the various works in Belfast by paying 1*d.* weekly to the funds of the Royal Victoria Hospital the workers can themselves and their families be treated in the extern department or admitted to the wards, except when suffering from tuberculosis or any infectious disorder. A plan was adopted at the hospital many years ago under which obviously necessitous cases are treated on their merits and subscribers' "lines" should be given only to such necessitous people. Other patients should present a written communication from their own medical men. It was also arranged that when a case came to the extern department (not necessitous, or 1*d.* a week subscriber, or with an annual subscriber's recommendation) he or she should be examined and his or her medical attendant should be asked if the patient ought to be treated by the charity. Finally, it was agreed that the following notice should be hung up in the extern department of the Royal Victoria Hospital:—

NOTICE.

This is a charitable hospital and medical and surgical treatment is only intended for those who are unable to pay for it elsewhere. The visiting medical and surgical staff give their services free. It is desirable that patients should come to the hospital provided with either a subscriber's ticket or a note from their usual medical attendant.

A discussion was held on Hospital Abuse on Feb. 20th,[2] at which it was reported what steps had been taken by the staff of the Royal Victoria Hospital, and it was decided to send a circular to the practitioners in Ulster asking them to second the efforts now being made by the staffs of the various charitable hospitals to reduce hospital abuse by taking steps to prevent well-to-do patients from coming to these institutions. A small subcommittee of general practitioners appointed at this combined meeting of members of the Ulster Medical Society and of the Ulster branch of the British Medical Association to arrange details has advised: "1. That a circular be sent to the medical men in Ulster asking them to second the efforts now being made by the medical staffs of the various charitable hospitals to diminish hospital abuse by not sending their well-to-do patients to these institutions. 2. That the medical staffs of the clinical hospitals be asked to lay before their students, as opportunity arises, the evils of hospital abuse. 3. That with regard to those who are unable to pay the full consultation fee, some arrangement between the family doctor and consultant as to modification of same should be possible. 4. That we deplore the necessity which exists of requiring '1*d.* a week' subscribers who imagine that they are paying an equivalent to treatment received. 5. That a small committee be formed to wait on the boards of management of various hospitals to explain the difficulties under which the general practitioner labours owing to hospital abuse." This report will be considered at an early of the medical profession in Belfast. Under the 1*d.* week subscription the working classes subscribed to the Royal Victoria Hospital last year a sum of £3894, and it is calculated that for this they were accommodated to the extent of about two wards, or 64 beds, but it must be recollected that quite independently of such a subscription many of those admitted by this arrangement could, as in the case of sudden and severe accidents, *ipso facto* have entered the hospital. Apart from hospital abuse there can be no doubt that the Truck Act injured general practitioners very much in Belfast, as many medical men were formerly appointed to look after various works, an arrangement which ceased when that Act was passed. Although there are not so many clubs in Belfast as in similar large centres in England there is as much sweating and while in England a medical man with a club generally attends the women and children of the members, for which he gets additional pay, in Belfast he is not at all so sure of being called in by them.

Ulster Medical Society.

A meeting of this society was held in the Medical Institute, Belfast, on April 2nd. The first business was to receive the report of the committee on hospital abuse, when it was decided to send the recommendations to each member of the society and to call a conjoint meeting of the society and of the Ulster branch of the British Medical Association to consider them in May. Dr. A. Dempsey read notes of a successful case of Cæsarean Section. Dr. J. H. McKee of Harrogate read a short paper on Harrogate and its Treatment. Dr. Cecil E. Shaw brought forward a communication, "Squint in Childhood," a paper based on over 200 cases.

April 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Municipal Grants in Aid.

THE Municipal Council of Paris during its recent sittings has voted various grants in aid, amongst which are the following. A sum of 3000 francs to children's dispensaries for the distribution of sterilised milk. The sum of 94,000 francs in aid of children's dispensaries in general. The sum of 169,800 francs for laboratories of bacteriology and radiography, for libraries, and for travelling scholarships. A sum of 3000 francs for bringing the laboratory of neurology under the care of Professor Albarran up to date for the congress of 1908. The sum of 1000 francs towards the International Polyclinic of M. Aubeau. A sum of 141,000 francs for the foundation of an oto-rhino-laryngological department at the Laennec Hospital. Lastly, a sum of 365,000 francs for carrying out the isolation of tuberculous patients in the hospitals.

A Medical Trial.

An interesting judgment was given by the Tribunal of the Seine on March 31st. Madame X sued Professor Berger for 110,000 francs damages in regard to an operation which that surgeon had not seen fit to conclude. The operation in question was undertaken to restore the nose of the daughter of Madame X. After Professor Berger had prepared the graft, which he had taken from a costal cartilage, he saw that it would be dangerous to do any more. Madame X, without listening to the excellent reasons which Professor Berger laid before her in defence of his conduct, sued him for 100,000 francs on behalf of her daughter whom she said had been irreparably damaged by his refusal to continue the operation, and also for 10,000 francs for herself. The Tribunal appointed three experts to consider the conduct of Professor Berger; they reported that they considered that he had acted perfectly correctly and Madame X was accordingly non-suited.

April 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Comparison of the Diagnostic Value of Pirquet's and Calmette's Reactions.

IN Professor Monti's out-patient department, where about 30 children are seen daily for the first time and about double that number of old patients, Dr. Kremer has made a series of comparative observations in order to ascertain whether eipts apart from these fees for slaughtering were: for rent standing room 8910 marks; weighing fees, 2323 marks; rage, 24,413 marks; stables, 17,587 marks; and food served the restaurant, &c., 26 519 marks; or a total of 166,660 rks, including the pfennigs, which are not given in the ove figures. Then to this must be added, though not so ectly connected with the abattoir business, the rents paid r various parts of the premises used for a saloon where meals d refreshments are served to all who have business or rk at the abattoir, or for dwellings, drying lofts, places examining meat, hide-sheds, altogether yielding 15,018 rks. The sale of dung for manure brought in 2195 marks d sundries 1640 marks. The interest on the reserve funds s 13,668 marks; sundry fees came to 806 marks; and odds d ends, 777 marks. Loans on bonds and shares refunded 43 marks, so that the grand total receipts were 250,101 rks. Then there were money transactions not directly nnected with the abattoir costing 16,169 marks and the yment of taxes 12,092 marks; salaries, cost of supersion, printed matter, stamps, &c., 67,693 marks. The st of hay, straw, coals, light, water, repairs, cleaning, moval of confiscated carcasses, 64,368 marks; sundries, 02 marks; various purchases, 484 marks; rent for adjacent ound, 3000 marks; purchase of bonds for reserve fund, ,868 marks; cost of refunding, 4894 marks; making a tal expenditure of 244,342 marks; cash in hand, 5758 arks; total balance, 250,101 marks. From all these figures will be easy to see at what cost the public abattoir is anaged and that it can be made a paying and going concern ven in the unfavourable circumstances existing at Stuttart. The building erected by the Butchers' Union is not, of ourse, in keeping with modern exigencies, but it is, neverheless, very preferable to the private slaughter-houses hich it supplanted. Now also that it is under municipal anagement the best use is made of it and every possible recaution is taken. Of course, the animals are carefully spected by fully qualified veterinary surgeons both before nd after slaughter. For this there is one chief veterinary urgeon and six fully qualified assistants with special nowledge of bacteriology. Only veterinary surgeons work n Stuttgart, though in the outlying suburbs ordinary meat nspectors were employed. Formerly a certain amount of neat was smuggled in from the outside and was not taken o the abattoir for inspection. One of the arguments in avour of an *octroi* was that it would stop this practice. Then in 1677 the *octroi* was established a special store had o be built where all the meat from the outside was deposited or examination and the levying of the town dues. To-day here is not only very strict examination at the abattoir but nspectors must go to all the retail shops at least once a week and see that everything is thoroughly clean. Thus the xample given at Stuttgart is certainly encouraging and worth taking into consideration.

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[1] See THE LANCET, Jan. 18th, 1908, p. 199.

[2] See THE LANCET, Feb. 29th, 1908, p. 680.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting at the General Infirmary.

THE 140th annual meeting of the supporters of the Infirmary, which is the largest general hospital in Yorkshire, was held on March 25th, under the chairmanship of the treasurer, Mr. Charles Lupton. From the report of the work accomplished during the 12 months ending Dec. 31st, 1907, it appears that 7055 patients were treated in the wards, that number including 341 patients who remained in at the end of 1906. This number was just 34 ahead of the previous year, and probably represents the maximum number of cases that can be adequately dealt with under the present conditions as to accommodation. Of the new patients admitted 1348 were medical, 4420 were surgical, and 977 were ophthalmic and aural. The daily average number of beds occupied was 363, the average number of patients passed through each occupied bed was 19·26, and the average duration of treatment of each was 19 days. It will be noticed that the last figure is low and this is due to the fact that, especially from the surgical wards, large numbers of patients who have been operated on and who require skilled nursing are transferred to the two semi-convalescent hospitals at Cookridge at an earlier date than they could be taken to their own homes or removed to convalescent hospitals which are not provided with accommodation for patients who require so much supervision. The rate of mortality was 6·65 per cent., but deducting the 140 patients who died within 48 hours of admission the percentage works out at 4·68. There were 729 cases of accident admitted; of these 68 were burns and scalds, 53 being in children and 15 in adults, and the mortality in these distressing cases was 63·23 per cent. The new out-patients amounted to 40,418. The out-patient maternity department, which provides abundant facilities for the work of the students, has been carried on in the same way as in former years, and during the year there were 502 confinements. For a good many years an inquiry officer has been employed by the infirmary who devotes all his time to making investigations as to the financial position of applicants for relief and treatment at the institution. In the waiting hall in the case of 14,447 patients inquiries were made; of these 124 admitted their ability to pay and were not attended to. A percentage of those apparently suitable for infirmary treatment was made the subject of further inquiry at the addresses given. Of 967 thus investigated 876 were deemed suitable cases and 91 were unsuitable as they were found quite able to pay for the treatment required. It is a fact which is sometimes overlooked even by those who might be supposed to know better that the number of women and children treated in the infirmary is greater than at any other special or general infirmary in Yorkshire. In the out-patient department there were 11,332 children under 13 years of age and in the in-patient department 1412 under the same age, while the total number of women treated (exclusive of those in the maternity department) was 14,858. Turning to the finances the total receipts for the year 1907 were £29,361, as against £30,814 for the previous year. Benefactions showed a diminution of £2016. The total expenditure on the three institutions—that is to say, on the General Infirmary and on the Ida and Robert Arthington Hospitals—amounted to £36,215, so the expenditure has exceeded the income by £6854. To this must be added the amount of an adverse balance at the beginning of the year, so that the debit balance now amounts to the large sum of £14,946. This disproportion between income and expenditure has been partly met by the allocation of £11,843 from the investments held by the trustees of the Leeds House of Recovery to the use of the Leeds Infirmary. The money is retained by the Charity Commissioners and the income only paid to the infirmary, but it will meet the loss of income occasioned by the loss on the year's working. The chairman made an urgent appeal for more support, pointing out that the expenses must of necessity increase. The addition of ten nurses to the staff has involved an additional annual expenditure of £600, and the sum of £688 has been expended in the alteration of houses in the possession of the infirmary to provide accommodation for these extra members of the staff. It is certain that in the immediate future additional accommodation will be required in the way of operating theatres, but this cannot be undertaken until funds are forthcoming.

April 13th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Medical Inspection of School Children in Cardiganshire.

ONE of your local correspondents referred last week to this subject briefly. The position is as follows. At the last census the population of Cardiganshire was 60,237 and since the previous census there had been a decrease of about 2500 persons. The area of the county is 440,630 acres, or about that of Worcestershire where the population is approaching 500,000. There are thus difficulties attending the medical examination of school children in Cardiganshire which are not so pronounced in more densely populated English counties, and in order to find some way of overcoming them a conference of representatives of the county education committee, the sanitary authorities, and medical officers of health was recently held in Lampeter. Two proposals were considered. One that a medical officer should be appointed for the whole county and that his duties should be confined to the medical inspection of the school children, and another that the inspection should be carried out by the medical officers of health in their respective districts. It appeared to be considered by a majority of those present that the difficulty of getting from one part of the county to another was an insuperable objection to the appointment of only one official and ultimately

Thomas's Hospitals; John Hayward Paget, Charing Cross Hospital; Michael William Phipps, Queen's College, Cork, and London Hospital; Edward Philip Stibbe, Charing Cross Hospital; and Harold Skarratt Thomas, London Hospital and private.

At the second professional examination in Anatomy and Physiology held on March 26th, 27th, 30th, and 31st, 98 candidates presented themselves for examination, of whom 53 were approved and 45 were rejected. The following are the names of the successful candidates:—

Harold George Alexander, Middlesex Hospital; Sydney Vere Appleyard, St. Thomas's Hospital; Malcolm Barker, Charing Cross Hospital; Thomas Mulholland Bellew, Liverpool University; Jamshedji Sorabji Bhajiwalla, Bombay University, Middlesex and University College Hospitals; Arthur Brodie Hamilton Bridges, St. Thomas's Hospital; William Edgar Carter, Leeds University; Eric Edmund Chipp, St. Bartholomew's Hospital; Reginald Charles Clifford, St. Bartholomew's Hospital; Reginald Manchester University; Ellis Patrick Crozier, Ceylon Medical College and London Hospital; George Leslie Curnock, Charing Cross Hospital; Hubert Daw, Guy's Hospital; Arthur William Donaldson, Oxford University; William Alexander Dunn, Otago University and St. Thomas's Hospital; William Halley Eggar, Middlesex Hospital; Daniel Charles Evans, University College, Cardiff; Montague Albert Farr, Charing Cross Hospital; George Herbert Garlick, St. Mary's Hospital; Douglas Hamilton, King's College Hospital; Charles Herbert Hart, University College, Bristol; Henry Edwardes Griffiths, University College, Cardiff; George Holmes-Smith, L.D.S. Eng., King's College; William Henry Talfourd Jones, Guy's and King's College Hospitals; George Arthur Edward Kelman, Westminster Hospital; William Bertram Lawrence, University College, Cardiff; Tam Legge, Madras and London Hospital; Wilfred Edgar Levinson, Guy's Hospital; Edward Claude Linton, London Hospital; Bryen McDermott, Guy's Hospital; Reginald Kinloch MacGregor, St. Bartholomew's Hospital; Horace Lloyd Mann, St. Thomas's Hospital; Patrick John Monaghan, Guy's Hospital; Hubert Lewis Clifford Noel, London Hospital; Henry Clarence Wardleworth Nuttall, Liverpool University; Thaddeus Turner O'Callaghan, Guy's Hospital; John Francis O'Malley, L.R.C.P. & S. Irel., L.M. Dub., Dublin and King's College; William Howard Pickup, Birmingham University; Charles Edward Reckitt, Guy's Hospital; Edward Smeed, University College Hospital; Reginald Gershom Sparkes, St. Mary's Hospital; Alan Murray Stuart, St. Mary's Hospital; Richard Teodor Timberg, St. Thomas's Hospital; John Saint Andrew Titmas, L.D.S. Eng., Middlesex Hospital; John John Tozer, St. Mary's Hospital; John William Trevan, St. Bartholomew's Hospital; Arthur George Trott, Charing Cross Hospital; Percival Dillon Warburton, Sheffield University; Archibald Farrell Waterhouse, Sheffield University; Harvey Henry Vincent Welch, St. Thomas's Hospital; Herbert White, St. Thomas's Hospital; Walter George Wince, L.M. & S. Calcutta, Calcutta University and St. Bartholomew's Hospital; and Walter Ansley Young, Madras Medical College and London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the ordinary Council meeting held on April 9th the following diplomas were conferred upon the undermentioned gentlemen who have passed the necessary examinations and have now complied with the by-laws of the College:—

Diploma of Fellow.—Joseph Bernard Dawson, M.B., B.S. Lond., M.R.C.S., L.R.C.P., Birmingham University.
Diploma of Member.—Kenneth Douglas Panton, M.B. Toronto, Toronto University and London Hospital; Robert Kerr Paterson, M.D., C.M. Kingston, Queen's University, Canada, and London Hospital; and George Charles Edward Simpson, B.C. Cantab., Cambridge University and St. Bartholomew's Hospital.
Licence in Dental Surgery.—Andrew Robertson Walker, D.D.S. Pennsylvania, Pennsylvania University.

SOCIETY OF APOTHECARIES OF LONDON.—At the Primary Examination held recently the following candidates passed in the subjects indicated:—

PART I.

Biology—R. B. F. Frazer, Charing Cross Hospital; R. H. Pettersson, Birkbeck College; and S. J. S. Reid, Royal Free Hospital.
Chemistry.—R. B. F. Frazer, Charing Cross Hospital; and S. J. S. Reid, Royal Free Hospital.
Materia Medica and Pharmacy.—E. Carter, Durham; H. R. Coombes, Cambridge and Westminster Hospital; F. C. Eberhardt, Edinburgh and Birmingham; and J. McManus, Belfast.

PART II.

Anatomy.—G. S. Bate and J. A. A. Boddy, Manchester; C. S. Foster, Westminster Hospital; E. A. S. Hoare, Charing Cross Hospital; A. J. V. Mathews, St. Mary's Hospital; and J. G. Reidy, Edinburgh.
Physiology.—G. S. Bate and J. A. A. Boddy, Manchester; J. Brearley, Leeds; P. Hirschbein, Guy's Hospital; E. A. S. Hoare, Charing Cross Hospital; J. B. Holmes, Manchester; J. G. Reidy, Edinburgh; W. G. Tickell, Middlesex Hospital; and C. B. Welsby, London Hospital.

UNIVERSITY OF DURHAM.—At the convocation held on April 4th the following degrees and diploma were conferred:—

Doctor in Medicine.—James Glenny Gibb, M.B., B.S. Durh.; Sampson George Victor Harris, M.B., B.S. Durh.; Arthur Holbrook Nott, M.B. Durh. (*in absentiâ*); John Cuthbert Pearce, M.B., B.S. Durh.; William Tait Sewell, M.B., B.S. Durh.; and Edward Tate, M.B., B.S. Durh.
Doctor in Medicine for Practitioners of 15 years' standing.—David Donald, L.R.C.P.&S., L.F.P.S. Glasg.; Benjamin William Nettlefold Gowring, M.R.C.S., L.R.C.P.; Robert Hudson, L.M.R.C.P.&S. Irel.; Walter Wingfield Nuttall, M.R.C.S., L.R.C.P.; and Robert George Reid, L.R.C.P. & S., L.F.P.S. Glasg.
Master in Surgery (M.S.).—James Glenny Gibb, M.B., B.S. Durh., M.R.C.S., L.R.C.P., St. Bartholomew's Hospital.
Bachelor in Medicine (M.B.).—Ronald Martyn Davies, Helen Mary Gurney, Arthur Henry Hogg, Ernest Lacey Markham, and Gertrude Ethel O'Brien, College of Medicine, Newcastle-upon-Tyne; Charlotte Purnell and Elizabeth Patteson, London School Medicine for Women; Hubert Shield, College of Medic Newcastle-upon-Tyne; Eric Frushard Waddington, University Leeds; Leslie Henry Walker and James Burrell Williams College of Medicine, Newcastle-upon-Tyne; and John Frankl Young, Guy's Hospital.
Bachelor in Surgery (B.S.).—Ronald Martyn Davies, Helen Ma Gurney, Arthur Henry Hogg, Ernest Lacey Markham, a Gertrude Ethel O'Brien, College of Medicine, Newcastle-upon Tyne; Charlotte Purnell and Elizabeth Patteson, London School of Medicine for Women; Hubert Shield, College of Medicine, Newcastle-upon-Tyne; Eric Frushard Waddington, University of Leeds; Leslie Henry Walker and James Burrell Williamson, College of Medicine, Newcastle-upon-Tyne; and John Franklin Young, Guy's Hospital.
Bachelor in Hygiene (B.Hy.).—Robert Samuel Trotter, M.D. Aberd.
Diploma in Public Health (D.P.H.).—Samuel Thomas Cochrane, M.B., B.S. Durh.; Lilian Mary Chesney, M.B., Ch.B. Edin.; Edward Guy Dru Drury, M.D., B.S. Lond.; George Pillans Harlan, M.D., Ch.B. Glasg.; and Robert Samuel Trotter, M.D. Aberd.

UNIVERSITY OF ABERDEEN.—The following degrees were recently conferred:—

Doctor of Science (D.Sc.).—John Wishart.
Bachelor of Science (B.Sc.).—Christian Davidson Maitland, James Fowler Tocher, Charles Cumming Calder, James Graham Darling, and Hugh Sinclair Robertson.
Doctor of Medicine (M.D.).—William Flett Croll, William Sim Garden, James Robertson, and Lieutenant-Colonel Henry Thomson.
Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—With First-class Honours: James Watt. With Second class Honours: Thomas Craig Boyd. Ordinary Degree: John Anderson, Alex. Andrew Bisset, John Brown, Donald Buchanan, James Barr Cruickshank, James Gordon Danson, George Davidson, Adam Gilchrist, James Alexander Hendry, M.A., B.Sc., Edward Johnson, James William Littlejohn, William George Macdonald, James Davidson Mackay, John Farquhar Macleod, Rae McRae, Allan Massey, William Mearns, Arthur James Milne, Thomas Burtonshaw Nicholls, Ian Ogilvie, Arthur William Rettie Pirie, Douglas Porter, John Rennie, Robert Ross, Andrew James Shinnie, William Alexander Watson, William Gordon Watt, Maurice Joseph Williamson, and Douglas Wood.

The following gentlemen have been awarded the *Diploma in Public Health*:—

William Begg, M.B., Ch.B. Aberd., John Hay Moir, M.B., Ch.B. Aberd., and George Scott, M.B., C.M. Aberd.

THE CENTRAL MIDWIVES BOARD.—At a meeting of the Central Midwives Board held at Caxton House, Westminster, on April 9th, Dr. F. H. Champneys was re-elected chairman and received the thanks of the Board, expressed by Mr. E. Parker Young, who said that the Board wished to recognise their appreciation of Dr. Champneys's work by re-electing him to the office of chairman. Mr. H. G. Fordham was re-elected honorary treasurer. The action to be taken on the Board's resolution of March 19th as to the payment of fees of medical practitioners summoned to assist midwives in emergencies was considered and the Board decided:—

1. That the Privy Council be asked to furnish the Board with a return showing the boards of guardians which have adopted the suggestions of the Local Government Board as to the payment of medical fees contained in the Circular of July 29th, 1907.
2. That it be referred to a meeting of the Standing Committee to frame a statement on the subject to be submitted to the Privy Council.
3. That when the return has been furnished the Privy Council be asked to receive a deputation of the Board (*a*) on the subject of the payment of the fees of medical practitioners summoned to assist midwives in emergencies, and (*b*) concerning the following propositions affirmed by the Board on March 19th: (1) That midwives (who are "a necessity") will be unable to make a living in many localities without extraneous aid; (2) that such localities are very often exactly those in which their presence is most necessary from the poverty and (in some cases) the sparseness of the population; (3) that voluntary contributions cannot be relied upon to supply the whole of the necessary financial aid; and (4) that for this purpose a Government grant is a necessity.

Letters were then considered from the medical secretary of the British Medical Association as to the statement in the Board's letter to the Privy Council of Feb. 15th referring to the hostility existing in some districts between the medical profession and midwives. The Board decided that the reply be that the statement referred to was founded on communications to the Board, on communications which have appeared in the *British Medical Journal* and Supplement thereof, in the medical and nursing press in general, and on facts within the knowledge of members of the Board. At the request of Mr. Parker Young the report of Miss F. M. Bernard-Boyce, inspector and superintendent of midwives for the county of Norfolk, was read from the issue of the *Eastern Daily Press* dated April 2nd, licial decision in the English King's Bench was said by law agent to make that subletting illegal. The point has, wever, been contested; and no action has been taken by public health committee so that the report before me nks that "they may find themselves later on held accounte for their inaction." 3. A better defined grievance is luded in the fact that "although several Royal Commis ns have urged the advisability of having all animals ttle, sheep, and pigs) slaughtered in public abattoirs, Department of Agriculture and Technical Instruction, in te of the corporation's protest, continue to cause pigs ilt with under the swine fever order to be slaughtered a private slaughter-house situate in a district where the pulation is very congested." The authors of the report nsider that if this procedure is persisted in "the matter ould be brought under the notice of Parliament by one of Members for the city." There is no doubt that, in any ent, the inevitable prominence which will be given to the estion of slaughter-houses, and their claims and uses, will nd to keep all such establishments all the more free from order—tangible, visible, or odorous.

Royal Victoria Eye and Ear Hospital, Dublin.

At the annual meeting of the friends and supporters of the yal Victoria Eye and Ear Hospital held recently the port of the council for 1907 showed that 1369 patients om all parts of Ireland were admitted to beds in the spital during the past year. The average period of atment of these was about three weeks. An average mber of 76 beds had been occupied throughout the year. e total aggregate of hospital residence exceeded by 2000 ys that of the record of 1906 and would have been eater but for the successive closing of wards while in the nds of painters. In the out-patient department 7267 new tients were registered, while 2816 patients returned who d been formerly treated, making a total extern attendance 10,083 for the year. The aggregate number of visits of ese patients was 41,167, which shows an average of 135·4 tern patients attended to by the surgical staff daily. Many f these were children, including infants of two and three onths; and a great number of parents had written to xpress their gratitude for the attention and benefits eceived, with appreciation of the arrangements for comforts nd general convenience. The previous annual report had entioned the consideration of plans for the erection of a pecial detached building for accommodation of the treatent of extern patients. The plans are now prepared and enders for the erection obtained. An increase of funds will e necessary to defray the cost of the building. Depreciaion of securities since the former report has lowered the alue of the investments which had been made for building purposes. This amounted on Dec. 31st, 1907, to £3852 only, or about one-third of the amount required for the erection and the equipment of the building. The council accordingly earnestly asks for special donations to the building fund for this erection. The income of the institution during the past year displayed an encouraging increase on that of 1906, amounting to £716, of which £473 came in the form of bequests and £212 as voluntary contributions. This item of the financial report is considered by the council to be highly satisfactory; but against it was the cost of painting (between £900 and £1000) which had to be provided. A portion of this considerable sum is chargeable to revenue and another part to capital; a portion has already been paid, but as the work was finished but a few weeks ago a considerable proportion of the expense necessarily passes into the accounts of this year. The necessity for meeting the additional strain of this item resulted in an excess of expenditure over income for the year which has just been concluded amounting to £80. The income from bequests would have been much greater but for the depreciation of the value of securities which had taken place and which caused a complete loss to the hospital of one bequest of £2000 which would have otherwise passed into its funds.

Medical Contracts for Unions and Dispensaries.

Politics always get into Irish affairs. The following communication has been sent by the Local Government Board of Ireland to certain boards of guardians which had expressed their desire of limiting their attention to the tenders for drugs and other medical and surgical necessaries to those offered by Irish firms:—

> SIR,—The attention of the Local Government Board has been drawn to the advertisement issued by the Board of Guardians of —— Union, inviting tenders for the supply of medicines and medical and surgical appliances to the workhouse and dispensary districts of the union for the year commencing on the 1st prox., in which it is stated that tenders will be only considered from Irish firms. In reference thereto the Local Government Board have to point out that one-half of the expenditure is recouped to the union out of the Local Taxation (Ireland) Account in respect of drugs or appliances procured under prescribed conditions; and they desire to explain that unless the competition for the contracts be thrown open, so as to enable the guardians to obtain the best drugs and appliances in the market on the most advantageous terms, the Board would feel precluded from recouping from public funds any portion of the expenditure incurred in such restricted contracts.

It is impossible not to sympathise with the patriotism of the guardians and with the economy of the Government department.

Country Life for Pauper Children.

Mrs. J. Wyse Power, one of the most practical as well as devoted of Irish philanthropists, and the wife of a leading journalist, has for some years been a member of the board of guardians of the North Dublin Union. This lady has been largely instrumental in inducing her board to try the experiment of boarding out the workhouse children. Taking their stand on the fact that from every point of view, moral, physical, and mental, it is better for a child who must be put on the rates to be reared in a healthy, decent country home than in a workhouse however well conducted, Mrs. Power and her colleagues arranged in the first place to send early in 1905 27 children to Piercestown, where arrangements had been made by the parish priest to receive them. Tinahely parish received 16 on May 26th, 1906; Killinick, 17 on July 29th, 1907; and Lucan two instalments on Nov. 22nd, 1906, and April 26th, 1907, making a total of 37. And on March 10th of this year 21 were sent to Gorey. So there are now 118 children boarding out beyond the confines of the union and 127 others in North County Dublin. Mrs. Power has now discussed the results in the *Freeman's Journal* and there is surely reason to feel proud of the record. Not one of the children has died; they are all practically members of the families in which they have been placed; "and they have," she says, "the same prospects of growing up to be industrious, self-respecting, and useful members of the community, as have the children of their foster parents." She contrasts this state of things with the training afforded by the union life and its schools in the following words: "Life in the institution over, they are sent out to face the world without any experience where they must do everything for themselves and where incapacity to fight their own battle against all odds inevitably means failure and its consequences. No wonder that the results are what we know them to be and that the prison cell and the able-bodied workhouse ward—especially in the female divisions—are occupied by so many pauper-reared children grown to maturity." The economics of the experiment seem to be correspondingly encouraging. Mrs. Power tells us that although figures are not available the cost of the maintenance of the boarded-out child is actually less than if he or she had been kept within the precincts of the workhouse.

Housing of the Dublin Poor.

In an article recently published in the Dublin evening papers by Mr. T. J. Stafford, F.R.C.S.I., and Mr. La Touche, full prominence was given to the gruesome conditions of the homes of the working-classes. Not more than 12 per cent. were found to have "housing accommodation which could be regarded as satisfactory in respect of air space, sanitation, or cleanliness, and almost 60 per cent. of them lived in one room each." And the average number of the individual families caged in such rooms was five. At the corporation meeting of April 14th Mr. Lorcan Sherlock successfully moved:—

> That a special committee be now formed to inquire into, and report to council upon, the housing conditions of the workers of Dublin; that the committee report as to what action, if any, should be taken to give effect to the recommendations of the Mansion House Conference Report; that the committee be empowered to obtain legal opinion as to the powers at present possessed by the corporation and obtain information as to powers possessed by local authorities in Belfast and the large cities of England and Scotland; that the committee be requested to make suggestions which will tend to end the discreditable and dangerous condition of housing at present existing in Dublin under which over 20,000 families live in one room each.

The subject has also been brought before the corporation by Dr. J. C. McWalter and there is anticipation that measures will be taken.

Anthrax in Belfast.

A man suffering from anthrax was admitted into the Royal Victoria Hospital on April 10th. The black, dry, depressed eschar on the forehead, surrounded by a slightly elevated art is fostered and the workshops and factories, so that they may "feed" each other and support each other in the education and utilisation of industrial artists. In respect of buildings and material with the object of practical art Berlin was considered to hold the lead, but was followed closely by other continental cities. The committee also states that "Doctors, who need drawing for purposes of demonstration, and lawyers, who not only have to understand its common uses in the trades but may be called upon to judge and plead in matters affecting the Fine Arts, are for the most part unprepared for these duties." Local exhibitions in preparation for the congress are now being held or organised throughout the country. The offices of the committee are at 151, Cannon-street, London, E.C.

Society for Relief of Widows and Orphans of Medical Men.—A quarterly court of the directors of the above society was held on April 8th at 11, Chandos-street, Cavendish-square, W., Dr. G. F. Blandford, the President, being in the chair. 16 directors were present. Five new members were elected and the death of one was reported. Since the last court two widows, annuitants of the charity, had died. One had been on the funds since 1873 and had received in grants £1500; her husband had paid in subscriptions £19 19*s.* The other had been in receipt of grants since 1905 and had received £205; her husband had paid in subscriptions £52 10*s.* A letter of condolence was sent to Lady Agnes Cooper on the death of her husband, Sir Alfred Cooper, who had been a director of the society. The report and audited accounts of the society for 1907 to be submitted at the annual general meeting were approved. The secretary reported that he had since the last court received eight letters from widows of medical men asking for relief, but this had in each instance to be refused, as their husbands had not been members of the society. Relief is only granted to the widows or orphans of deceased members. Any registered medical practitioner who at the time of his election is residing within a 20-mile radius of Charing Cross is eligible for membership. The subscription is £2 2*s.* a year, paid in one sum or in two half-yearly ones of £1 1*s.* each. Full particulars may be obtained from the secretary. The invested funds of the society amount to over £99,000. The annual general meeting will be held on May 14th, at 5 P.M., at the offices of the society.

The New Manchester Infirmary.—An important meeting of the people of Manchester and the surrounding districts convened by the Lord Mayor of Manchester was held on April 7th in the town-hall for the purpose of considering the present financial condition and the future requirements of the new infirmary. The estimated expenditure on the new building in Oxford-road and on the provision of a central branch is £525,000, towards which there is a sum available of £425,000, including the £400,000 from the corporation, the purchase price of the old infirmary, so that £100,000 to complete the undertaking must be raised. The estimated cost of maintenance is £34,500, while the available income is £22 500, leaving a further annual sum of £12,000 to be provided. This looks a formidable undertaking but the Lord Mayor has attacked it with courage. The accommodation at the old infirmary was limited to 292 beds and so could not do nearly the amount of work required of it. The Lord Mayor said that he approved of the erection of the present building, for it would not have been wise to build an infirmary too small for present requirements. He saw no signs of extravagance in the new building itself and the money had been so spent "that 20*s.* had never been spent where 19*s.* would have done." He reminded the meeting that the infirmary had claims on the whole of Lancashire, Cheshire, South Yorkshire, and Derbyshire and concluded by proposing a motion expressing the sense of the meeting of the value of the services of the infirmary for a century and a half to the sick poor of Manchester and the neighbouring counties. The Bishop of Manchester followed with a strong and logical speech in support of the view expressed by the Lord Mayor, that the strongest though perhaps the lowest of all sentiments, that of self-interest, commended work like that of the infirmary to support. It benefited not only the poor but the wealthy. Other speakers followed and at the close of the meeting it was announced that considerably over £24,000, including amounts promised during its course, had been the response, so far, to the special appeal. The Lord Mayor thought it an exceedingly good start that s much had been raised before a general appeal to the publi had been made. It is to be hoped that the response w come largely from those who cannot give large sums and ye do not wish to be deterred from giving what they can. A the Bishop said, he could not, out of the "fatal opulence" o a Bishop, promise anything like £1000, but he would do all he possibly could for their great cause.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Progress of Legislation

Nearly 200 Bills have been introduced in the House of Comm since the meeting of Parliament in the end of January, but comparatively few of them have yet received a second reading. Several measures, including the Children's Bill with its provisions direc against juvenile smoking, have reached the committee stage. Mr. Higham's Coroners' Inquests Bill is also before a standing committee. Several unsuccessful attempts have been made by Sir John Batty Tuk and those associated with him to induce the House to assent to the second reading of the Prohibition of Medical Practice by Companies Bill after 11 o'clock at night. Objection has invariably been raised, the consequence of which at such an hour is to delay the progress of the Bill. Amongst the measures which are now on the notice paper of the House awaiting second reading are the Coroners' Inquests (Railway Fatalities) Bill, the Housing and Town Planning Bill, the Nurses Registration Bill (Mr. Claude Hay's measure), the Nurses Registration (No. 2) Bill (Mr. Munro Ferguson's measure), the Parochial Medical Officers (Scotland) Bill, the Pharmacy Bill, the Public Health Bill (Mr. G. J. Cooper's measure), the Publ Health Officers Bill, the Purity of Milk-Supplies (Scotland) Bill, the Sale of Food and Drugs Acts (Amendment) (Scotland) Bill, the Sale o Whisky Bill, and the Vivisection Bill.

In the House of Lords the number of Bills introduced is far less than in the Commons. One measure which their lordships have read a second time is the Poisons and Pharmacy Bill. A joint committee o both Houses of Parliament is engaged in taking evidence on the point raised in it.

Inspection of Factories and Workshops.

The supplement to the annual report of the Chief Inspector o Factories and Workshops for the year 1906, which has just been issue as a Parliamentary paper, is rather belated, but it gives statistic information with regard to the work carried out by medical officers o health in this period under the Factory and Workshop Acts. It i stated that 1855 reports of medical officers of health were due to b received from England and Wales for the year 1906 but only 1811 came to hand at the Home Office. From Scotland 325 reports were due to b received and of them 322 actually were received. For Ireland 72 reports were due but only 303 actually came to hand. The number o inspections made by medical officers of health during the year i pursuance of their duties with regard to factories, workshops, an workplaces is set down as 459,856 for the United Kingdom. It i recorded that 373,116 were made in England and Wales, 70,418 i Scotland, and 16,322 in Ireland.

The Reconstructed Ministry.

The resignation of Sir Henry Campbell-Bannerman of the post o Prime Minister and the reconstruction of the Ministry unde the leadership of Mr. Asquith have brought about several im portant changes in the Government. Mr. Lloyd George becom Chancellor of the Exchequer and Mr. Churchill succeeds hi as President of the Board of Trade. Lord Tweedmouth takes th position of Lord President of the Council and Mr. McKenna is th new First Lord of the Admiralty, whilst Mr. Runciman succeed him as Minister for Education. The Earl of Crewe takes up the duti of Colonial Secretary, with Colonel Seely in the House of Commo as his under-secretary. Mr. Gladstone remains as Home Secretar with Mr. Herbert Samuel as the under-secretary. Mr. Bur continues as President of the Local Government Board a Mr. Masterman takes the office of Parliamentary Secretary this department in place of Mr. Macnamara, who is now Secretary the Admiralty. There are a few other changes, but the ones enumerat are the most important. Medical men will be interested in the elevati of the position of the President of the Local Government Board to fir class official rank, as evidenced by the proposed increase of salary, the State Medicine of the country is administered in this department.

Easter Vacation.

The House of Commons met on Tuesday in order that the writs f the elections necessitated by the Cabinet changes might be ordere There were a large number of questions on the notice paper, includi one or two of medical interest, but these were not answered. T House adjourned until Monday, April 27th.

almette's and Pirquet's reactions were of equivalent value not. He divided the individuals into three distinct oups—namely, cases of tuberculosis with positive clinical mptoms, cases of suspected tuberculosis, and non-berculous cases. In each group the observations were ade at the same time. The first group consisted of 33 cases, whom 17 were treated by Pirquet's method of cutaneous oculation with tuberculin and 16 were treated by Calmette's ethod of instillation of a drop of a solution of tuberculin of per cent. into the conjunctival sac. Pirquet's method gave positive and two negative results while Calmette's method ave 12 positive and four negative results. The patients cluded cases of meningitis, peritonitis, lupus, cold abscess, aries of bone, pulmonary tuberculosis, and lymphoma of the eck. The last-named cases gave negative results by Pirquet's ethod whilst Calmette's method failed to produce any action in these as well as in the cases of lupus and caries of one. The second group consisted of 35 cases, 18 of which ere treated by Pirquet's method with 15 positive results, hilst 17 were treated by Calmette's method with 12 positive sults. The patients comprised cases of bronchitis, pleuritis, næmia, and catarrhal disease of the lungs. The third roup consisted of 25 cases free from any suspicion of uberculosis. Of this group 14 patients were treated by irquet's method with four positive results whilst 11 were eated by Calmette's method with two positive results. r. Kremer took care to select cases as much as possible imilar to each other for the control tests. Wherever ossible both tests were used in the same individual at the ame time. Pirquet's reaction sometimes showed itself five ours after the inoculation but as a rule, the effect was roduced in 24 hours and lasted from four to six days. Once t was visible for 11 days. Calmette's reaction occurred, as rule, six hours after application but in one instance only After 24 hours; it lasted mostly from four to five days but n two instances for eight and 12 days respectively. In five ases the cutaneous reaction was positive whilst the ocular reaction failed to show the presence of tuberculous disease, and in four cases the eye was severely affected for some days. Dr. Kremer therefore concludes that of the two methods the cutaneous one is the more trustworthy, the easier, the less severe, and the less painful.

Legislation Concerning Phosphorus Poisoning.

The efforts of the sanitary and health departments with regard to the inspection of factories have resulted in the issuing by the Government of new regulations for the manufacture of matches and other articles in which the poisonous yellow phosphorus is used. The following points are worth mentioning. No person under 17 years of age and no woman who is either more than four months pregnant or has been confined within the preceding six weeks may be employed on the premises. The workers must be employed by turns in the different departments, being engaged in each for only four weeks, so that they do not come in contact with the phosphorus emanations oftener than every three months. Special attention is paid to ventilation and the regulations require it to be inspected daily. The premises where articles manufactured with phosphorus are stored must be provided with double doors and the persons engaged there must also change their occupation every few weeks. The factory workers must have special prophylactic and hygienic facilities. They must, for instance, have suits of working clothes with sleeves fitting closely at the wrist; ablution rooms and mouth-rinsing utensils must also be provided by the owner of the factory, their teeth must be regularly inspected, and a first-aid box containing antidotes must always be at hand.

Osteomalacia and Adrenalin.

An interesting discussion took place recently at a meeting of the Lemberg Medical Society when several cases of osteomalacia were exhibited. Dr. Groebel showed a woman aged 40 years who had been confined to bed since her last labour six years ago because she had pain in her bones and could not walk. The measurements of the pelvis and other bones had not changed during treatment, which consisted of daily injections of adrenalin in increasing doses, beginning with half a cubic centimetre (eight minims) of a solution of strength 1 in 1000. The result of 25 injections was very satisfactory as the patient could walk about without experiencing any unpleasant sensations. In addition to this example of chronic osteomalacia another patient was shown suffering from the acute type; she also was unable to walk and could hardly move her lower limbs. Tenderness on pressure was present and a marked feature was that all the long bones and the ribs could be bent on pressure. When she first came under observation she was seven months pregnant. Following Bossi's suggestion she was at once treated with one daily injection of one cubic centimetre of a solution of adrenalin of strength 1 in 10,000. During the first four days headache, high blood pressure, and a red hue of the face were noticed, but after the first week these effects disappeared until an increased dose was given which always caused unpleasant symptoms. Altogether 54 injections were given, with the result that the pains disappeared, the bones became hard, and the pelvis did not change its shape. In the discussion it was maintained that different observers had obtained different results, perhaps on account of using adrenalin obtained from different manufacturers. The danger of the indiscriminate use of this substance was pointed out, as in some animals, especially rabbits, arterio-sclerosis could be produced by injections of adrenalin. The use of phosphorus and salts of lime was recommended for the treatment of osteomalacia. This disease was said to be very rare in some countries and to be most often met with in marshy districts.

Congress on Thalassotherapy.

The Fourth International Congress on Thalassotherapy will be held at Abbazia on the Austrian coast of the Adriatic sea. The therapeutic use of natural mineral waters will be included among the subjects and the discussions will deal not only with the treatment of disease by sea air, sea water, and sea voyages but with hydrotherapy and balneological questions. The congress will meet from Sept. 28th to 30th and will no doubt attract many medical men from the Riviera, from Italy, and from the Netherlands.

Surgery of the Lungs.

At a recent meeting of the Brünner Medical Society Dr. Herzka gave an interesting synopsis of the present condition of the surgery of the lungs. He said that the prevalent idea that pneumothorax must be avoided was the chief obstacle to the development of this branch of surgery. Sauerbruch's low-pressure apparatus, Brauer's high-pressure apparatus, and Kühn's method of producing high pressure by per-oral tubage had now made the way for the surgeon an easy one, but all these methods were too complicated for ordinary operators. The same object was attained by suturing the costal and pulmonary pleuræ together. The principal danger of pneumothorax was the sudden change of blood pressure in the lesser circulation and not the diminution of the respiratory surface of the lung. The most favourable results were obtained in operations on gangrenous cavities or abscesses of the lung. For the cavities of bronchiectasis the prognosis was worse and those associated with tuberculosis were unsuitable for operation. Tumours had not often been treated surgically as the diagnosis was difficult and the prognosis was doubtful. The production of pneumothorax for the treatment of pulmonary tuberculosis had been advised by Murphy and practised sometimes with injection of nitrogen rather than of air, because the latter was absorbed too quickly. The method was useful only in unilateral cases. The latest development in this direction had been achieved by Trendelenburg who attacked a thrombus of the pulmonary artery artificially produced in a calf and succeeded in saving the animal's life.

April 10th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy of the Conjoint Examining Board held this month the following gentlemen were approved :—

Henry Bardsley, Liverpool University; John James Harkness Beckton, St. Bartholomew's Hospital; Alfred William Beris, St. Mary's Hospital and private; Henry Dyer Scott Close, St. Thomas's Hospital; William Russell Cooper, University College; Reginald Branch Dawson, Guy's Hospital; Frederick Dunphy, Westminster Hospital and private; Frank Austin French, St. Mary's Hospital; Herbert Wilks Heasman, Guy's Hospital; John Keith Anderton Helm, Guy's Hospital; Joseph Arthur Alexander Kernahan, St. Bartholomew's Hospital; Bhagat Ram Khanna, London Hospital and private; Robert Lloyd, Sheffield University and private; Richard Turner MacRae, London Hospital; Valentine Cave Martyn, St. Mary's Hospital and private; Percy Uredale Mawer, St. Bartholomew's Hospital; Reginald Arthur Morrell, St. Thomas's Hospital; Michael Wellwood Morrison, Bristol, Middlesex, and St.

Notes, Short Comments, and Answers to Correspondents.

CHAMPAGNE AT 1s. PER PINT BOTTLE.

AT Bow-street police court recently George Henry Kemp was summoned for selling at an address in High Holborn foreign wine without a licence and also with selling "sweets" and "made wines" without a licence. The defendant pleaded guilty and the explanation was offered on his behalf that he was duly licensed to manufacture British wines and to sell foreign wines at Walthamstow and that he thought that the latter licence covered sales made at his address in High Holborn. He was fined £20 with 2s. costs. Incidentally to the prosecution for selling without a licence it was proved that the attention of the Inland Revenue authorities had been attracted by advertisements in the newspapers offering champagne at 1s. per pint bottle and representing that the wine was made in England from imported grapes under Government supervision. It was explained that the Commissioners of Inland Revenue repudiated the last statement, as they exercised no supervision over any such manufacture, but it may be suggested that the licence under which the wine was produced and which probably prompted the vendor to claim some sort of Government authority for its production has a parallel in the stamp which is placed on "patent medicines" for revenue purposes and which, as is well known, deceives ignorant people into a belief that such *nostrums* are compounded under the direct authority of the Government. In the case in question the description of the wine as "champagne" constituted it a foreign wine for the purpose of the prosecution. "Champagne" indicates a country of origin, just as the name "port" is properly applicable only to the wine made in a certain district of Portugal and shipped from Oporto. Possibly a qualifying statement such as that made in the advertisement mentioned above to the effect that the "champagne" sold in High Holborn was made in England may protect the seller of "sweets" (as such wines are called technically) from legal proceedings of the kind taken with regard to "port" from Spain and mentioned recently in THE LANCET (March 21st, p. 907), but it is worth noticing that wine called "champagne" and sold in bottles made up to resemble bottles containing champagne can be made, advertised, and sold at the modest price of 1s. per pint, and it may be suggested that any use of the term "champagne" on what is apparently a champagne bottle may deceive ignorant purchasers as to the nature and quality of what they are obtaining. The matter is of some interest to medical men who on occasions may order champagne to be drunk by persons not able to afford high prices, or may permit it to be drunk, or may be called upon to treat persons who have drunk it.

LONGEVITY AT BRIGHTON.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 4th, p. 1041, I see you have a note on longevity and you make mention of Jeremiah Simmons, who is a most remarkable man for his years. On the day he reached centenarianism he was up and dressed by 8 o'clock in the morning, shaved himself (as he does daily), read his paper without spectacles (he has never worn glasses of any kind), signed his name at least 50 times, received dozens of visitors, went to bed at 9.30, and told me that it was one of the happiest days of his life and that he felt no fatigue from the excitement of the day.

I have been taking notes recently at Brighton respecting longevity, because there can be no doubt that the splendid air of Brighton is conducive to longevity, and also because I notice that men of 80 years of age (whom I have known since I was a boy) are still pursuing their ordinary avocations, strong, vigorous, and energetic. Only last week an old person (Mrs. Baker) died there in her ninety-ninth year and her faculties were unimpaired to the end. Since 1900 the following centenarians have died at Brighton, the majority of whom had been lifelong residents:—Charles Green, 101 years; Miss Shergold, 105 years; Mrs. Walter Cobbold, 100 years; Miss Margaret Baker, 100 years; Mrs. Fairman, 100 years; Surgeon-Major Bowron, 101 years; Mrs. Colwell, 101 years and seven months; Mrs. Priestley, 100 years; Captain W. Sitwell, 100 years (all but ten weeks); and Mrs. Harbor, 100 years. I know of three men aged 98 years and four women 98, 97 (two), and 96 still living there, and old John Sorrell, 96 years of age, walked a mile in the rain last December to receive a poor-box bounty. I believe no other town can show similar figures.

I am, Sir, yours faithfully,
J. P. BACON-PHILLIPS.

Crowhurst Rectory, Sussex, April 10th, 1908.

ROYAL HOSPITAL FOR INCURABLES, DONNYBROOK: A CURIOUS CASE.

A REMARKABLE object-lesson was given to the public by the result of an inquiry held at the Royal Hospital for Incurables, Donnybrook (Dublin), as to the circumstances attending the death of an inmate, which took place on April 11th. On the morning of that day the medical officer of the institution had his attention arrested by finding the deceased man in a deep sleep, which was unusual, as he was in a very emaciated and restless, as well as hopeless, condition. He was awakened by the medical officer who asked him whether he had taken any soporific. He denied having done so, but on searching the bed a bottle of chlorodyne and some five-grain tabloids of sulphonal were discovered. On being asked how these came into his possession he said that they had been given by a lady visitor. This statement was promptly denied by the lady named when inquiry was made and no further information on that head could be obtained. The patient died at 6 P.M., the medical officer stating that the drugs hastened death but a very short time. Death was attributed by the medical officer to "cardiac failure, accelerated by the action of drugs." The coroner expressed the hope—with regard to bringing in the drugs—"that whoever has done this will if it reaches their ears be warned for all time against doing such a thing." The jury found a verdict in accordance with the medical evidence, adding: "We desire to condemn in the strongest way the practice of any visitor introducing drugs or other medicines into the hospital without the knowledge of the medical staff, and we further desire to place on record our appreciation of the skill and care bestowed by the medical staff of the institution in their treatment of the patients."

JORDAN WATER.

To the Editor of THE LANCET.

SIR,—Can any of your readers inform me where I can procure a small quantity of Jordan water for baptismal purposes?

I am, Sir, yours faithfully,
A. B. C.

April 7th, 1908.

"WOLSEY" UNDERWEAR.

WE have received from Messrs. R. Walker and Sons of Leicester samples of their "Wolsey" underwear in different thicknesses. We have given the garments, which answer to the tests for pure wool of good quality, a thorough trial and we recommend them to our readers. They have a soft finish which makes them very comfortable to wear and they are thoroughly well cut. They are guaranteed unshrinkable and the manufacturers inform us that the goods are made in their factories under the most hygienic conditions. A member of our staff who fences regularly says that the garment which we asked him to try for us—it was a jersey of medium thickness—is the most comfortable jersey in which to fence that he has yet worn, and anyone who knows how profusely the fencer sweats and how essential it is that his movements should be made with the utmost rapidity will recognise that the testimony is of value. We consider that in their "Wolsey" underwear Messrs. Walker and Sons are providing the public with excellent wares.

◆

Rixon cannot borrow on a life policy in the way suggested unless he can produce sureties for keeping up the premiums.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

FRIDAY.
ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.
Paper:
Dr. Reginald Morton: The Electrical Treatment of Atonic Conditions of the Digestive System.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Mr. Dunn: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Dr. Davis: 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Dr. Davis: 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of the Eye. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

Calmette's and Pirquet's reactions were of equivalent value or not. He divided the individuals into three distinct groups—namely, cases of tuberculosis with positive clinical symptoms, cases of suspected tuberculosis, and non-tuberculous cases. In each group the observations were made at the same time. The first group consisted of 33 cases, of whom 17 were treated by Pirquet's method of cutaneous inoculation with tuberculin and 16 were treated by Calmette's method of instillation of a drop of a solution of tuberculin of 1 per cent. into the conjunctival sac. Pirquet's method gave [illegible] positive and two negative results while Calmette's method gave 12 positive and four negative results. The patients included cases of meningitis, peritonitis, lupus, cold abscess, caries of bone, pulmonary tuberculosis, and lymphoma of the neck. The last-named cases gave negative results by Pirquet's method whilst Calmette's method failed to produce any reaction in these as well as in the cases of lupus and caries of bone. The second group consisted of 33 cases, [illegible] of which were treated by Pirquet's method with [illegible] positive results, whilst 17 were treated by Calmette's method with 12 positive results. The patients comprised cases of bronchitis, pleuritis, [illegible], and catarrhal disease of the lungs. The third group consisted of 25 cases free from any suspicion of tuberculosis. Of this group 14 patients were treated by Pirquet's method with four positive results whilst 11 were treated by Calmette's method with two positive results. Dr. Kremer took care to select cases as much as possible similar to each other for the control tests. Wherever possible both tests were used in the same individual at the same time. Pirquet's reaction sometimes showed itself five hours after the inoculation but as a rule the effect was obtained in 24 hours and lasted from four to six days. Once it was visible for 11 days. Calmette's reaction occurred, as a rule, six hours after application but in one instance only after 24 hours; it lasted mostly from four to five days but in two instances for eight and 12 days respectively. In five cases the cutaneous reaction was positive whilst the ocular reaction failed to show the presence of tuberculous disease, and in four cases the eye was severely affected for some days. Dr. Kremer therefore concludes that of the two methods the cutaneous one is the more trustworthy, the easier, the less severe, and the less painful.

Regulations Concerning Phosphorus Poisoning.

The efforts of the sanitary and health departments with regard to the inspection of factories have resulted in the issuing by the Government of new regulations for the manufacture of matches and other articles in which the poisonous yellow phosphorus is used. The following points are worth mentioning. No person under 18 years of age and no woman who is either more than four months pregnant or has been confined within the preceding six weeks may be employed on the premises. The workers must be employed by turns in the different departments, being engaged in each for only four weeks, so that they do not come in contact with the phosphorus emanations oftener than every three months. Special attention is paid to ventilation and the regulations require it to be inspected daily. The premises where articles manufactured with phosphorus are stored must be provided with double doors and the persons engaged there must also change their occupation every few weeks. The factory workers must have special prophylactic and hygienic facilities. They must, for instance, have suits of working clothes with sleeves fitting closely at the wrists; [illegible] rooms and mouth-rinsing utensils must also be provided by the owner of the factory, their teeth must be regularly inspected, and a first-aid box containing antidotes must always be at hand.

Osteomalacia and Adrenalin.

An interesting discussion took place recently at a meeting of the Lemberg Medical Society when several cases of osteomalacia were exhibited. Dr. [illegible] showed a woman aged [illegible] years who had been confined to bed since her last labour [illegible] years ago because she had pain in her bones and could not walk. The measurements of the pelvis and other bones had not changed during treatment, which consisted of daily injections of adrenalin in increasing doses, beginning with half a cubic centimetre (eight minims) of a solution of strength 1 in 1000. The result of 25 injections was very satisfactory as the patient could walk about without experiencing any unpleasant sensations. In addition to this example of chronic osteomalacia another patient was shown suffering from the acute type; she also was unable to walk and could hardly move her lower limbs. Tenderness on pressure was present and a marked feature was that all the long bones and the ribs could be bent on pressure. When she first came under observation she was seven months pregnant. Following Bossi's suggestion she was at once treated with one daily injection of one cubic centimetre of a solution of adrenalin of strength 1 in 10,000. During the first four days headache, high blood pressure, and a red hue of the face were noticed, but after the first week these effects disappeared until an increased dose was given which always caused unpleasant symptoms. Altogether [illegible] injections were given, with the result that the pains disappeared, the bones became hard, and the pelvis did not change its shape. In the discussion it was maintained that different observers had obtained different results, perhaps on account of using adrenalin obtained from different manufacturers. The danger of the indiscriminate use of this substance was pointed out, as in some animals, especially rabbits, arterio-sclerosis could be produced by injections of adrenalin. The use of phosphorus and salts of lime was recommended for the treatment of osteomalacia. This disease was said to be very rare in some countries and to be most often met with in marshy districts.

Congress on Thalassotherapy.

The Fourth International Congress on Thalassotherapy will be held at Abbazia on the Austrian coast of the Adriatic sea. The therapeutic use of natural mineral waters will be included among the subjects and the discussions will deal not only with the treatment of disease by sea air, sea water, and sea voyages but with hydrotherapy and balneological questions. The congress will meet from Sept. [illegible] to 30th and will no doubt attract many medical men from the Riviera, from Italy, and from the Netherlands.

Surgery of the Lungs.

At a recent meeting of the [illegible] Medical Society Dr. [illegible] gave an interesting synopsis of the present condition of the surgery of the lungs. He said that the prevalent idea that pneumothorax must be avoided was the chief obstacle to the development of this branch of surgery. Sauerbruch's low-pressure apparatus, Brauer's high-pressure apparatus, and Kuhn's method of producing high pressure by peroral tubage had now made the way for the surgeon an easy one, but all these methods were too complicated for ordinary operators. The same object was attained by suturing the costal and pulmonary pleuræ together. The principal danger of pneumothorax was the sudden change of blood pressure in the lesser circulation and not the diminution of the respiratory surface of the lungs. The most favourable results were obtained in operations on gangrenous cavities or abscesses of the lung. For the cavities of bronchiectasis the prognosis was worse and those associated with tuberculosis were unsuitable for operation. Tumours had not often been treated surgically as the diagnosis was difficult and the prognosis was doubtful. The production of pneumothorax for the treatment of pulmonary tuberculosis had been advised by Murphy and practised sometimes with injection of nitrogen rather than of air, because the latter was absorbed too quickly. The method was useful only in unilateral cases. The latest development in this direction had been achieved by Trendelenburg who attacked a thrombus of the pulmonary artery artificially produced in a calf and succeeded in saving the animal's life.

April [illegible].

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy of the Conjoint Examining Board held this month the following gentlemen were approved:—

Henry Buckley, Liverpool University; John James [illegible] [illegible], St. Bartholomew's Hospital; Alfred William [illegible], St. Mary's Hospital and private; Henry [illegible] [illegible] [illegible], St. Thomas's Hospital; William Russell [illegible], University College; Reginald [illegible] [illegible], Guy's Hospital; Frederick [illegible], Westminster Hospital and private; Frank [illegible] [illegible], St. Mary's Hospital; [illegible] [illegible] [illegible], Guy's Hospital; John [illegible] [illegible] [illegible], Guy's Hospital; [illegible] Arthur Alexander [illegible], St. Bartholomew's Hospital; [illegible] [illegible] [illegible], London Hospital and private; Robert [illegible], Sheffield University and private; Richard [illegible] [illegible], London Hospital; [illegible] [illegible] [illegible], St. Mary's Hospital and private; Percy [illegible] [illegible], St. Bartholomew's Hospital; Reginald [illegible] [illegible], St. Thomas's Hospital; Michael [illegible] [illegible], Bristol, Middlesex and St.

Communications, Letters, &c., have been received from—

A.—Dr. B. Anningson, Cambridge; Dr. Wm. Ayres, Brierley Hill; Messrs. Allen and Hanburys, Lond.; Mr. B. Arnold, Lond.; Dr. H. G. Adamson, Lond.; Aberdeen Medico-Chirurgical Society, Recording Secretary of; Association of Medical Men receiving Resident Patients, Lond., Hon. Secretary of; Dr. Edwin Ash, Lond.

B.—Mr. A. Browne, Leicester; Mr. C. Birchall, Liverpool; Bristol General Hospital, Secretary of; *Birmingham Daily Post*, Manager of; Bombay Bacteriological Laboratory, Clerk of; Mrs. B. Bulstrode, Lond.; Dr. Philip Boobbyer Nottingham; Dr. F. A Bainbridge, Lond.; Dr. A. A. Bradburne, Southport; Messrs. T. B. Browne, Lond.; *Bristol Royal Hospital for Sick Children*, Secretary of; Dr. H. H. Baker, Kharga Oasis, Egypt.

C.—Mr. S. Clarke, Manchester; Cumberland Infirmary, Carlisle, Secretary of, Church Missionary Society, Lond., Secretary of; Carnarvonshire Infirmary, Bangor, Secretary of; *Clayton Hospital*, Wakefield, Secretary of; Dr. L. Crossley, Benenden; Mr. C. E. A. Clayton, Manchester; C. W.; Dr. J Cropper, Chepstow; Caxton Publishing Co., Lond., Joint Manager of; C. P.; Dr. F. G. Clemow, Constantinople; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Dr. G. Dintenfass, Vienna; Dr. W. G. *Dickinson*, Lond.; Mr. D. Dorun, Gloucester, U.S.A.

E.—Dr. E. Ehrich, La Chaux-de-Fonds; Equitable Life Assurance Society, Lond.; East Suffolk and Ipswich Hospital, Ipswich, Secretary of.

F.—Mr. Alexander Fleming, Lond.; Free Eye Hospital, Southampton, Secretary of.

G.—Mrs. Garnett-Orme, Monaco; Mr. H. Bellamy Gardner, Lond.; Glamorgan County Asylum, Bridgend, Clerk to the; Messrs. Grimwade, Ridley, and Co., Lond.; Great Yarmouth Hospital, Secretary of.

H.—Mr. A. Hemstock, Lond.; Hyderabad Medical School, Principal of; Messrs. W. C. Henderson and Son, St Andrews; Dr. J. H. Holland, Washington, U.S.A.; Mr. Charles Higgens, Lond.

I.—Incorporated Institute of Hygiene, Lond.; The Infants' Hospital, Lond., Secretary of; Incorporated Society of Medical Officers of Health, Lond., Hon. Secretary of.

J.—*The Journal of the American Medical Association*, Chicago.

K.—Mr. P. Knatzer, Aachen; Messrs. Knoll and Co., Lond.; Messrs. S. Kutnow and Co., Lond.; Dr. John Knott, Dublin; Mr. E. Knight, Lond.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. I. P. Llewelyn, Lond.; Mr. E. B. Lawley, Birmingham; *La Semaine Médicale*, Paris, Editor of; Lynn-Thomas and Skyrme Fund, Cardiff, Hon. Secretary of; London Vegetarian Association, Secretary of; Leicester Guardians, Clerk to the.

M.—Dr. A. F. MacCallan, Cairo; Metropolitan Press Agency, Lond.; Mr. R. Mosse, Berlin; Monmouthshire Education Committee, Newport, Secretary of; Mr. W. Boxer Mayne, Swindon; Mr. A. Staines Manders, Lond.; Messrs. Morris and Birch, Lond.; Maltine Manufacturing Co., Lond.; Manchester Medical Agency, Lond.; Mr. J. Murray, Lond.; Mr. E. Merck, Lond.; Macclesfield General Infirmary, Secretary of; Mr. J. D. Mortimer, Lond.

N.—Captain V. B. Nesfield, I.M.S., Darjeeling; Nottingham City Asylum, Clerk to the; Nemesis; Mr. W. G. Nash, Bedford; Northumberland House, Finsbury Park, Medical Superintendent of; Mr. J. C. Needes, Lond.

P.—Mr. John Pratt, Radstock; Dr. A. R. Parsons, Dublin; Messrs. Peacock and Hadley, Lond.

R.—Mr. J. L. Rankine, Lond.; Mr. A. W. Mayo Robson, Lond.; Royal Sanitary Institute, Lond., Secretary of; Dr. S. Rideal, Lond.; Dr. A. Reyn, Copenhagen; Rotherham Hospital, Secretary of; Dr. David Ross, Lond.; Dr. F. W. Forbes Ross, Lond.; *Royal College of Surgeons in* Ireland, Dublin; Royal Mail *Steam Packet Co., Lond.*

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T.—Mr. J. Lynn Thomas, Cardiff; Mr. A. Ralph Thompson, Lond.; T. J. C.

U.—*University of Birmingham*, Dean and Faculty of Medicine of.

W.—Dr. J. Rutter Williamson, Bhandara; Inspector-General T. E. H. Williams, R.N., Lond.; Mr. J. Williams, Bradford; Dr. A. T. Tucker Wise, Montreux; Mr. Frank A. Watkins, Lond.; Mr. A. J. Walton, Lond.

Y.—Mr. C. W. Young, Dartmouth.

Z.—Messrs. A. and M. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

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B.—Mr. E. Baker, Birmingham; Messrs. Baillière, Tindall, and Cox, Lond.; Mr. J. Buchanan, Lond.; Dr. P. Best, Edinburgh; Messrs. C. Bogler and Co., Lond.; Messrs. J. L. Bullock and Co., Lond.; B. W.; Dr. J. M. Barbour, Ramsey, Isle of Man; Bristol Myers Co., Brooklyn; Mr. R. B. Bascombe, Bury St. *Edmund's; Bolingbroke Hospital*, Lond., Hon. Secretary of; Mr. F. E. Bennett, Margate; Mr. J. C. Beckett, Leigh; Mr. F. M. Bishop, Varenna, Italy; Mr. W. G. Burcombe, Lincoln; Birmingham Children's Hospital, Secretary of.

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H.—Messrs. Abel Heywood and Co., Manchester; Mr. F. Hasler, Lond.; Dr. Field Hall, Lond.; H. L. L.; Messrs. Hastings Bros., Lond.; Dr. G. Home, New Plymouth, New Zealand; Dr. G. C. Hamilton, Looe; Hornsey Borough, Clerk to the.

I.—Miss Inge, Haslemere.

J.—J. C. S., Lond.; J. V. R. E.; J. S. B.; J. P. G.; J. H., Finsbury Park.

K.—Fleet-Surgeon A. E. Kelsey, R.N., Chatham; Messrs. Kirby and Co., Lond.

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N.—Mr. S. Neave, *Ingatestone.*

O.—Dr. J. M. O'Meara, Ipswich.

P.—Dr. J. C. *Pounden, Alfreton*; Physician, *Bristol*; *P. H. S.*

R.—Hon. Gladys Rice, *Llandilo*; Lieutenant-Colonel R. B. Roe, I.M.S., Nagpur, India; Mr. H. P. Rees, Lond.; R. C. E.; Dr. J. D. Rawlings, Dorking.

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U.—Union Reklame, Lucerne.

V.—Dr. G. R. Vicars, Wood Dalling.

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8, in which it was stated that she understood "that medical men in the county of Essex have refused attend any emergency summons from a midwife. Also the East-End of London the medical men have issued ir refusals, and from correspondence she had received fears that the same movement is unfortunately spreading Norfolk." A letter was considered from Dr. C. J. Nepean ngridge suggesting that midwives should possess some owledge of the warning symptoms of cancer of the uterus. the request of the Board the chairman undertook to draft eaflet on the subject for distribution to midwives, teachers, d local supervising authorities. A letter was considered m the Clerk of the London County Council as to the prosed inspection of the maternity wards of the Poplar workuse. The Board decided that the Local Government Board ould be requested to reply to the questions comprised in the structions to the Board's inspector so far as applicable.

Association of Medical Men Receiving sident Patients.—The annual general meeting of this sociation was held at 26, Bryanston-street, W., on arch 31st, Dr. David Walsh, the President, being in the chair. e honorary secretary reported a considerable increase in e number of applications from persons desiring to place ident patients with medical men, and also of medical men shing to join the association. One effect of transferring e secretaryship from Bournemouth to London had been at it was found possible to expedite the work of bringing plicants and medical men into contact with each other, d consequently the number of patients placed with embers of the association had shown a distinct increase. he balance in hand was substantial and there were no utstanding accounts. The honorary secretary was thanked r the time and trouble which he had given to the work of the ssociation and various alterations which experience showed be advisable were made in the rules. The amount ayable by members for joining the association was reduced rom £1 10s. 6d. to £1 1s., the subscription in subsequent ears being retained on the old basis—namely, 5s. The inciple that no member should take less than three guineas week for a patient, except under exceptional conditions, was reaffirmed. A discussion took place as to the means for making the association more widely known, as it was felt that owing to its voluntary nature and its government by members, all of whom are registered medical practitioners, the profession would gladly support the association even more warmly than in the past if they were better acquainted with it.

Practical Training in Food and Meat Inspection.—A special course of training for commissioned officers and professional men preparing for the examination for inspectors of meat and other foods, conducted by the Royal Sanitary Institute, will commence on Monday, April 27th, at 7 P.M., and will consist of practical training in the inspection of foods and meat, including demonstration on live cattle and sheep, slaughtering and dressing of animals, names and situations of the organs, diseases of animals, methods of stalling, arrangement of markets and byres, &c., at a cattle market. Demonstrations will also be arranged at a knackers' yard, where instruction regarding the flesh and organs of the horse will be given. The course will include ten lectures and demonstrations by Mr. James King, M.R.C.V.S., veterinary inspector of the Metropolitan Cattle Market, on Meat Inspection, of which the six lectures will be delivered in the Parkes Museum, at 5.30 P.M., on the following dates: Tuesday, April 28th; Wednesday, April 29th; Tuesday, May 5th; Tuesday, May 12th; Wednesday, May 13th; and Friday, May 15th. The four demonstrations will be given at the Metropolitan Cattle Market at 3 P.M. on Saturday, May 2nd; Saturday, May 9th; Saturday, May 16th; and Saturday, May 23rd. Two lectures will be delivered by Professor H. R. Kenwood in the Parkes Museum at 5 P.M. on Monday, May 11th, and Thursday, May 14th, on Tinned and Potted Food, and Milk, Butter, and Cheese respectively. Four lectures will be delivered by Colonel J. Lane Notter, R.A.M.C., in the Parkes Museum at 5 P.M. on the following dates:—Monday, May 18th, Fish, Eggs, Tea, Coffee, Cocoa and Chocolate, and Lime Juice; Tuesday, May 19th, Wheat, Rice, Arrowroot, and other Grains, Potatoes, Flour, Bread, Biscuits, and Sugars; Wednesday, May 20th, Succulent Vegetables and Fruits, Jams, the Condiments—Vinegar, Pepper, Mustard, and Prepared, Concentrated, and Preserved Foods; and Thursday, May 21st, Alcoholic Beverages—Beer, Wines, Whisky, and Brandy. On Friday, May 22nd, a visit to a factory for preparation of concentrated and preserved foods has been arranged. In addition to the special lectures the students will have the privilege of attending the lectures and demonstration (in connexion with the course for sanitary officers) given in the Parkes Museum, Margaret-street, W., during April and May by Major J. A. Meredith, F.R.C.V.S., Dr. E. Petronell Manby, medical inspector, Local Government Board, and Mr. King. Inspection and demonstration in fish inspection and in knackers' work will also be given in this course, for which the fee is £5 5s. Those desirous of attending the course are requested to send in their names at once to Mr. E. White Wallis, the secretary of the institute, Margaret-street, W., who will supply more detailed information.

British Balneological and Climatological Society.—The annual provincial meeting of this society will be held at Harrogate on Saturday, May 16th, at 3.15 P.M., when the Fellows will meet at the Royal Baths, where they will be received by the Mayor and Bath officials. A reserved corridor carriage will leave King's Cross Station, London, at 10 A.M., arriving at 2.15 P.M. Short papers will be read on the Meteorology and Geology of Harrogate by Mr. Fox Strangways, and on the Therapeutics of the Waters and Treatment by Dr. Frederick Lever, President of the Harrogate Medical Society. At 4 30 P.M. the society and its guests will inspect the Harrogate Baths. At 7 P.M. the Fellows' dinner will be held at the Hotel Majestic, Harrogate, and at 9 P.M. the Fellows and their guests are invited by the Kursaal Committee to attend the entertainment at the Kursaal without charge. On the following day (Sunday) with the coöperation of Mr. G. R. Green, medical officer of health of Ripon and a member of the society, a trip by train or motor-cars will be made to Ripon which will be reached in time for the service at 11 A.M. at the historic cathedral. At 1 P.M. lunch will be taken at the Spa Hotel, Ripon, by invitation of the proprietors of the hotel, free to Fellows only. At 2 30 P.M. a visit will be paid to Studley Royal, the seat of the Marquis of Ripon, and the monastic ruin of Fountains Abbey. The return to Harrogate will be made in time for dinner. On Monday, May 18th, a train will leave Harrogate at 10 10 A.M. for the return journey to London. Fellows may take their wives and daughters and are allowed to invite medical guests who will all be permitted to dine at the Fellows' dinner and their hotel expenses will be charged at the same rate as for the Fellows—viz., 1 guinea each from Saturday afternoon to Monday morning, including all meals excepting lunch on Sunday. The honorary secretaries are Dr. S. P. Sunderland, 11, Cavendish-place, Cavendish-square, London, W., and Dr. F. A. de T. Mouillot, Elm House, Harrogate, who desire to learn as soon as possible the number of Fellows and guests likely to be present.

International Drawing Congress.—The British committee of this congress, of which the patron is H.R.H. the Prince of Wales, and the chairman Sir J. E. Gorst, K.C., LL.D., is finding some difficulty in making its significance known in this country and arousing the local interest and activity which are necessary to prepare for it. Foreign Governments assist their own delegates and some 25 countries will be represented, but as far as this country is concerned the expenses of the congress must be defrayed by voluntary subscription and towards the £5000 required only about £1700 have been given or promised. The first congress was brought about in Paris during the exhibition of 1900 by the Friendly Association of Teachers of Drawing (L'Association Amicale des Professeurs de Dessin). The second congress was held at Berne in 1904 and was attended by 400 members of the association whose expenses were partly defrayed by the French Government. The British representatives at these congresses were deeply impressed by the enthusiasm of their foreign colleagues, by the very liberal measure in which continental schools are assisted by public funds, and by the clear and strong claims made and allowed for drawing, first as an educational exercise and then as a preparation for industrial and professional life. The committee states that it is not the usual practice in this country to correlate art with other studies and that business men in general have not been taught to think of art as a practical thing. Closer coöperation is desired in this country between the schools where applied of distilling or to the good canary wine employed in the mixing.

A tablet in memory of Francis Anthony, who lived in St. Bartholomew's-close, may be seen on the north wall of the Church of St. Bartholomew the Great. Gwinne had at least four famous colleagues at Gresham College—namely, Henry Briggs, the great mathematician, who improved Napier's table of logarithms; John Bull, the organist and composer and the latter's successor as Gresham professor of music; Thomas Clayton, who became professor of physic and anatomy at Oxford. He had the reputation of being a great linguist "to whom the great Avicenna might speak and be understood without an interpreter." Also George Mountayne (Montaigne or Mountain), Professor of Divinity, who eventually became Archbishop of York. The story is that he strained every nerve to get this last preferment and that when Charles I. was discussing the question of the vacant see in his presence he wittily remarked to the King: "Hadst thou faith as a grain of mustard seed thou wouldst say unto this Mountain, 'Be removed into that see!'"

Peter Mounsell (1607–1615) studied medicine in Oxford, Cambridge, Paris, and Padua, and afterwards made a second tour on the continent to visit the Universities of Basle, Strasburg, and Leyden, where he apparently took the degree of doctor of physic. He was Gresham Professor for eight years and practised in the city, being buried, like our founder, in St. Helen's Church.

Thomas Winston (1615–1643 and 1652–1655) was the son of a carpenter and was born in the year 1575. He was educated at Clare Hall in Cambridge, where he had a Fellowship and took the degree of Master of Arts, after which he became Doctor of Physics at Padua. While abroad he attended the lectures of celebrated anatomists, Fabricius and Prosper Alpinus at Padua and Caspar Bauhine at Basle. He eventually settled in London, where he became eminent in his profession. He received a doctor's degree at Cambridge and became Fellow of the College of Physicians in London. Among his unsuccessful competitors for the post of professor of physic at Gresham College in 1615 was the younger son of Mr. John Fox (the celebrated martyrologist), Dr. Simeon Fox, who was the last President of the College of Physicians who used to ride on horseback in London to visit his patients. Dr. Winston held his professorship in this College till the year 1642, by which time he had acquired a handsome fortune, when he suddenly and somewhat mysteriously left England, possibly compelled to do so for political reasons. When he had been absent from this country for six months Dr. De Laune was chosen in his place. Dr. Winston remained in France some ten years and returned to this country in 1652, when he made his peace with the Government and was restored to the possession of what he had lost upon going abroad. But by this time he was advanced in years and did not long enjoy his professorship, for he died in 1655, being then 80 years of age. Meric Casaubon called him "the great ornament of his profession" and Dr. Hamey commended him for keeping up the dignity of the faculty against the apothecaries. He never seems to have published anything during his life but after his death a treatise came out with this title: "Anatomy lectures at Gresham College by that eminent and learned physician, Dr. Thomas Winston, London, 1659." A second edition was called "The Compleat Anatomist" and is said to have been in some ways better than any other work on anatomy then extant in English. Its chief interest at the present time to us is that the book contained no mention of Harvey's great discovery of the circulation of the blood which had been announced at the College of Physicians in 1616 and given to the world at large since 1628. Winston was well read in Galen and in Latin authors, but held the old belief that there were openings between the two ventricles of the heart, and that the arteries transmitted as well as blood vital spirit formed in the left ventricle. During Winston's first term as professor Sir Kenelm Digby, Admiral, philosopher, and chemist, spent two hermit-like years at Gresham College, with beard unshorn, in sorrow for his beloved wife, whom he was supposed to have poisoned by accident by giving her viper's flesh in broth to heighten her beauty.

During Winston's long term of office he had many eminent contemporaries at Gresham College, of whom at least four must be singled out for special mention. 1. Edward Gunter, his colleague in the astronomical chair, invented the sector, and was the first to calculate tables of logarithms for sines and tangents, besides making many other inventions and improvements in mathematics. He was the first to coin the words cosine, cotangent, and cosecant, and his name has been perpetuated in "Gunter's scale" and "Gunter's chain," still constantly used in land surveying. 2. Henry Gellibrand, his successor, contributed much to the improvement of navigation by following up Gunter's work on the variation of the magnetic needle. He seems to have been a plodding, industrious mathematician, without any special genius. 3. Daniel Whistler, professor of geometry, was M.D. of Leyden and Oxford Universities, one of the original Fellows of the Royal Society, and died as President of the College of Physicians. His thesis on taking his degree at Leyden was "On the English Disease of Childhood, called Rickets," and this is the earliest printed account of that disease. Dr. Norman Moore tells us that the author was dissatisfied with the vulgar name "rickets" and proposed to substitute for it "pædossplanchnosteocaces," which fortunately no one has been barbarous enough to adopt. Whistler practised his profession in London, but died very much in debt, and was accused of having taken insufficient care of the property of the College of physicians. Samuel Pepys described him as "good company and a very ingenious man," and Evelyn called him "the most facetious man in nature." 4. More remarkable than any of these was Sir William Petty, professor of music. Though the son of a clothier he proved to be an universal genius, statesman, and one of the earliest political economists. He took the degree of M D. Oxford, where he became professor of anatomy, then physician to the army in Ireland, Fellow of the College of Physicians of London, one of the founders of the Royal Society, and eventually Surveyor General of Ireland. While acting as deputy to the professor of anatomy at Oxford in 1650 he obtained a wide reputation by reviving the supposed corpse of one Ann Greene who had been hanged for the murder of her illegitimate child and pronounced dead by the sheriff. The medical evidence at the trial corroborated the woman's statement that the child was still-born, in spite of which she was condemned to death. After hanging for the usual time she was cut down and handed over to the doctors for dissection. It was then discovered that she was still breathing, and, by the aid of restoratives, regained her health and was granted a free pardon. The event was regarded as a special Divine interference on behalf of an innocent and betrayed woman, and several pamphlets and poems were written in Oxford upon the occasion, one set of Latin verses being by Christopher Wren, who was then an undergraduate.

Among many other inventions Petty invented a double-bottomed ship to sail against wind and tide, which was considered one of the most wonderful discoveries of the day. On one occasion, being challenged to fight a duel and having the right to name the place and weapon, he proposed a dark cellar and an axe, in order, being short-sighted, to put himself upon an equality with his adversary. The challenge was thus turned into ridicule and the duel never took place. When in London his house was in Piccadilly, where Lincoln and Bennett now sell hats. Petty was twice offered and refused a peerage and one likes to think that possibly some of the statesman-like qualities of this great man have been handed down to his descendant, the present Marquis of Lansdowne.

Paul de Laune (1643–1652) was appointed to Dr. Winston's professorship during his absence. He was the brother of Gideon de Laune, a wealthy apothecary in London, who was one of the first assistants appointed by the Charter of the Apothecaries when they became separated from the grocers in the year 1617. He was also related by marriage to Dr. Argent, who was eight times President of the College of Physicians. De Laune studied at Cambridge and afterwards at Padua, where he was created Doctor of Physic. Later, he took the same degree at Cambridge and became a Fellow and senior Censor of the College of Physicians. He practised in Dublin, where he was physician to the Viceroy of Ireland, until he succeeded Dr. Winston at Gresham College. The restoration of the latter was a great blow to him, as it removed from him his chief means of support. Though then about 70 years of age he accepted an offer from Oliver Cromwell and was appointed physician-general to the fleet upon an expedition to Hispaniola under Admiral Penn. The expedition was repulsed by the Spaniards and the troops then sailed to Jamaica where they had better success, for they took the town, drove the inhabitants into the woods, and made a settlement, which has been one of our flourishing colonies ever since. Dr. de Laune apparently died in or near

Appointments.

ccessful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BTON, W. E., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Post Office at Streatham.

ALBY, A. W., L.R.C.P. & S. Edin., has been appointed Assistant Medical Inspector of Schools for the Frome District of Somerset.

IX, CHARLES, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Officer of Schools for the Shepton Mallet District of Somerset.

OMINY, GEORGE HERBERT, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Blandford (Dorset) Union.

OLLÄNDER, BERNARD, M.D., M.R.C.S., L.R.C.P. Lond., has been appointed Physician to the British Hospital for Mental Disorders and Brain Diseases, Camden-road, N.W.

AMES, A. M. A., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Kingscliffe District of the County of Northampton.

AWSON, J. WARD, M.R.C.S., L.R.C.P. Lond., has been appointed Physician to the British Hospital for Mental Disorders and Brain Diseases, Camden-road, N.W.

ANSON, KENRED, M.B., B.S. Dunelm, has been appointed House Physician to the Royal South Hants and Southampton Hospital.

OORHEAD, R. E., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Inspector of Schools for the Bath District of Somerset.

ICHOLLS, A. R., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Inspector of Schools for the Langport District of Somerset.

ORMAN, JOSEPH CLEMENT ARTHUR, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the *Poole (Dorset)* Board of Guardians.

ARSONS, J. F., M.R.C.S., L.S.A., has been appointed Assistant Medical Inspector of Schools for the Frome District of Somerset.

IERSE, THOMAS, L.R.C.S. Irel., L.K.Q.C.P. Irel., L.A.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Wexford District of the County of Wexford.

POLLARD, G. S., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Medical Inspector of Schools for the Frome District of Somerset.

SHIPWAY, F. E., M.D., B.C. Cantab., has been appointed Honorary Anæsthetist to Guy's Hospital.

THOMAS, FRANK LESLIE, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer and Medical Officer to the Workhouse by the *Barnstaple (Devon)* Board of Guardians.

WALTER, R. H., M.B., M.S. Edin., has been appointed Assistant Medical Inspector of Schools for the Yeovil District of *Somerset.*

WOOD, C. R., M.D., B.S. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Shoreham District of the County of Sussex.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bangor, Carnarvonshire and Anglesey Infirmary.—House Surgeon. Salary £80 per annum, with board, washing, and lodging.

Bermondsey Medical Mission.—Senior Assistant (female). Salary £75 per annum, with board and lodging.

Blackburn and East Lancashire Infirmary.—Junior House Surgeon. Salary *£70 per annum*, with board, washing, &c.

Bootle Hospital for Infectious Diseases.—Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and apartments.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Bridgend, Glamorgan County Asylum.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, attendance, and washing.

Bristol General Hospital.—Assistant House Physician. Salary £60, with board, residence, &c.

Bristol Royal Hospital for Sick Children and Women.—Out Physician.

Cancer Hospital (Free), Fulham-road, London, S.W.—Honorary Physician. Also Dental Surgeon.

Carmarthen, Joint Counties Lunatic Asylum.—Second Assistant Medical Officer. Salary £160 per annum, with board, lodging, washing, and attendance.

Clayton Hospital and Wakefield General Dispensary.—Junior House Surgeon, unmarried. Salary £80 per annum, with *board,* lodging, *and* washing.

East Suffolk and Ipswich Hospital.—Senior House Surgeon. Salary £80, with board, washing, &c.

Egyptian Government, Kasr El Ainy Hospital.—Resident Surgical Officer. Salary £250 per annum, with quarters, servants, washing, coal, and light.

Evelina Hospital for Sick Children, Southwark Bridge road, London, S.E.—Honorary Anæsthetist. Also House Physician for nine months, and House Surgeon for six months. Salary in each case at rate of £60 per annum, with board, residence, and washing.

Great Yarmouth Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, also Assistant Casualty Medical Officer, both for six months, and unmarried. Salary in each case £20, with board and residence. Also House Physician, unmarried, for six months. Salary £20, with board and residence.

Leicester Infirmary.—Second Resident Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

Lincoln County Hospital.—Junior House Surgeon, unmarried, for six months. Salary £30, with board, residence, and washing.

London Hospital, Whitechapel.—One Medical and Two Surgical Registrars. Salary in each case £100 per annum.

London Throat Hospital, 204, Great Portland-street, W.—Assistant Surgeon.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and washing.

Manchester, University of.—Senior Demonstrator in Physiology. Salary £150, rising to £200 per annum.

Margate, Royal Sea-Bathing Hospital.—Resident Surgeon. Salary at rate of £80 per annum, with board and residence.

Medical Mission Hospital, Settlement of Women Workers, Canning Town.—Assistant Doctor (female) for six months. Board, residence, and laundry.

Middlesex Hospital, W.—Second Assistant to the Director of the Cancer Research Laboratories. Salary £200 per annum.

Monmouthshire Education Committee.—Two Assistant Medical Officers (one male and one female). Salaries for each £250 per annum, rising to £300 per annum, and travelling expenses.

Northamptonshire County Council Education Committee.—School Medical Officer. Salary £300 per annum and travelling expenses.

Northumberland, Tynemouth Infirmary.—Two House Surgeons. Salary £80 per annum each, with rooms, board, &c.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, &c.

Paddington Green Children's Hospital, London, W.—House Physician, also House Surgeon, both for six months. Salaries at rate of 60 guineas per annum, with board and residence.

Poplar Hospital for Accidents, Poplar, E.—Assistant House Surgeon. Salary at rate of £80 per annum, with board and residence.

Preston, County Borough of.—Schools Medical Officer. Salary £250 per annum.

Preston, Lancashire Education Committee.—School Medical Superintendent. Salary £500 per annum, rising to £550, with expenses.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Assistant *Resident* Medical Officer for four months. Salary is at rate of £50 per annum, with board, residence, and washing. Also Physician to Out-patients.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

Royal Dental Hospital, Leicester-square.—Morning House Anæsthetist. Salary £50 per annum.

Royal Navy, *Medical Department.*—Examination for not less than 15 Commissions.

Ryde, Royal Isle of Wight County Hospital.—Resident House Surgeon. Salary £100 per annum.

St. Andrews, University of.—Chandos *Professorship of Physiology* in the United College, St. Andrews.

St. George's Hospital.—Resident Anæsthetist. Salary at rate of £50 per annum, with board and lodging.

Singapore, Straits Settlements, Municipal Health Department.—Assistant Municipal Health Officer, unmarried. Salary $4200, rising to $4800.

Southampton, Free Eye Hospital.—House Surgeon. Salary £70, with board and residence.

Southend-on-Sea, Borough of.—Medical Officer of Health. Salary £550 per annum.

South Uist (Southern Division).—Medical Officer. Salary £77 10s.

Stafford, Staffordshire County Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, *lodging, and attendance.*

Stockport Infirmary.—Junior Assistant House Surgeon for six months. Salary £40 per annum, with board, washing, and residence.

Sunderland Infirmary.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

Twickenham Urban District Council.—Medical Inspector of Schools. Salary £150 per annum. Also Health Visitor and School Nurse. Salary £85 per annum. Both females.

Ventnor, Royal National Hospital for *Consumption and Diseases* of the Chest.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, 73, Welbeck-street, W.—Honorary Registrar and Pathologist.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

ARCHIBALD.—On April 7th, at Chapel-place, Ramsgate, the wife of Richard J. Archibald, M.R.C.S., L.R.C.P., of a daughter.

HAYWARD.—On April 9th, at The Grange, Wimbledon, the wife of *John Arthur Hayward, M.D.*, F.R.C.S., of a daughter.

MARRIAGE.

MACKAY—CROMMELIN BROWN.—By Spanish law, at Huelva, Spain (the domicile of the bridegroom), and afterwards on 13th April at the Langham Hotel, London, by the Rev. David Macdonald, B.D., of Manchester, William Alexander Mackay, F.R.C.S. and M.D. Edin., to Louisa Emily Crommelin, daughter of the late John Crommelin Brown, of the Indian Civil Service, and Mrs. Crommelin *Brown*, of 14, *Ainslie-place, Edinburgh.*

DEATH.

BROWNE.—On April 9th, Oswald Auchinleck Browne, M.A., M.D. Cantab., F.R.C.P., of Upper Wimpole-street, aged 52 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

He does not seem to have risen to any great eminence in either of his professions. He offended his father by his Jacobite opinions and by marrying against the Bishop's wishes.

John Woodward (1692–1728) on leaving school at 16 was apprenticed to a linen-draper in London, but escaping from that uncongenial employment he devoted himself entirely to study until he met with Dr. Barwick, physician to Charles II., who took him into his own house and for four years gave him instruction in anatomy, medicine, and other sciences. His patron obtained for him at the age of 26 the Gresham professorship of physic. In the following year he became a Fellow of the Royal Society and was often elected on its council, for his geological writings had already gained him a considerable reputation. He was created Doctor of Medicine by Tenison, Archbishop of Canterbury, in 1695, and afterwards received a similar degree at Cambridge. He became a Fellow of the College of Physicians, and also Censor and Goulstonian lecturer. As a practitioner Woodward seems to have relied chiefly on emetics and purges, and he is only remembered in medical circles in consequence of his controversy with the "princely" Dr. Mead and Dr. Freind on the utility of purging in the secondary fever of small-pox. Several abusive pamphlets were circulated on the subject and one day Mead and Woodward met accidentally under the gate of Gresham College and fought a duel. Several accounts of this duel have been published. One new to me has lately reached me through the kindness of Dr. J. F. Payne. It appeared in *The Weekly Journal or British Gazetteer* of Saturday, June 20th, 1719. As the account was written by Woodward it does not give Mead's version of the story. Woodward says that an accidental fall during the duel put him at Mead's mercy, when he was driving Mead before him. Afterwards Mead upbraided him with not having asked his life; Woodward replied that Mead had shown himself a coward and added: "that had he been to have given me any of his Physick, I would rather than take it have asked my life of him; but for his sword, it was very harmless; and I was ever far from being in any the least apprehension of it."

Woodward seems to have been somewhat quarrelsome, for in 1710 he was expelled from the Royal Society for conduct unbecoming a gentleman. Sir Hans Sloane, the celebrated physician and naturalist, was reading a paper before the society, when Woodward made some grossly insulting remarks. Sir Hans complained, and stated that this was not the only occasion on which Woodward's conduct had been offensive. Woodward was required by the Fellows to apologise but refused and was therefore expelled. Sir Isaac Newton was in the chair when the question of expulsion was discussed; and when it was pleaded in Woodward's favour that he was a good natural philosopher Sir Isaac remarked that "in order to belong to that society a man ought to be a good moral philosopher as well as a natural one." Woodward brought an action against the council to get reinstated but was unsuccessful. His merits as a geologist were of a very high order and the Woodwardian Professorship and Museum at Cambridge still exist as memorials alike of his learning and his munificence. He was also well versed in botany and was one of the founders of experimental plant physiology. He died at Gresham College and was buried near Sir Isaac Newton in Westminster Abbey, where his monument may be seen. During Woodward's residence in Gresham College he had as colleagues in the chair of rhetoric Charles Gresham, F.R.S., a kinsman of our founder, and John Ward, LL.D., F.R.S., F.S.A., the author of "The Lives of the Professors of Gresham College," published in 1740, a valuable biographical work upon which I have freely drawn in preparing this lecture.

Henry Pemberton (1728–1771), mathematician and physician, began his studies under the care of John Ward, Gresham professor of rhetoric, who was then a schoolmaster. On choosing the profession of medicine he went to Leyden to study under Boerhaave who was the most eminent physician of his time. From Leyden he proceeded to Paris to continue his mathematical and anatomical studies and thence to London, where he attended the wards of St. Thomas's Hospital in order to become acquainted with English practice. At the age of 25 years he took the M.D. degree at Leyden and on his return to London became the intimate of some of the most distinguished men of the day, including Sir Isaac Newton and Dr. Mead. He assisted the former in preparing the third edition of the "Principia" and in writing an account of his philosophical discoveries, while the latter had his literary assistance in his "Treatise on the Plague." He became Professor of Physic at Gresham College at the age of 34 years, but delicate health prevented his entering actively on the duties of medical practice. In 1746 the fifth London Pharmacopœia appeared as practically a new work, for the former editions were more mediæval than scientific. The first London Pharmacopœia was printed in 1618, just one century after the foundation of the College of Physicians, and was a small folio of 184 pages; its formulæ were distinguished for the multiplicity of inefficient substances massed together; no less than six contained more than 40 ingredients, and one consisted of more than 130 constituents.

Thanks to Pemberton, who was one of the best chemists of his age, and who devoted seven long years to chemical and pharmaceutical experiments necessary for the purpose, the fifth Pharmacopœia may be considered the first scientific one published in this country. On the eve of its appearance Dr. Mead reminded the College of Physicians of Dr. Pemberton's valuable services, and considered that these entitled him "to a suitable acknowledgment such as might be worth his acceptance, not as an operator, but consistently with his true character as a gentleman, scholar, philosopher, and physician." It was then resolved that Dr. Pemberton should have the copyright of the new Pharmacopœia, the sum of 100 guineas, and be reimbursed for all his expenses. Three years before his death the trustees sold Gresham College to His Majesty's Government for a paltry £500 a year, they contributing £1800 towards the expense of pulling down the college and building an Excise Office on the spot. As a necessary consequence of this unfortunate decision the professors were obliged to vacate the college and were granted £50 per annum in lieu of residence. But Dr. Pemberton seems to have refused these terms and would not leave until he was granted a further sum of £50 per annum, free of all taxes and deductions. He died at the age of 76 years, having been a voluminous writer all his life. His contributions to the Transactions of the Royal Society, of which he was a Fellow, extend from the thirty-second to the sixty-second volume.

Thomas Healde (1771–1789) was a Doctor of Medicine of Cambridge, a Fellow of the Royal Society, and physician at the London Hospital. He was a Fellow and Censor of the College of Physicians and seems to have delivered all possible lectures there—Gulstonian, Harveian, Croonian, and Lumleian. He died in 1789 in very reduced circumstances, leaving his widow and family in the greatest destitution. The College granted his widow a special bounty of £100 and helped to start her as midwife. He was the first of the Gresham professors of physic who was allowed to be married.

Christopher Stanger (1789–1834) began his medical education by an apprenticeship to a surgeon at Newcastle-upon-Tyne, after which he proceeded to Edinburgh, where he took the degree of Doctor of Medicine. He then spent four years in visiting the more celebrated medical schools on the continent, Paris, Montpellier, Vienna, Göttingen, and Leyden. On settling in London he became a Licentiate of the College of Physicians, Gresham Professor of Physic, and physician of the Foundling Hospital. He retained his professorship until his death at the age of 75 years. Munk says that he was a person of extensive attainments and great energy of character, and he obtained much notoriety in his day in consequence of his contest with the College of Physicians, for he maintained that it was the right of every well-educated London physician of fair character and mature age to be admitted a Fellow of that corporation, if found competent. The case was argued in the Law Courts for three days in 1797, but his petition was unanimously rejected.

The Gresham professors have occupied the chair of Physic, since its foundation, for an average period of more than 20 years each, while two of them, Pemberton and Stanger, each held their post for more than double that time.

Henry Herbert Southey (1834–1865) was the brother of Robert Southey, the poet-laureate. He began the study of medicine under a surgeon at Norwich, and at the age of 20 proceeded to Edinburgh where he acquired an unusual facility in the use of Latin, which he wrote and spoke fluently. This accomplishment was fully valued at Edinburgh and gave him a reputation which caused his society to be sought after by some of the best of his contemporaries. He retained his fondness for Latin all through his life and seldom failed to carry in his

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

TUESDAY.—3 P.M., Dr. F. Thomson: Demonstration on Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.).

WEDNESDAY.—2.30 P.M., Diseases of the Skin (Dr. Meachen); Diseases of the Eye (Mr. Brooks).

THURSDAY.—2.30 P.M., Medical Out-patient Clinic (Dr. Whiting); X Rays (Dr. Pirie).

FRIDAY.—2.30 P.M., Operations. Medical Out-patient Clinic (Dr. Auld); Diseases of the Eye (Mr. Brooks); 3 P.M., Medical In-patient Clinic (Dr. Leslie).

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), West London (2.30 P.M.).

TUESDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (22nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (23rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.).

FRIDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (25th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 15th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 9	30·07	E.	...	76	53	37	39	42	Fine
" 10	29·93	N.	0·04	90	49	42	44	46	Cloudy
" 11	29·84	ENE	...	56	47	43	43	44	Overcast
" 12	29·94	N.E.	...	65	52	41	43	45	Raining
" 13	30·16	N.E.	0·02	97	50	37	39	42	Fine
" 14	30·19	N.E.	...	80	48	33	39	42	Cloudy
" 15	30·20	N.E.	...	91	50	39	40	43	Cloudy

During the week marked copies of the following newspapers have been received:—*Sheffield Telegraph, Daily News, Liverpool Courier, Army and Navy Gazette, Broad Arrow, Birmingham Post, Westminster Gazette, Bristol Mercury, Dublin Times, Glasgow Herald, Wimbledon Gazette, Manchester Dispatch, Yorkshire Post, Standard, Daily Telegraph, Morning Post, Sheffield Independent, &c.*

radius. A sagittal section of the parts concerned in Colles's fracture shows that the articular surface of the radius is set obliquely on the shaft. This obliquity may in some cases be due to a curve of the lower end of the radius, so that the concavity of the curve is directed forwards. Although this curve and the obliquity of the carpal articular surface may be in favourable specimens seen in the uncut bone, yet they are much better demonstrated in the bone which has been cut in a sagittal direction. The line of fracture, which is frequently transverse from side to side in that variety of fracture which is associated with the name of Colles and which is directed obliquely from behind downwards and forwards, is explained by a reference to the anatomy of the lower end of the radius. The curve forwards of the radius must be considered as an important factor in the production of the fracture at the lower end. Another important factor is the shifting of the main pressure from the hand through the radius and interosseous membrane to the ulna and so to the humerus. The essential element in the direction of the line of fracture consists in the presence of the pressure lamellæ passing mainly up to the posterior surface of the radius from the posterior part of the carpal articular facet. The question now arises as to whether the fracture begins on the anterior surface or on the posterior surface.

A reference to the breaking of a rod of steel or wood will help us to appreciate this point. If a rod be subjected to a breaking strain from each end there is a tendency first for the bar to bend and then to break. It is clear that the parts of the bar on the concave side of the curve will be compressed and that the parts on the convex side of the curve will be elongated the fracture first takes place on the convex side of the curve and later on the concave side. This statement of the results of a break in a bar of steel or wood is well illustrated in that variety of fracture known as greenstick fractures where the smash only occurs on the convex side of the curve and is then deflected up and down the shaft of the bone. If now we consider this section of the parts concerned in Colles's fracture, and which has passed through the trapezoid and scaphoid bones we see that the main pressure is transmitted through the posterior part of the radius. When a breaking strain is applied the anterior or concave part of the radius, which really corresponds to the convex side of the bar, is put upon the stretch and smashes first, and then the line of fracture is diverted along the course of the pressure lamellæ—i.e., along the grain of the bone. Hence the obliquity of the line of fracture from, as one would now prefer to describe it, below, obliquely upwards and backwards. The transverse line of fracture may be explained by the fact that in coronal sections of the bone the lamellæ are not nearly so pronounced as in sagittal sections and therefore will not affect the line of fracture to any marked extent.

FRACTURES IN THE REGION OF THE ELBOW-JOINT.

I now propose to consider one or two points in connexion with the bones of the elbow-joint. I would first ask you to consider the carrying angle. By means of this carrying angle the forearm is inclined outwards from the humerus when the limb is extended at the elbow-joint. Many explanations of this carrying angle have been given and references made to paper models in order to demonstrate the reason of its disappearance when the elbow-joint is flexed. I think, however, the carrying angle is of even more interest than it is credited with. The trochlear surface of the humerus is really a section of a spiral, but if the edges of the spiral were of equal height, owing to the direction of the spiral, which is from behind downwards and inwards, any angle which the forearm made with the arm would be inwards and not outwards. The carrying angle is formed entirely by the prominence of the inner lip of the trochlea below. The direction of the spiral and the prominence of the inner lip of the trochlea will therefore form two opposed forces, one tending to direct the forearm inwards, the other tending to direct it outwards—the force exerted by the internal lip of the trochlea prevails. We may therefore conclude that, even if the opposed surfaces of the elbow joint were in contact during the whole range of movement, great pressure would be exerted upon the inner lip of the trochlea as the arm was passing from the flexed to the extended position. This is therefore probably the cause of the smash of the internal condyle with the adjacent portion of the trochlea. I have reason, moreover, to believe that from sections of the flexed elbow-joint the inner lip of the trochlea is not in close contact with the corresponding part of the greater sigmoid cavity of the ulna. There appears, indeed, to be a fold of synovial membrane lying between the adjacent surfaces, and the external lip of the trochlea appears to bear the pressure through the flexed joint. As the joint is moved, therefore, from the flexed to the extended position the main pressure appears to shift from the external to the internal condyle. This observation is further borne out by a reference to the internal structure of the humerus. (Figs. 12, 13, and 14.)

FIG. 12.

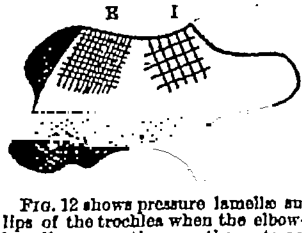


FIG. 13.

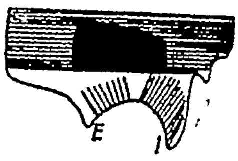
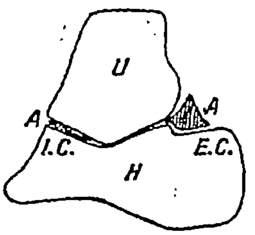


FIG. 12 shows pressure lamellæ supporting the internal and external lips of the trochlea when the elbow-joint is flexed. Note the stronger lamellæ supporting E., the external lip. Scale rather more a third life size.

FIG. 13 shows pressure lamellæ supporting the internal and external lips of the trochlea when the elbow joint is extended. Note the stronger lamellæ supporting I., the internal lip. Scale nearly life size.

FIG. 14.



Flexed elbow-joint (hardened in formalin). A, A., Folds of synovial membrane. U., Ulna. H., Humerus. I.C. and E.C., the external and internal condyles. Scale rather less than half life size.

In dealing with fractures in this region we may well ask ourselves why the coronoid process is not more frequently fractured. In the last edition of Sir John Erichsen's "Science and Art of Surgery" he deliberately forbears to speak of the symptoms. Skiagraphy has, however, revealed that what no less an authority than Hamilton considered as of very doubtful occurrence—namely, fracture of the coronoid process—does occur. Mr. E. W. H. Shenton tells me, however, that in most of his cases only the tip of the coronoid process is broken off.

Let us now consider the structure of the upper end of the ulna. In this diagram we see that the coronoid process is not so much a process relative to the shaft of the ulna as it is relative to the greater sigmoid cavity, and that it is supported by an enormously strong series of bars which pass into the anterior surface of the bone. The lamellæ which pass from the anterior surface radiate, as is usual, at right angles from the articular surface. Those from the upper part of the articular surface pass into the posterior surface of the shaft. The thick compact tissue on the posterior surface merges into the thin compact tissue of the olecranon process suddenly, no doubt predisposing to fractures of the olecranon. The lamellæ of the coronoid process which come from the lower part of the articular surface pass into a buttress of bone on the anterior surface of the shaft of the ulna. Fracture of the coronoid would, therefore, partake of the nature of a vertical smash of a long bone which is a variety of fracture not common. The enormous strength of the coronoid process is therefore much more apparent when we regard its internal structure. (Fig. 15.)

FRACTURES OF THE UPPER END OF THE HUMERUS AND OF THE CLAVICLE.

I must now pass to the consideration of certain anatomical points which have an important bearing upon the question of fracture occurring in the upper end of the humerus. First, let me briefly refer to some clinical details in connexion with fracture of the surgical neck of the humerus. This particular form of fracture may occur as a result of a fall upon either the abducted limb or upon the adducted limb. It may also occur—and in the cases collected for me very kindly by Mr. Martyn Lobb from the

The Gresham Lecture

ON

THE GRESHAM PROFESSORS OF PHYSIC.

Delivered at Gresham College on March 2nd, 1908,

By F. M. SANDWITH, M.D. Durh., F.R.C.P. Lond.,

GRESHAM PROFESSOR OF PHYSIC.

"Vita mortuorum in memoria vivorum est posita."—*Cic. Philipp. XI.*

GENTLEMEN,—On Jan. 16th, 1597, 17 years after the death of Sir Thomas Gresham, a threefold agreement was drawn up between the Mayor and Commonalty and Citizens of London of the first part, the Master Wardens of the Mercers' Company of the second part, and the seven Gresham professors already in residence in Gresham House of the third part, with regard to the good government of Gresham House according to the intent and meaning of the last will and testament of Sir Thomas Gresham. For the credit of the place, the increase of learning, and the greater honour of the Founder, it was unanimously thought meet and convenient that, in order to decide weighty matters in controversy and for the teaching of the principal and most material heads in all the several arts and sciences, certain solemn lectures should be delivered with great care and diligence at set days and times. And forasmuch as the public reading of the said lectures should be performed in that manner as would most tend to the glory of God and the common benefit of the people of this city, most of whom "understand not the Latin tongue, whereby the said lectures may become solitary in a short time, if they shall be read in the Latin tongue only," it was decreed that the lecture should be read in English for the benefit of the citizens, while it should be repeated in Latin for the sake of divers strangers of foreign countries "who resort to London and understand not the English tongue, yet will greatly desire to hear the reading of the said lectures, whereby the memory of the Founder in erecting the College for the increase of learning may be divulged, to the good example of foreign nations and the honour and credit of this honourable city." The bell which summoned merchants to the Royal Exchange was rung to give notice of the lectures, a practice which seems to have been discontinued after the Great Fire.

We are only concerned here with that clause of the ordinance which relates to the duties of the professor of physic:—

> And forasmuch as the greatest part of the auditory is like to be of such citizens and others as have small knowledge or none at all in the Latin tongue, and for that every man for his health's sake will desire to have some knowledge in the art of physick; it is thought good that the first lecture be read in the Latin, and the second in the English tongue. Touching the matter of the said solemn lecture, albeit the same is to be referred to the discretion of the reader; yet it is wished, that herein he follow Fernelius his method, by reading first physiologie, then pathologie, and lastly therapeutice; whereby the body of the said art may be better imprinted by good method in the studious auditors, rather than be disjointed and delivered out of order by exposition of some part of Galen or Hippocrates.

You will like to have a few particulars about the Fernelius who was held up as a model for the Gresham professors of physic to follow. Jean François Fernel (1497–1558) was a French physician who, as a youth, so distinguished himself at Paris in mathematics, philosophy, and languages that he was offered a professorship in one of those subjects. This offer he declined, preferring to become a physician, and he was eventually named professor of medicine in 1534. His extraordinary erudition, and the skill and success with which he sought to inculcate a more intelligent study of the old Greek physicians, gained for him a great reputation and ultimately the post of physician to the court of Henry II. and Catherine of Medici, the parents-in-law of Mary, Queen of Scots. The sixteenth century is memorable for the number of universities founded in Europe and for the general impulse towards freedom and independence due to the overwhelming conviction that thought must be freed from the fetters which had so long restrained it. Fernel earned the title of reformer because he taught that physicians should study the human body and think for themselves instead of blindly accepting all the writings of Galen and Hippocrates who had lived respectively 13 centuries and 19 centuries before him. Seeing the fruitlessness of mere speculation, he was one of the first to recommend that one ought to look for the cause of disease in the body itself and not in the fluids occasioned by the disease. The dissection of human bodies was not yet permitted, but we may assume that Fernel was of the same opinion as his Venetian contemporary, Realdo Colombo, who said that a man could learn more in one day by the dissection of a dog than by continually feeling the pulse and studying Galen's writings for many months together.

Let me now give you a brief account of the illustrious men who have preceded me in this post. Matthew Gwinne (1596–1607),[1] the son of a grocer, was a scholar and Fellow of St. John's College, Oxford, and in his younger days was appointed "Regent Master to read upon Music," for this was before the days when public professors were appointed and supported by fixed salaries to teach the liberal arts. But when he had taken his degree in arts he embraced the profession of medicine and practised as a physician in Oxford for several years. He was allowed to discontinue the lecture on music because "suitable books were difficult to procure, and the practice of that science was unusual if not useless." In 1592 he was chosen to reply in a Latin debate at Oxford for the entertainment of Queen Elizabeth, and it is reported that his witty handling of the matter and his discreet behaviour seemed to please her Majesty much. In the following year he was created doctor of physic, and we next hear of him as professionally attending Sir Henry Unton, the Ambassador of this country at the French Court. In March, 1596, he was chosen as the first professor of physic at Gresham College, being one of the two who were nominated by the University of Oxford, and his introductory lectures in 1598 consisted of an oration in praise of the founder and his institution. In 1604 he was admitted a candidate of the College of Physicians of London, or, as we should now call it, a Member, and in the following year he was made physician to the Tower. During that year James I., with his Queen, Prince Henry, and their courts went to Oxford, where they were entertained for three days with academical exercises of all kinds. Dr. Gwinne was specially prominent on the occasion, and took part in the two debates, whether the morals of nurses are imbibed by infants with their milk and whether tobacco smoking is wholesome or not. As the king was a professed enemy of tobacco and had written against the use of it this debate gave His Majesty an opportunity of expressing his own sentiments on the subject. On the same evening a Latin comedy was acted at Magdalen College, of which Dr. Gwinne was the author. The King was pleased with the acting of the students, although it did not keep him awake. A few months later Dr. Gwinne was admitted a Fellow of the College of Physicians and resigned his Gresham professorship in 1607, probably in order to marry. From 1608 to 1627 he was registrar of the College of Physicians and continued to practise in London where he was much esteemed both in the city and at court. In 1620, seven years before his death, he was appointed, with seven other Royal Commissioners, to draw up regulations for garbling (or sorting) tobacco before it was exposed for sale. He wrote several papers and was a man of intelligence, lively fancy, and poetic genius. He had read much and was well versed in all sorts of literature, accurately skilled in modern languages, and was much valued for his knowledge and success in the practice of his profession. His only medical work was an able treatise in Latin to prove that Francis Anthony's celebrated but secret remedy, called "potable gold," contained no gold at all, and that even if it did the virtues of gold as a medicine were much exaggerated. This Anthony (1550–1623) was a successful empiric who when examined in medicine before the President and Censors of the College of Physicians and being found ignorant was forbidden to practise. He disregarded this injunction and was in consequence fined and sent to prison more than once. He claimed that his secret remedy would cure all diseases and offered to exhibit his process of dissolving gold, which his adversaries declared was impossible. Accordingly a trial was held at the College of Physicians in 1609 before the Master of the Mint and other experts but when Anthony was given an ounce of gold he failed to dissolve it. Dr. J. F. Payne suggests that any efficacy which the cordial may have possessed was due to certain ethers formed in the process arm adducted and fixed to his side the inferior lip of the glenoid fossa comes into forcible contact with the surgical neck of the humerus. There are here four specimens of fracture of the surgical neck of the humerus showing that the line of fracture is transverse and that it lies opposite the point of contact between the inferior lip of the glenoid fossa and the surgical neck of the humerus.

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[1] The dates within brackets after the professors' names show the years during which each occupied the chair of physic.

Now fracture of the surgical neck of the humerus may be associated with dislocation of the humerus from the glenoid fossa and a correct appreciation of the strength and position of the inferior lip of the glenoid process, which may be termed the glenoid buttress, helps to explain this not infrequent occurrence. But whilst it helps to explain the occurrence of a dislocated shoulder with a fracture of the surgical neck of the humerus it explains very well the occurrence of a fracture of the surgical neck of the humerus in conjunction with the reduction of a dislocated shoulder. In, for example, Kocher's method of reduction of a dislocated shoulder directions are given that the shoulder shall be adducted. At this time also the humerus is being flexed and internally rotated and the inferior lip of the glenoid fossa is therefore not only coming into forcible contact with the surgical neck of the humerus but is also exerting a cutting action. It will be well, therefore, for those who scoff at the method of reducing a shoulder-joint by exerting pressure upon the humerus with the stockinged foot to remember the existence of this glenoid buttress. One well-known provincial surgeon, now dead, held that it was not necessary for a surgeon to know anatomy. I venture to think that knowledge of this glenoid buttress and its relation to fractures of the surgical neck might save much trouble both to the patient and to the operator.

Of course, we must take into account at least two points in connexion with this anatomical fact—namely, that the inferior lip of the glenoid fossa comes into contact with the surgical neck of the humerus. The first may be put in the form of a question. Is not the scapula a moving bone and therefore is it likely that the humerus will impinge with sufficient force to smash the limb? The answer to this question is that when the arm is stretched out behind one with the limb adducted to the side the scapula is fixed and that not only is the force of the actual adducting force to be taken into account but also the pressure of the fall either on the hand or on the shoulder. Moreover, even if the scapula be moving, as it might conceivably be in reduction of a dislocation under an anæsthetic, if it be not moving so quickly as the humerus there will be the possibility of the humerus, so to speak, catching up the scapula, and the surgical neck coming into forcible contact with the inferior lip of the glenoid fossa. Two trains, one going at 60 miles and the other at 30 miles an hour, even if they be going in the same direction, will cause serious results if they happen to come into contact. Secondly, fracture of the surgical neck is frequently said to be due to muscular violence. The relation of the inferior lip of the glenoid fossa to the surgical neck of the humerus will afford an additional explanation of why this is possible. For the humerus will be broken over the inferior lip of the glenoid process as a stick is broken over the knee.

I have drawn your attention to the well-marked coracoid and axillary bars of the scapula which support the glenoid fossa and into which definite long lamellæ may be traced. By what are these bars supported? The axillary bar is supported by all the muscles attached to the scapula which pass to it from the trunk, notably the serratus magnus, trapezius, and latissimus dorsi.

FRACTURE OF THE CLAVICLE.

The coracoid bar is, however, rather differently supported, and we must pay some attention to this, as I hope to show that these supports are of great importance, especially in connexion with fracture of the clavicle. Now Mr. Lane has shown that in labourers who are in the habit of carrying considerable loads upon their shoulder the back part of the upper surface of the coracoid process is actually in contact with the clavicle. There may be a facet in the macerated bone indicating this condition. I would, however, venture to go further than this and say that in some cases in which particular occupation has played no part the coracoid process may be situated either in direct contact with the clavicle or so close to it that the tip of the index finger can hardly be introduced between the two bones. We may therefore conclude that the clavicle, fixed as it is at or near its sternal end by the interarticular fibro-cartilage and the rhomboid ligament, offers some support to the coracoid process when the coracoid bar is thrust upwards. Now if a swing inwards of the axillary bar takes place as well as an upward thrust of the scapula, and with it the coracoid bar be added to this inward swing, it will be clear from this model that the coracoid process is jammed against the clavicle between, or in the region of, the conoid and trapezoid ligaments. Now Mr. Henry Morris, Professor D. Hepburn, and other authorities have rightly laid stress upon the exact position of the surfaces of the trapezoid ligament. The surfaces are not anterior and posterior but are obliquely set, so that the so-called anterior surface looks upwards, inwards, and forwards, and the posterior surface looks downwards, outwards, and backwards. In one specimen which I show the surfaces hardly face forwards or backwards at all. If this position of the trapezoid ligament be accepted as correct it can hardly be considered to have much influence in suspending the scapula from the clavicle.

Now in the lower end of the radius and the upper end of the ulna and the two extremities of the humerus, as well as in the glenoid fossa of the scapula, it may be demonstrated that there are well-marked pressure lamellæ. We may therefore argue that if these bones indicate by their internal structure certain pressure lamellæ the pressure that is transmitted through them can hardly stop before reaching the clavicle but is transmitted into the clavicle in certain circumstances.

Of course, pressure may be transmitted through the acromion process and acromio-clavicular joint to the clavicle. Now how is this pressure transmitted through the coracoid process to the clavicle? Forcible contact without corresponding pressure lamellæ being developed would hardly be considered a good way of transmitting pressure to the clavicle, especially as the clavicle is such a slender bone and fixed by such strong ligaments at its inner end. Now I said that pressure might be transmitted through the acromion process to the clavicle, but there are two points in connexion with this statement that I would draw your attention to. First, the obliquity of the acromio-clavicular joint. There is rarely the same degree of obliquity in the articular surfaces of the acromion and clavicle. This is allowed for by the presence of a triangular fibro-cartilage and by the oblique position of the acromion process itself. The upper surface of the acromion process also looks backwards and outwards and the clavicular articular surface on its inner border looks upwards and inwards. Therefore if pressure be transmitted through the scapula and the clavicle the acromio-clavicular joint is not best adapted for such pressure. The second point is that if pressure be transmitted through the glenoid fossa and clavicle there is hardly any pressure exerted through the acromio-clavicular joint at all, the cartilage which lies between the clavicle and acromion process is not compressed even when great pressure is made, and if less than great pressure be used the synovial cavity on each side of the interarticular fibro-cartilage is not diminished in size or altered in shape.

From these considerations we may assert confidently that whilst one function of the conoid and trapezoid ligaments is undoubtedly to prevent underrunning of the clavicle by the acromion, and whilst this may be the only function of the conoid ligament apart from slinging the scapula upon the clavicle the main function of the trapezoid ligament is to transmit pressure passing from the scapula to the clavicle—e.g., when the arm is in the usual thrusting position. It is by the trapezoid ligament which is put upon the stretch that the main pressure which passes from the upper part of the arm to the clavicle does not pass through the acromio-clavicular joint. It is the stretching, or rather increased tension, of the trapezoid ligament when much pressure is transmitted which prevents undue pressure being made upon the acromio-clavicular joint. This, then, is the function of the trapezoid ligament—this its use and object to counteract it may be any tendency to dislocation in the acromio-clavicular joint, but to counteract it by taking the pressure off it.

This function of the trapezoid ligament and the part which it and the coracoid process play in transmitting pressure from the humerus and scapula to the clavicle is further illustrated by the internal structure of the clavicle (Fig. 17), which in two specimens I have here displays an arrangement of bony lamellæ in exact accordance with the function of the coracoid process and the trapezoid ligament. The compact tissue is thin over the surface of the outer inch of the bone and is joined by arching lamellæ interlacing with each other amaica, for he was never heard of after that time. As he ad children Ward presumes that he must have been a idower when he officiated at Gresham College. You will otice that most of the Gresham professors to whom I have eferred went to Italy to complete their medical studies, and specially to Padua, which was then at the height of its enown as a school of anatomy and medicine.

Jonathan Goddard (1655–1674) was the son of a rich hipbuilder and was educated at Oxford and elsewhere. He then became a practitioner in London, a doctor of physic of Cambridge, and a Fellow and Censor of the College of Physicians. He was a promoter and one of the original council of the Royal Society, to which he made 14 communications. After being chief physician to Cromwell's army in Ireland and Scotland he rode into London in triumph with that general in 1651 after the battle of Worcester. He then became Warden of Merton College, Oxford, one of Cromwell's Little Parliament, and and was appointed a member of the Council of State. Upon Dr. Winston's death he was elected Gresham professor of physic and when the fire of 1666 occurred in London he removed for a time from Gresham College with the other professors to make room for the Mayor and Corporation who for some years transacted their business there until the City was rebuilt. He died at the College in 1674 and was buried in St. Helen's Church. He was the first Englishman to make telescopes, and being a clever chemist he worked hard in his laboratory at Gresham College at that science. One of his papers read before the Royal Society was entitled "A Discourse upon Eggs, containing Ten Signs whereby to Distinguish New Eggs from those which are Stale." He not only prescribed but concocted medicines and published a treatise recommending that physicians should prepare their own remedies, on the grounds that apothecaries were ignorant and that they dared to prescribe for the sick as well as to compound medicines. His reputation was kept alive for years by certain volatile drops, which were his invention and bore his name; though long in great repute this nostrum is now entirely forgotten. The drops were used in faintings, apoplexies, lethargies, or other sudden and alarming attacks, and were praised by the great Dr. Sydenham who found them better than any other volatile spirits "for energetically and efficaciously attaining the end for which they are applied" On the continent they used to be prescribed under the name of the "*English drops.*" It is believed that they consisted of spirit of ammonia, to which other ingredients were added, such as dried viper and the skull of a person who had been hanged. Goddard is said by some to have sold the secret of his drops to Charles II. for £5000 and it is to be noted that traffic in secret remedies was not held to be improper at that time.

Three of his distinguished contemporaries can hardly be passed over in silence, Wren, Barrow, and Hooke. Sir Christopher Wren, versatile genius and most famous of English architects, became Gresham professor of astronomy in his twenty-fifth year. His rooms in the College soon attracted those men of science who founded the Royal Society, of which he eventually became President. Within a week after the great fire of London had been extinguished Wren was ready with a plan for rebuilding the City, which was not accepted, chiefly because it was too thorough and too far-seeing. He thus had time to reconstruct St. Paul's Cathedral. 52 churches, no two of which were alike, 36 of the companies' halls, the Customs House, and several private houses, so that all that part of London seen from Blackfriars Bridge seemed to have sprung from his energy. Of the churches I may single out one, a gem of architecture. St. Stephen's, Walbrook, which was greatly admired by Wren's contemporaries on the continent I need hardly remind you of his grand epitaph in St. Paul's Cathedral, which states that he lived more than 90 years, not for himself, but for the public good. "Reader, if you are searching for his monument, look around you!"

Isaac Barrow, the professor of geometry, celebrated divine and scholar, showed but little promise in early life of his great talents, for he had to be removed from Charterhouse School because of his propensities for fighting and for stimulating other boys to fight, while at home he was so troublesome that his father was once heard to say, that if it pleased the Almighty to take any one of his children he could best spare Isaac! We hear little of his fighting in after life, though at the age of 26 years, while sailing from Leghorn to Smyrna on his way to Constantinople to read the works of St. Chrysostom, he had the opportunity of showing marked courage during an attack on the vessel by an Algerian pirate ship. He was at one time tutor to the famous Isaac Newton. His learning was prodigious and when he became chaplain to Charles II. the king called him "an unfair preacher, because he exhausted every topic and left no room for anything new to be said by any one who came after him." I do not know whether his sermons would be appreciated in the present day, for they usually took more than one and a half hours to deliver. He died at the comparatively early age of 47 years and was buried in Westminster Abbey, where the inscription on his monument was composed by his great friend, Dr. John Mapletoft.

Robert Hooke, the inventor and author, was also a Gresham professor of geometry. Unlike Barrow, he showed extraordinary cleverness as a school boy and astonished his teachers at Westminster School by mastering the six books of Euclid in one week. He also prepared a model for rebuilding the city after the great fire and, though it was not accepted, he obtained the appointment of city surveyor. In 1674 the Royal Society returned to Gresham College to hold its scientific meetings there and in the same year the Gresham committee "in order to encourage Mr. Hooke in his curious and useful enquiries" allowed him, at the cost of £40, to erect an astronomical turret over his quarters in the College. He was curator of the treasures of the Royal Society and received the compliment of being created Doctor of Physic at Doctors' Commons by a warrant from Tillotson, Archbishop of Canterbury. Engaged to the last in philosophic research, he died in Gresham College and was buried in St. Helen's Church. He was the greatest mechanic of his age, but his brilliant erratic genius seldom allowed him to finish one investigation before hurrying on to the next. He divined the doctrine of universal gravitation before Newton but had not the mathematical ability to prove it.

It was in Goddard's time that Samuel Pepys was admitted a member of Gresham College and paid £2 for that privilege. It should not be forgotten that Gresham College was the cradle of the Royal Society.

John Mapletoft (1675–1679), physician and divine, after travelling on the continent and studying medicine in Italy became Doctor of Medicine at Cambridge and afterwards at Oxford, and practised in London, where he was made a Fellow of the Royal Society. He was on intimate terms with many eminent men, including Dr. Thomas Sydenham and John Locke. The former dedicated to him the first edition of his "Medical Observations," and at the author's request Mapletoft translated some of Sydenham's works into Latin. He and Sydenham are said to have been for seven years closely associated in medical practice. Mapletoft began his lectures at Gresham College by describing Harvey's work and his discovery of the circulation of the blood, but he resigned the professorship in 1679 in order to marry, after which he relinquished the study of medicine for divinity, being then more than 50 years of age. Locke's friendship for him is shown by what he wrote to him on his entering into Holy Orders: "I like our calling the worse since you have quitted it." Locke himself had at that time renounced the practice of medicine and was devoting himself to his 17 years' study as to what questions the human understanding was or was not fitted to deal with. Mapletoft took his doctor's degree in divinity and eventually became vicar of St. Lawrence Jewry, where he continued to preach until he was over 80 years of age. Ward says of him: "He showed a great neglect, if not contempt of riches, and esteemed it sufficient, if he had enough to pass easily through the world, and something to spare for good and pious uses.

Henry Paman (1679–1689) became a doctor both of medicine and laws at Cambridge, where he was Public Orator and Master of the Faculties. He also took the degree of Doctor of Medicine at Oxford, became a Fellow of the Royal Society, a Fellow of the Royal College of Physicians, and delivered the Harveian Oration in 1688. He enjoyed the friendship of Sydenham, who addressed one of his published writings to him. His only printed medical treatise seems to have been an epistle written to Sydenham just before he became himself Gresham professor. He resigned his professorship six years before his death.

Edward Stillingfleet (1689–1692), the son of a learned but militant Bishop of Worcester, became a Doctor of Medicine at Cambridge and was elected a Fellow of the Royal Society. After holding his post at Gresham College for less than three years he resigned it in order to marry, and he, too, went into Holy Orders after marriage and died as a Norfolk rector.

The conclusions I would put before you as worthy of consideration in respect of the anatomy of the parts relative to fracture of the clavicle are: 1. That no pressure, or very little, is transmitted through the acromio-clavicular joint, even when blows are struck upon the outer edge of the acromion process. This absence of direct pressure through the acromio-clavicular joint is explained by the presence of the trapezoid ligament and its attachment to the coracoid process of the scapula and the clavicle. 2. That the pressure which passes through the coracoid process and the trapezoid materially affects the internal structure of the clavicle. 3. The obliquity of the adjacent surfaces of the acromio-clavicular joint and the presence of the triangular fibro-cartilage still further diminish shock. 4. That by direct impinging of the coracoid process against the clavicle fractures of the clavicle between the conoid and trapezoid ligaments are produced, and that with such fractures not only is displacement possible but that impaction may also take place. 5. That by bending of the clavicle over the coracoid process fracture of the shaft of that bone may be produced.

SEPARATED EPIPHYSES.

The question of separated epiphyses and the influence of pressure lamellæ upon the line of fracture is well illustrated by a reference to these diagrams (Figs. 18 and 19, 20, 21, and 22). Frequently when a separation of an epiphysis takes place the line of solution of continuity does not occupy the total area of the epiphysial line. Thus a portion of diaphysis may be broken off from the main part of the shaft and produce considerable difficulty in reduction of the deformity. If we refer to these diagrams (those representing the clinical features I have copied from the work of Professor Hoffa upon fractures and dislocations) we shall find that the fracture producing separation of the epiphysis in these diagrams of separated epiphysis of the lower end of the tibia, the upper end of the humerus, and the lower end of the femur, has passed along the epiphysial line for two-thirds of its breadth, and has then been deflected along the course of the pressure lamellæ of the bone—in other words, along the grain of the bone.

ON SO-CALLED RHEUMATIC IRITIS.

BY C. HIGGENS, F.R.C.S. ENG.,

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IRITIS dependent on rheumatism no doubt frequently occurs, but my experience is that a very large number of cases so called are due to the poison of gonorrhœa and the worst cases with few exceptions have this origin. The history of these cases varies but little. The patient, nearly always a man, comes to the ophthalmic surgeon with iritis and it is probably not the first attack. His age is generally over 30, but he may be younger, and he will give a history of gonorrhœa, often of repeated attacks, but in most cases he will not have had one immediately before the iritis commenced. More likely the last attack will have been some years previously; he may or may not have had so-called gonorrhœal rheumatism; in the majority of cases he has not. The iritis is severe; all the usual symptoms are well marked. Its chief distinguishing features are: it is painful, often severely so, there are swelling of the iris, generally much photophobia, a strong tendency for adhesions to form, though there is no very great amount of exudation, with much ciliary and conjunctival congestion. There are also a decided inclination to contraction of the pupil which strongly resists the action of mydriatics of which there is often a marked intolerance; a tendency to increased tension; a general intractability, rendering treatment most difficult and its results most disappointing; and an unlimited capacity for recurrences continuing through any number of years. It seems to me that the liability continues through the whole of sexual life, an opinion which is borne out by that of the late George Critchett, who was in the habit of telling his patients they would "grow out of it," the truth of which I have been able to verify in one at least of his patients who came under my care; he did grow out of it but not till he was over 60 years of age. I cannot say that I have ever seen a case which I could with certainty say was gonorrhœal iritis in a female, though I have seen some suspiciously like it; and I am not sure that some of the obstinate cases of irido-cyclitis with keratitis punctata so frequently seen in young and middle-aged women may not depend on gonorrhœal infection, though I have no direct evidence to prove it, and some of them are undoubtedly syphilitic.

The question one asks oneself is, Supposing we are right in believing that there is such a thing as gonorrhœal iritis (which there seems to me to be no reason to doubt), how is it brought about? The probability is that in many men who have had gonorrhœa severely and frequently there is left for any number of years in some part of the urino-genital apparatus a very much attenuated virus which gives no trouble locally, but from time to time becomes more active, and though still setting up no local irritation is capable after absorption of causing inflammation in synovial membranes or in the iris; in fact, it looks almost as if the iris becomes on occasions an excretory organ and tries to eliminate the poison, receiving considerable damage to itself in the attempt. There must also be a personal element or an idiosyncrasy in those who suffer, because the proportion of persons who have iritis to those who have had gonorrhœa is very small indeed.

That an attenuated virus capable of infecting which causes no inconvenience to the person affected by it may exist seems to be proved by cases of purulent ophthalmia in female children who are found to have a vaginal discharge from which the eyes have been inoculated and of which no mention has been made. In some of these cases I have the authority of the late Dr. J. W. Washbourn and of Dr. J. W. H. Eyre for saying that gonococci exist in both the conjunctival and vaginal discharges. As further proof I may instance cases of wives (of men who have had gonorrhœa and who have no notion of anything being wrong) becoming infected, not with an ordinary gonorrhœa, but by salpingitis, followed in some cases by septic peritonitis. Here it would appear that the virus, though too weak to infect the vaginal mucous membrane, is powerful enough to infect that of the Fallopian tubes.

The results of gonorrhœal iritis include all those consequent on iritis in its worst forms; synechiæ more or less extensive, occluded and excluded pupil, complete adhesion of the posterior surface of the iris to the lens capsule, bombé iris with its attendant evils, capsular cataract, glaucoma, with changes in structure of the iris, and loss of vision varying from slight impairment to total blindness.

Cases.

CASE 1.—A man, aged 42 years, first consulted me 1884. He had had iritis in both eyes previously on mo than one occasion, his left eye being considerably damaged and years before he had suffered from gonorrhœa frequentl When I saw him he had severe iritis in the right eye, muc conjunctival and episcleral congestion, and a good deal pain. The attack lasted about a month; he then began to g better and was convalescent in the course of a few day One peculiarity about this case was that as soon as he bega to mend he got well almost suddenly. In 1888 I attende him for another severe attack in the same eye. From 18 up to 1900 he had many attacks, some severe, others on slight and lasting only a few days, but I managed to pu him through them all without any further damage to eith eye. In 1903 I saw him and fitted him with glasses; he ha had no iritis for three years; vision of the right eye was and there were a few posterior synechiæ; that of the le was $\frac{6}{24}$ with many posterior synechiæ and some opacity the lens capsule. I saw him again in 1907; the vision of th right eye was $\frac{6}{9}$, with −.50 cyl., and that of the left was he had had no more iritis. Apparently he had "grow out of it" at about 60 years of age.

CASE 2.—The patient, a man, aged 43 years, first cam under my care in September, 1893, with a history of seve gonorrhœa some years before. He had had many attacks iritis, mostly in the right eye. Iridectomy had been performe in the right eye; there were total posterior synechia an some iritic products on the lens capsule; vision = $\frac{6}{60}$. I the left eye there were a few posterior synechiæ; visio = $\frac{6}{18}$, c. −1 25 cyl. axis horizontal $\frac{6}{9}$. Glasses for readin and distance were ordered. During 1894 and 1895 th patient remained free from iritis. Towards the end of 189 he had a severe attack in the left eye, but by the middle January, 1897, he had completely recovered. A few fres synechiæ had formed but the sight was not damaged. I April, 1898, he had another bad attack which lasted month, followed by a relapse, which prolonged it for a week In January, 1899, he had another attack lasting six week pocket either Horace or Virgil, or the letters of the elder Pliny. He graduated Doctor of Medicine at Edinburgh, settled as a physician at Durham, and then moved to London, where he successively became physician to the Middlesex Hospital, physician in ordinary to George IV., physician extraordinary to Queen Adelaide, Gresham professor of physic, which office he held until his death at the ripe age of 82, and Commissioner in Lunacy. Oxford University conferred upon him the honorary degree of Doctor of Civil Law, he was a Fellow of the Royal Society, and at the College of Physicians he became Fellow, Censor, and Harveian Orator.

According to Sir Thomas Watson, Dr. Southey was not unworthy of the name that his elder brother, the poet, had made famous. He was a great favourite among his acquaintances and friends, and on at least three occasions valuable legacies were bequeathed to him by men who were bound to him by no ties of blood or of professional obligation. As a consequence of his official appointment his practice lay chiefly, though not exclusively, among the insane. He lived in Queen Anne-street. He became an Elect of the College of Physicians in 1848 and lived to see the abolition of that order in 1860. The Elects were eight seniors of the College, who for more than three centuries, by a special statute of Henry VIII., had annually elected the President. Since 1860 their functions have reverted to the whole body of Fellows, as was originally the case under the provisions of the Charter.

Henry Powell (1865–1867), after studying at Guy's Hospital, took his M.D. degree at Oxford in 1839 and in the following year became a Fellow of the Royal College of Physicians. He successively became physician to the Tunbridge Wells Dispensary and Infirmary, senior physician to Coventry Hospital, and consulting physician to Rugby School. He died on May 18th, 1867, aged 58. I have not been able to find that he made any contributions to medical literature.

Edmund Symes Thompson (1867–1906), son of Dr. Theophilus Thompson, F.R.S., was born in 1837 and became a scholar and gold medallist at the University of London, where he took his M.D. degree, a Fellow of the College of Physicians, assistant physician to King's College Hospital, consulting physician to the Brompton Hospital for Consumption, and a Fellow of many scientific societies. His first Gresham lecture was delivered on Nov. 6th, 1867, at 1 P.M., which was then the appointed hour. Following in the steps of his 14 predecessors, his Latin lecture was followed by one in English, until 1876, when the Latin discourse was discontinued on account of the small audience. I am told that those who attended the Latin lecture were chiefly masters and "Grecians" from Christ's Hospital and St. Paul's School, both then within the City limits, and that they were more interested in the style of the dead language than in the matter of the lecture. The attendance, however, at his lectures in English averaged more than 200, a sufficient proof of his popularity. His last lecture was given on April 27th, 1906, for he was taken ill in August and died on Nov. 24th of that year. His memory is yet very green in the minds of his friends and I may refer others who want to know more of his life's work to the obituary notices of only a year ago.

> "Were honour to be scann'd by long descent
> From ancestors illustrious, I could vaunt
> A lineage of the greatest, and recount
> Among my fathers, names of ancient story,
> Heroes and god-like patriots, who subdued
> The world by arms and virtue;
> But that be their own praise:
> Nor will I borrow merit from the dead,
> Myself an undeserver."
>
> —*Nicholas Rowe.*

A MEDICAL OFFICER OF HEALTH FOR WORTHING.—Mr. R. H. Wilshaw, M.B., Ch B. Vict., D.P.H. was on April 16th appointed medical officer of health of Worthing and East Preston at a salary of £250 per annum and an additional £250 per annum for services in connexion with the Worthing isolation hospital and the medical inspection of school children in Worthing. Dr. Wilshaw is really Worthing's first medical officer of health, the borough heretofore having been included in a combine including the whole of West Sussex. East Preston is the union district in which Worthing is situated. Dr. Wilshaw is at present deputy medical officer of health of Southport.

The Hunterian Lectures

ON

THE ANATOMY OF THE LONG BONES RELATIVE TO CERTAIN FRACTURES.

Delivered before the Royal College of Surgeons of England on March 9th and 11th, 1908,

BY RALPH THOMPSON, CH.M. VICT., F.R.C.S. ENG.,

ASSISTANT SURGEON, VICTORIA HOSPITAL FOR CHILDREN, CHELSEA; DEMONSTRATOR OF ANATOMY, GUY'S HOSPITAL; HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

LECTURE II.[1]

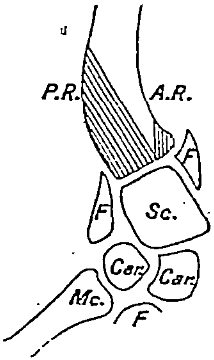
Delivered on March 11th, 1908.

MR. VICE-PRESIDENT, LADIES, AND GENTLEMEN,—It is evident that in fractures of the neck of the thigh bone a knowledge of the internal structure of the upper end of the femur is essential to a complete understanding of their anatomical cause and results. This is no less necessary with regard to other bones, and if some of the points which it is proposed to consider be, on the one hand, self-evident or, on the other hand, familiar, their mention will be at once excused, as he who sets out to discuss questions of this nature must of necessity discuss these points; in the first place, the way in which the main pressure is transmitted through the bones of the limbs must be stated clearly; in the second place, the influence of this pressure upon the internal structure of bone must be shown; and, in the third place, the influence of these lines of pressure upon the lines of fracture which occur in various sites must be demonstrated.

COLLES'S FRACTURE.

The bones of the forearm may first be considered with especial reference to the exact anatomy of Colles's fracture. When a coronal section of a radius which has been macerated is examined pressure lamellæ will be found to pass up the bone from the lower articular surface in two main bundles, the adjacent parts of which interlace with each other below. One series passes into the inner side of the bone and another series into the outer, of which series perhaps the latter are better developed. Both these series lie practically at right angles to the articular surface which is, of course, curved. When a sagittal section is examined two series of lamellæ may be observed, the first a small series passing from the anterior half of the articular facet of the lower end of the radius to the anterior surface of the bone; these are hardly longer in their greatest length than half an inch. The more important series pass from the posterior half of the carpal articular facet for a distance in their greatest length of nearly one and a half inches. These join the posterior surface of the

FIG. 11.



Parts concerned in Colles's fracture. P.R. and A.R., the posterior and anterior surface of the radius. SC., Scaphoid. Car., Carpus. MC., Metacarpus. F. F. F., Folds of fat.

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[1] Lecture I. was published in THE LANCET of April 18th, 1908, p. 1127.

Physical condition on admittance to hospital.—The patient was very pale [Extremely obtrusive anæmia.—F. J. S.] and wasted, was incoherent in his speech, and could only understand and answer the simplest questions. He also suffered from hallucinations, such as believing that his wife was waiting for him, &c. Every movement was tremulous, as was also his speech. The mouth and tongue were parched and coated with a dry brown fur. The breath was rather foul and the skin was dry. The lungs were clear. The apex beat of the heart was in the fifth space, four and a half inches from the mid-sternal line. At the apex a systolic murmur could be heard which did not obliterate the first sound. At the aortic and pulmonary areas the first and second sounds could be heard. The spleen could be just distinguished below the costal margin. There was no tenderness of the abdominal wall, which was somewhat flaccid and showed a few spots not disappearing on pressure. The temperature was 103° and the pulse was 112. The urine showed no albumin, but mucus and urates. The result of an enema contained no solid bodies and was of a general soft consistency hardly fluid; gamboge in colour; it failed to give the guaiacum reaction. Microscopically, pus corpuscles could be distinguished in a rather large amount of epithelial débris. On Dec. 4th some blood was drawn off from a vein. With a sample of this Widal's test was performed. The result was very doubtful. "A dilution of 1 in 100 showed some clumping but not complete in 30 minutes." With the remaining quantity a blood culture was made; the report on this was, "grew a pure growth of influenza bacilli." Ehrlich's test with the urine also gave a negative result. An estimation of the hæmoglobin gave an approximate result of 70 per cent. A few days later a blood count showed the red blood corpuscles to be 1,830,000 and the white corpuscles 6300 (approximately). The blood pressure was 115 millimetres of mercury (taken on Dec. 9th.) The patient showed no inclination for food of any description and had to be cajoled into taking any nourishment.

Progress of the case.—On Dec. 9th it was noted that the lower half of the right lung, both behind and in front, was somewhat dull. Breathing sounds were faint on both sides. By the 11th the spleen was certainly impalpable and on this date also the murmur seemed diminished. On the 13th "there is a loud mitral systolic consisting of (1) a whistling and (2) a rough part" (F. J. S.). This murmur seemed to gradually diminish until by the 20th it was appreciably reduced. The urine showed at first no trace of albumin. On the 6th, however, a trace appeared, and on the 20th there was in a test-tube about one tenth. The temperature was between 100° and 101° up to the 10th; subsequently it dropped to between 99° and 98° from the 14th to the 18th, and on the 20th it was 98·6°. The pulse was on admission 112; on the next day it was 125, and then between 110 and 120 gradually dropping to 104 on the 10th and touching 100 on the 17th and 20th. The further progress of the case offered no point of special interest, and the patient died quietly on Jan. 1st, 1908.

Post-mortem appearances.—Dr. H. M. Turnbull has made a very long report in the hospital records which, from a clinical point of view, offers very few points of material changes. The obvious naked-eye findings were: verrucose endocarditis of mitral valve, large septic infarct in the spleen, pericarditis and pleurisy with some serous effusion, peritonitis with slight sero-purulent effusion, large, pale, mottled kidneys, and the brain somewhat atrophied. Dr. Turnbull's full report is mainly concerned with showing that there was no local focus (such as middle ear, lungs, &c.) to account for what was obviously a case of blood infection with vegetative endocarditis. Sections of most of the organs were cut and stained and showed large numbers of the bacilli found by Mr. F. W. Twort, assistant bacteriologist to the London Hospital, still *in situ*.

Mr. Twort kindly supplies the following notes on the bacteriology of the case:—

Blood cultures were taken on Dec. 4th, 10 cubic centimetres of blood being withdrawn from the median basilic vein in a sterile syringe and distributed into ordinary, glycerine, and glucose broth, and into milk; placed at 37° C. all cultures grew in 48 hours minute bacilli which were easily decolourised by Gram's method and were non-motile. Subcultures on to agar grew in the presence of human blood but failed to grow on gelatin at 20° C. or on any of the ordinary media at 37° C. in the absence of blood. The cultures died out before the bacillus could be induced to grow on the ordinary blood-free media. The morphological characters of the bacillus were typical of influenza and its behaviour on artificial media leaves no doubt that the organism was the true influenza bacillus.

Cases of fatal endocarditis from influenza are still sufficiently rare to warrant the publication of any definitely proved case which this claims to be but I think that it has a further special interest of its own as suggesting the query in the title of this communication—what was the nature of this man's previous illnesses and what were the relations between them and his last fatal illness.

Bacteriology has quite recently introduced us to so-called typhoid carriers—i.e., persons who carry about with them (possibly or probably in their gall-bladders) typhoid bacilli potentially active in that they can infect other people or articles though they do not cause symptoms of typhoid fever in their hosts that harbour them; my suggestion is that it is possible that something of a similar nature may be true of influenza, and I would hint at the possibility of it also being true of all our so-called zymotic diseases.

Taking my case as it stands we may note that eight years ago was about the time when our major epidemic of influenza was dying out and probably the statement is correct that the patient then had the disease; about then, and even now, it is probable that a good deal is called influenza which is not so, but the history given fairly well corresponds to what we know of a severe attack. Three years ago influenza was not so fashionable as a diagnosis, and he is then said to have had typhoid fever, but I would draw attention to the very striking resemblance in the description of the two illnesses, the duration and the prolonged subsequent debility are identical, and surely there is something a little more than a possibility that it was another attack of active influenza. There may be a bacteriological difficulty in admitting that it was so, as I suppose he would have had to transfer his bacilli (for him inactive) to a second host or to multiple hosts and they, or one of them, would have had to re-infect him with a generation which had been strengthened by transmission through other hosts so as now to be active for mischief even with him. Of the rash about a year ago we have no further particulars, but we are well acquainted with a variety of rashes appearing with influenza so that the possibility of this being a third attack is not to be excluded.

Now of the last fatal illness of this patient we have a complete history, and such information as amounts to a mathematical demonstration that it was due to the influenza bacillus, notwithstanding the fact that it was called typhoid fever and did present what are commonly accepted as the principal features of that disease. It began with severe headache and bronchitis and diarrhœa, and with these were associated an enlarged spleen and a rash said to be that of typhoid fever. As no bacteriological test (Widal) was made at that time one cannot wonder at a diagnosis of typhoid fever being arrived at. I must claim the credit of having said when I first saw him in hospital, "This is not typhoid fever, whatever else may be causing the typhoid fever state of illness," a clinical impression that was soon confirmed by scientific tests negative of typhoid fever and positive of influenza.

I cannot help feeling that calmly to assume that the attack three years ago was also influenza is going a little farther than one is perhaps justified in doing, but considering the absence then of any scientific test and the very positive likeness of the last illness to typhoid fever, it seems to me that we are not doing any violence to evidence by such an assumption, and if the assumption happen to be correct the sequence of events in the last eight years seems to be very highly suggestive of the idea of influenza carriers on a par with the typhoid ones and resembling the known cases in which nurses and others in fever hospitals carry in their throats undoubted diphtheria bacilli without suffering from the active symptoms of the disease.

The weak link in the chain of evidence is, of course, the absence of any proof that my patient was a centre whence infection of influenza spread to his neighbours, a link which, considering the very wide distribution of influenza outbreaks, we can hardly expect to be able to supply, but I think the history is very suggestive; and, indeed, when one comes to think of it the idea of "carriers" has an inherent probability to which the present state of bacteriological research seems to lend a good deal of support. Whether the idea, if true, may have practical bearings in the direction of preventing outbreaks of our endemic fevers would seem to depend upon the chance of detecting such carriers and then the chance (probably a small one) of disinfecting them; these are points upon which it is at present impossible to offer any opinion but it is to be hoped that bacteriologists will not lose sight of the question.

Dr. W. Bulloch has kindly given me the following references to previously recorded cases of fatal influenzal endocarditis:—

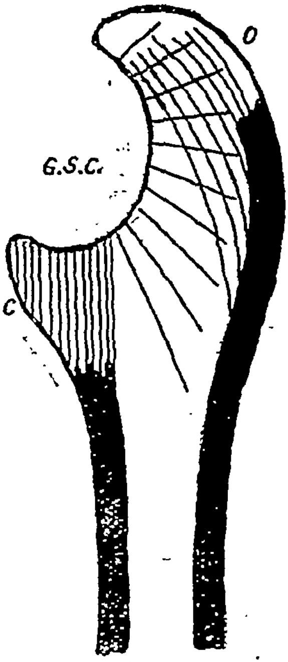
Schlagenhaufer: Ein Fall von Influenzaendocarditis der Aortenklappen und des offenen Ductus Botalli. Zeitschrift für Heilkunde, 1901, vol. xxii. T. J. Horder: Bacillus Influenzæ as a Cause of Endocarditis, Transactions of the Pathological Society of London, 1906, vol. lvii., p. 58. Presslich: Einiges über Endocarditis bei Influenza, Wiener Medicinische Presse, 1905, No. 2–3.

Harley-street, W.

ROYAL SANITARY INSTITUTE.—The ordinary general meeting of this institute was held at the Parkes Museum on April 15th, Mr. H. D. Searles Wood being in the chair. The annual report of the council for the year, showing the satisfactory general progress which the institute has made in carrying out the objects for which it was founded, was adopted, and Dr. Bushell Anningson of Cambridge; Dr. J. Spottiswoode Cameron, medical officer of health of Leeds; Mr. C. H. Cooper, borough surveyor of Wimbledon; and Mr. E. G. Mawbey, borough engineer of Leicester, were added to the council for the ensuing year. The meeting passed a vote of thanks to his Grace the Duke of Northumberland, K.G., for acting as President of the institute.

records at Guy's Hospital during the past five years it more frequently occurs than by other means—following upon a direct injury such as a fall or a blow upon the shoulder. Now, when a man falls upon his outstretched hand with the upper limb either in the abducted position or the adducted position the fracture is said to be due to indirect violence. If, however, the man falls upon his shoulder the fracture is said to be the result of direct violence. The fracture more often occurs in people of middle age or in older people. Fracture of the surgical neck of the humerus may occur in young children, as in a girl under the care of Mr. C. H. Golding-Bird who kindly allowed me to take charge of the case. Those fractures of the *surgical neck* of the humerus occurring in young people must be carefully distinguished from separation of the upper epiphysis of the humerus, as the prognosis is materially affected by this diagnosis. Fracture of the *surgical neck* of the humerus in young people if properly treated need not lead to shortening of the limb. Separated epiphysis, however well treated, may do so. The line of the upper epiphysis of the humerus is about half an inch above the surgical neck of the humerus.

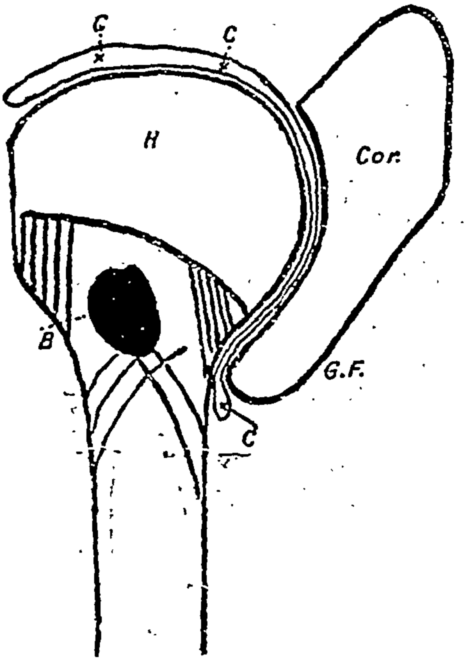
FIG. 15.



Upper end of ulna. O., Olecranon process. C., Coronoid process. G. S. C., Great sigmoid cavity. Scale life size.

I shall now refer to a coronal section of the upper end of the humerus and indicate the changes which take place in it with advancing age. From the upper part of the inner surface of the shaft of the humerus vertical lamellæ may be observed passing up into the head and reaching the articular surface. These lamellæ are supplemented by other lamellæ which, starting in the same region, pass into the head further out than these lamellæ and also into the great tuberosity. A well-marked series of lamellæ pass into the head from the outer surface of the shaft as well as into the tuberosity. These last series may be considered to be tension lamellæ, the first *series as* pressure lamellæ, and they are exactly analogous to those seen in a coronal *section* of the upper end of the femur. Fat is also deposited where the lines of tension and *pressure* are *less* useful, as in the femur, and a definite fatty patch is formed in some *cases as much* as one inch long by half an inch broad, the centre of which is just opposite the *surgical* neck of *the* humerus. This fatty patch is one cause, so far as the internal structure of the bone is concerned, of fractures in this region. I must now direct your attention to this specimen of a formalin-hardened shoulder-joint, in which the arm was nearly brought down to the side but not completely or over-adducted. (Fig. 16) The shoulder-joint will be found to be prolonged upon the surface of the upper end of the humerus so that there is a pouch of synovial membrane bounded by the capsule of the joint. This pouch is triangular with its apex downwards and is about three-quarters of an inch deep. Save at its upper part it is not, so far as my dissections give *information*, attached directly to the neck of the humerus, but can be easily stripped off it except at its upper part. Now although this pouch of the shoulder-joint may be developed in connexion with the very loose capsule of the joint and *is really merely* a fold of this capsule and synovial membrane, it has a very definite and useful function. When the arm is fully adducted to the side the inferior lip of the *glenoid* fossa comes into forcible contact with the surgical neck of the humerus.

FIG. 16.



Upper end of (H.) humerus and scapula. Cor., Coracoid process, showing parts concerned in fracture of the surgical neck of the humerus. C. C. C., Cavity of shoulder-joint. B., Fatty patch in bone. G.F., Inferior lip of the glenoid fossa. Scale life size.

In the normal scapula placed in the correct position the inferior lip of the *glenoid fossa* is much more prominent than the upper lip owing to the oblique position of the glenoid fossa. In the adducted position of the upper limb, then, the inferior lip of the glenoid fossa is in contact with the surgical neck of the humerus. Now in this adducted position flexion and extension of the shoulder-joint are possible as well as internal or external rotation. The surgical neck of the humerus is thus moving in *various directions* upon the inferior lip of the glenoid fossa, hence the prolongation downwards of the synovial membrane and capsule of the shoulder-joint. Now if a scapula be examined *the* glenoid fossa will be found to be supported by well-marked pressure lamellæ passing *from* the articular surface of the fossa in two main directions, upwards and *inwards* into the coracoid process, downwards and inwards into the axillary border of the *scapula* and to its inferior angle. If the thin parts of the scapula be removed it will be apparent that there are three bars supporting the glenoid fossa or head of the scapula. *First*, the axillary bar—i.e., the strong axillary border; secondly, the *coracoid process* or coracoid bar, which passes upwards and inwards from the glenoid fossa and may be considered to terminate in the thick and massive proximal part of the *coracoid* process; and thirdly, the spinous bar, which passes almost directly inwards from the glenoid fossa and forms the base of the spine of the scapula. This is *much* less strong than the axillary or coracoid bars. Now the lamellæ which pass from the lower *half* of the glenoid fossa and which are displayed in this representation of a *coronal* section of the scapula are very prominent and strong and give considerable support to the inferior lip of the glenoid fossa which comes, as we have seen, into contact with the surgical neck of the humerus. When, therefore, a man falls either directly on to his shoulder or with his *deviation* for this series is 6·6 per cent., as opposed to 7 per cent. for the whole mass of our statistics. Further, it has occurred again and again that a result has been doubted by the observer on the score of bias, and has only been re-affirmed by a renewed count where this supposed source of error has been excluded.

3. *The variations of tuberculous sera are large.*—We have given our reasons for believing that normal serum varies much less than Dr. Kjer-Petersen's figures might indicate. We now proceed to the consideration of the sera of tuberculous patients. We have been able to collect 931 observations on 319 patients who had not been inoculated. The *standard deviation* from the normal mean is 0·252, a value greatly exceeding that found for normal sera (0·07). The observations are distributed as follows, and agree very nearly with the "normal curve of error."

TABLE II.

Within	0·126	of the normal mean	374	=	402	per mille.
"	0·252	" "	670	=	720	"
"	0·504	" "	885	=	951	"
"	0·756	" "	922	=	990	"
"	1·000	" "	931	=	1000	"

The opsonic indices of tuberculous patients vary, therefore, three or four times as widely as the indices of normal sera. Thus much we can conclude at present; but with increased accuracy of technique it may in the future be shown that the variations of normal sera are much less than we have here assumed, while the correction introduced by such improvements would have little effect on the larger value we have found for the variations of tuberculous sera.

Let us see to what corrections this figure is liable. In a minority of these determinations only 50 cells were counted, but this can only have altered the results very little. The mean counting error cannot be greater than the *standard deviation* of our observations of normal sera. This was 0·07, 100 cells being counted. For counts of 50 cells the mean error will consequently not exceed 0·10. Applying this maximum correction to the whole number of observations, and also allowing for the mean error of the estimation of unity, the *mean variation* of pathological sera is only reduced from 0·252 to 0·226. Such an alteration is trivial and without effect on the validity of our argument.

4. *Some general considerations.*—If statistical methods are to be applied we have shown that numbers are not wanting to support the truth of our conclusions. Further, Dr. Kjer-Petersen's experimental methods are open, even at this distance, to serious criticism. First, we suspect that a certain number of infected individuals may have been included among his 48 normals. In this laboratory, among those who have from time to time offered their blood as a standard in opsonic estimations, tubercle has been diagnosed seven times. The diagnosis rested in the first instance on variations of the tuberculo-opsonic index. In four of these cases clinically recognisable tuberculosis subsequently declared itself.

Dr. Kjer-Petersen also delegates the counting of his slides to a second observer, and in so doing throws away a valuable check on the previous stages of the technique; a high level of perfection in making and staining films is only to be maintained by that constant self-criticism which is incidental to the actual counting of films one has oneself prepared.

CHRONIC POLYCYTHÆMIA.

BY EDMUND CAUTLEY, M.D. CANTAB., F.R.C.P. LOND.,
PHYSICIAN TO THE METROPOLITAN HOSPITAL AND THE BELGRAVE HOSPITAL FOR CHILDREN.

THE following case of polycythæmia is worthy of record although the details do not add anything definite to our knowledge of the condition. The patient was under observation for a long time and a post-mortem examination was obtained. Vaquez first described a case in 1892 and ascribed it to congenital heart disease, until a necropsy in 1895 enabled him to exclude such a cause. Dr. J. W. Russell[1] claims that he described the first case[2] in England under the title of "An Unexplained Condition of Chronic Cyanosis." The patient was under the care of Dr. Robert Saundby, who gives a further description of in a paper on the subject.[3] Dr. Saundby gives a full bibliography of recorded cases and mentions that Dr. F. Parkes Weber first named the affection "chronic splenomegalic polycythæmia." Since then a case in a man, aged 67 years, has been recorded by Pethybridge,[4] and in a woman, aged 68 years, by McQuitty.[5]

The patient, a man, aged 47 years, was admitted into the Metropolitan Hospital under my care on Sept. 30th and was discharged on Oct. 25th, 1905. According to his past history he had an attack of hæmoptysis in 1887, influenza in 1893, and pneumonia in 1901. He was an abstainer and denied lues venerea. For two months he had suffered from pain in the left side, difficulty in breathing, and constipation. He had had no cough. On examination he was found to be a healthy-looking man, with fresh complexion. His teeth were few and bad. The respirations were 34 and the pulse was 88 per minute. He had a subnormal temperature. The reflexes were normal. The heart dulness was diminished, the apex beat was normally placed, and the impulse was feeble. The liver dulness began at the lower border of the sixth rib. The left side of the chest was dull, below the level of the seventh rib in the nipple line and the eighth rib in the mid-axillary line, and the air entry was diminished. A tender lump was felt in the splenic region. It was shaped like the spleen and extended to within an inch of the middle line of the abdomen. It was continuous in dulness with the normal splenic dulness but was resonant over the lower part. There was much tenderness on palpation and the muscles were rather rigid. A diagnosis of perisplenitis and pleurisy with slight effusion was made. A blood examination made on Oct. 19th showed: red cells, 7,500,000; and white cells, 50,000. A week later the red cells were about the same in number and the white ones were 45,000. A differential count showed that the white cells were nearly all polymorphonuclears. The course of the illness was as follows. The spleen became much smaller and the tenderness disappeared. The pleural effusion cleared up slowly. The temperature was usually from a half to one degree below normal, the pulse-rate was from 72 to 88, the respirations were 24, and the urine was normal. The loss of weight was half a pound. On Nov. 15th the spleen was still palpable and the white cells numbered 39,000. He had been at work for about three weeks and came to the hospital on account of pain in the right side and slight hæmoptysis.

In 1906 the man was again an in-patient from April 8th to July 14th, being admitted for pains on and off in the legs, thighs, and shoulders. The floridness of the face was more noticeable and on questioning he stated that he had had it for about two years. The colour varied from deep redness to a cyanotic tint. The ocular conjunctiva was injected and the palpebral intensely red. The tongue was clean, dry, and very red, and he complained of thirst. The cardiac dulness was diminished, the apex beat was not felt, and the sounds were clear. The spleen could be felt just beneath the costal margin and was slightly tender. Posteriorly its area of dulness was increased. The liver was rather enlarged and tender. The pulse-rate was 80, the arteries were thickened, and the arterial tension was high. The blood showed red cells, 9,800,000; hæmoglobin, 110 per cent.; white cells, 82,000, chiefly polymorphs. The fingers were a little clubbed. His symptoms were limited to weakness, variable pains and shortness of breath, and coldness of the hands and feet. On April 19th there was no pain in the limbs. Some hepatic pain and tenderness were present. On the 23rd the blood showed: red cells, 10,000,000; hæmoglobin, 130; and white cells, 59,000; the specific gravity was from 1068 to 1070. The blood pressure was from 180 to 200 millimetres of mercury. The capillary reflex was 10. On May 6th clubbing of the fingers was more marked. The patient had complained of tenderness over the liver and spleen, occipital and frontal headache, and tender gums with slight oozing of blood. He was more cyanosed. The blood pressure was 160 millimetres of mercury. There was much albumin in the urine. On the next day he had pain in the right vastus internus. The knee-jerks were unobtainable and the plantar reflex was flexor in character. On May 10th the tongue was moist and had a whitish fur on it. The spleen was not palpable. The urine was acid, of specific gravity 1015, and contained much albumin. On the 17th the amount of albumin was reduced to a cloud and the specific gravity was 1013. The blood showed: red cells, 8,600,000; hæmoglobin, 150; and some normoblasts. On the 24th an attack of orchitis on the left side began and took nearly right angles. These individual lamellæ are arched so as form, as Professor Arthur Thomson points out, a series of othic arches. Internal to this portion of the bone the ompact tissue on the surface of the bone becomes much icker and the cancellous tissue is arranged in a series of ick and massive lamellæ running nearly parallel with the ain direction of the bone from without inwards and from e upper to the lower surface. The compact tissue of the wer surface is very much thicker than the upper. Very nall pressure lamellæ are developed in the ends of the bones rming the acromio-clavicular joint in contradistinction to e well-marked pressure lamellæ in the inner end of the ne. The arrangement, therefore, of the compact and ncellous tissue changes very materially in the region of the apezoid ligament. We may therefore fairly conclude that is only that part of the clavicle which lies internal to the apezoid ridge which transmits pressure to the trunk from e upper limb. This, then, is the reason of fractures being ore common, especially by indirect violence, in the middle ird of the clavicle than in the outer third. The outer art of the clavicle transmits but little pressure from the pper limb to the trunk.

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[1] THE LANCET, Dec. 8th, 1906, p. 1623.

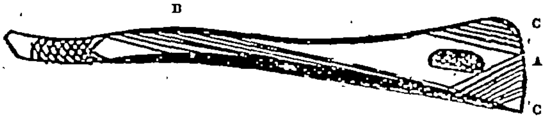
[2] THE LANCET, Feb. 22nd, 1902, p. 515.

[3] Brit. Med. Jour., 1907, vol. i., 1165.

[4] Brit. Med. Jour., 1907, vol. ii., p. 20.

[5] Brit. Med. Jour., 1907, vol. ii., p. 84.

FIG. 17.



Longitudinal section of right clavicle showing its internal structure. A, Fatty patch. B, Main pressure lamellæ. C, C, Pressure lamellæ of sternal end. Scale, half life size.

The outer part of the clavicle is said to be more frequently roken by direct violence, but it is a relatively rare form of acture, and if we refer to the acromio-clavicular articula-on we shall, I think, understand the reason of this. etween the clavicle and the acromion process there is a iangular fibro-cartilage which diminishes the effect of a low struck upon the acromion process externally, but we ay well inquire here why is this fibro-cartilage triangular. lthough the articular surface of the clavicle which forms art of the acromio-clavicular joint is set obliquely to the haft, in other words, is bevelled at the expense of the under urface of the clavicle, we rarely find a corresponding obliquity, or rather bevelling, on the acromial articular surface. The upper surface of the acromion looks also outwards—the lower surface also inwards—so that the acromion is set at an angle with the clavicle open downwards. The clavicular surface of the acromion is not vertical but it is not obliquely set upon the acromion process but at right angles. The upper and lower edges are, in other words, square with the upper and lower surface of the acromion. The obliquity of the clavicular surface is less inclined from the vertical than is the articular surface on the acromion, and so an angle is left which is filled up by the triangular fibro-cartilage.

Another clavicle which I have sawn across shows a most interesting condition of affairs. Here I know that the coracoid process was in contact with the clavicle just in front of the conoid tubercle, a well-marked bursa intervening. There is a corresponding depression on the under surface of the clavicle just in front of the conoid tubercle, and when a section is made of the clavicle there is a solid bar of bone passing over the greater part of the thickness of the clavicle in this region—i.e., where the coracoid process impinged against it the lamellæ have disappeared as separate entities and the cancellous tissue is replaced by compact tissue. This clavicle, which was certainly actually resting upon the coracoid process, belonged to a man whom I found afterwards was a cab-driver. He therefore belonged to a class of men who are not accustomed to bearing heavy weights upon their shoulders; in fact, so far as my experience goes, they, as a rule, resent being asked to bear heavy weights on any part of their anatomy. It has been clearly demonstrated that pressure passing through the upper limb is transmitted to the trunk through the inner two-thirds or a little more of the clavicle. This has an important bearing upon fractured clavicle as regards the anatomical cause for it. All authorities are agreed that the most common position of a fracture of clavicle is in the middle third. Sir Frederick Treves and Dr. A. Keith say that fracture occurs most frequently at the outer part of the middle third of the clavicle. The relation which I have pointed out as existing between the clavicle, coracoid process, and trapezoid ligament explains the occurrence of the fracture in this region. The tension of the trapezoid ligament, the tendency of the coracoid to impinge against the clavicle, the intimate relation and strong attachment of the coraco-clavicular ligaments as a whole produce a bending of the clavicle in this position, and if the force be continued a fracture. I have here a specimen which I fractured experimentally and the fracture is in this position. The position of the fragments in cases of green-stick fracture would be interesting in this connexion. Fracture of the clavicle between the conoid and trapezoid ligaments is said to occur usually as a result of direct violence. Mr. Arbuthnot Lane, however, is of opinion that such fractures are frequently due to indirect violence—that is, by a blow upon the outstretched hand. Now with regard to the first statement, pathological specimens of fracture between the conoid and trapezoid ligaments are relatively rare, and this is not to be wondered at, for although the conoid and trapezoid ligaments may be separated from each other by a careful dissection—they are practically continuous, and it would require rather a precise and delicately balanced form of external direct violence to produce a fracture in this region.

With regard to the second statement I have, I hope, shown that when the blow is received upon the outstretched hand the coracoid process may impinge forcibly against the clavicle. If this be so, and we can scarcely doubt it, we have in these cases of fracture of the clavicle between the conoid and trapezoid ligaments the impinging force applied in this region. Here again, therefore, like the fracture of the surgical neck of the humerus, we have as it were direct violence applied from within. It is asserted that fractures in this region are never accompanied by displacement, that no displacement is possible. I have here a specimen of fractured clavicle in this region showing that considerable deformity may occur. There is not only displacement but impaction.

FIG. 18.

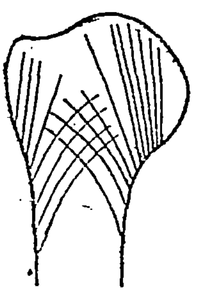


FIG. 19.

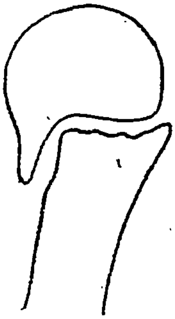


FIG. 20.

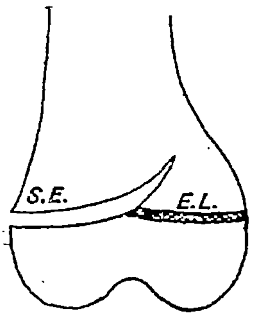


FIG. 21.

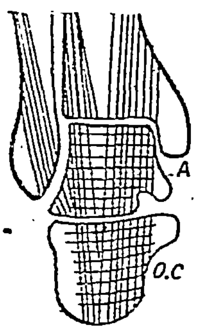
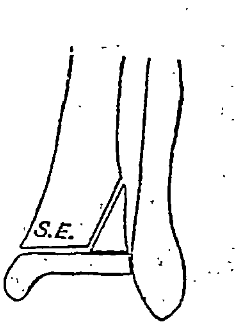


FIG. 22.



FIGS. 18 AND 19.—Showing structure of upper end of humerus and separated epiphysis of upper end of humerus. Scale, about one half life size.

FIG. 20.—Showing separation of lower end of femur. S.E., Separation of epiphysis involving diaphysis. E.L., Epiphysial line. Scale, about one-half life size.

FIGS. 21 AND 22.—Showing structure of bones forming ankle-joint and separated epiphysis of lower end of tibia. A., Astragalus. O.C., Os calcis. S.E., Line of separation of epiphysis deflected upwards and outwards along pressure lamellæ. Scale, about one-half life size.

under the iliac fascia another opening was made through which further drainage was established. After this the temperature never rose above 99°, the wounds healed, and recovery was uneventful, except that for six weeks after operation the bowels were obstinately constipated, acting only after simple enema. However, during her last three weeks in hospital they acted regularly under the influence of a laxative iron mixture and the patient was discharged on Nov. 18th feeling quite well.

I think the case is rather interesting, first on account of the long history with these recurring attacks of appendicular colic; then the passage of a 1½-inch pin from the mouth to the appendix without giving rise to more serious symptoms than were present here, though undoubtedly possible, must surely be an uncommon occurrence. Again, at the junction of the appendix with the cæcum is a valve, and a much debated point is how far fæcal matter can penetrate into the appendix and how far it does so under normal conditions. This pin is an instance of a foreign body (most probably with some fæcal material) entering from the intestine which, according to our best authorities, is comparatively rare.

For permission to publish the above note I must thank Mr. A. B. Davies, under whose care the case was at Stroud Hospital.

NOTE OF A CASE IN WHICH A GALL-STONE FORMED ROUND A CATGUT SUTURE.

BY HAMILTON DRUMMOND, M.B., B.S. DURH.,
LATE HOUSE SURGEON TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

THE patient the subject of this note was first admitted to the Newcastle Infirmary in December, 1901. She was a stout woman, aged 48 years, with a history of severe attacks of pain in the right hypochondriac region of 29 years' duration. A diagnosis of gall-stones was made and on Dec. 7th, 1901, she was operated upon by Mr. Martin.

The gall-bladder was found to be enlarged and adherent about the neck. It was opened and found to contain bile and six stones (three-eighths of an inch by three-eighths of an inch) with facets were removed from the cystic duct. The common duct was then explored after separating adhesions and several stones were removed by incision. No other stones were discovered. The common duct was drained with rubber tube and no sutures were inserted. The gall-bladder was closed with through-and-through ordinary catgut and a layer of silk Lembert sutures. The hepatic pouch was drained from the posterior end of the incision and the rest of the incision closed with layers of catgut. The patient made a good recovery and was discharged with the incision perfectly healed on Jan. 7th, 1902.

On Sept. 25th, 1907, she was readmitted with a history of good health up to four days before admission when she complained of slight pain over the old scar on going to bed. The pain persisted next day but was not severe and allowed her to perform her household duties as usual. On the following day it suddenly became very acute and she felt sick but did not vomit. In this condition she was admitted into the Royal Victoria Infirmary some seven hours after the onset of the acute attack. On examination a distinct tender swelling was found in the region of the gall-bladder. A diagnosis of acute distension of the gall-bladder from impaction of calculus was made and an operation was decided upon. Mr. J. Clay made a longitudinal incision through the right rectus muscle over the swelling and the distended gall-bladder imbedded in dense adhesions was exposed. The adhesions were separated and the gall-bladder aspirated and several ounces of clear mucus were evacuated. After incision a large rounded stone was found wedged in the neck of the gall-bladder, which was very much hypertrophied, though the cystic duct opening was patent. The patient did well and went home quite healed on Oct. 11th, 1907. There was nothing unusual about the appearance of the stone, which was round and measured one and a quarter inches by three-quarters of an inch and weighed 80 grains. On attempting to section it the stone broke in layers, showing different strata, and in the centre, forming a nucleus, was a bit of catgut tied in double knot and loop, which was well preserved. The calculus was composed of cholesterin and bilirubin calcium.

There are other cases on record in which gall-stones have formed round sutures: for example, Mr. Sinclair White[1] exhibited a specimen at the Exeter meeting of the British Medical Association in which a gall-stone had formed round a catgut suture 18 months after operation. Dr. J. Homans[2] reports a similar case where three gall-stones had collected round a piece of silk 20 months after cholecystotomy; and Mr. J. Bland-Sutton[3] in his book on gall-stones quotes an interesting experiment on a dog, where, after five months, two calculi formed round a thread which was suspended and allowed to float freely in the gall-bladder.

I have to acknowledge my indebtedness to Mr. Martin and Mr. Clay for permission to publish the above note.

Newcastle-on-Tyne.

NOTE ON A CASE OF DISSECTING ANEURYSM OF THE THORACIC AORTA ULCERATING INTO THE PERICARDIUM.

BY THOMAS OLIVER, M.D. GLASG., F.R.C.P. LOND.,
PHYSICIAN TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

THE patient, a man, aged 52 years, was admitted into the Royal Victoria Infirmary, Newcastle-on-Tyne, under my care on Dec. 24th, 1907, suffering from pain in the left side of the chest and the left leg. When at work that morning he had been suddenly seized with pain in the left chest which was so severe as to cause him to fall. He also vomited. Shortly after his admission into the infirmary he again vomited. The pain in the chest persisted from the time of his arrival at 8 A.M. until midday. On physical examination nothing was detected in the lungs. No murmurs were heard over the cardiac area. There was just the slightest displacement outwards of the apex beat. Towards the afternoon the patient seemed to rally considerably and to lose much of his pain. He was able to see his wife and to converse with her. At 5 P.M. he became suddenly ill; his breathing became laboured and difficult, and laying back his head on the pillow he suddenly expired.

At the necropsy, which was made by Dr. W. E. Hume, it was noticed on removal of the sternum that the pericardial sac bulged, and on opening it that it contained, in addition to blood-stained serum, 10½ ounces of blood-clot. The surface of the right auricle of the heart was granular and chocolate-looking. The heart itself was found to be healthy; there was neither hypertrophy nor dilatation of its cavities. A longitudinal tear about three-quarters of an inch in length was found in the aorta, commencing about a quarter of an inch above the aortic cusps, and involving the inner and middle coats of the vessel. These two coats of the aorta were separated from the external sheath throughout the whole of the ascending, transverse and descending portions of the arch, as well as at the openings of the innominate, the left carotid, and the left subclavian arteries. The space thus formed was filled with blood-clot. At the junction of the adventitia and the pericardial sac the surface was blood-stained. Here a leakage had occurred through a small ulcer in the external coat of the aorta. The interior of the aorta was atheromatous in places. The lungs, the liver, and the spleen were normal. One kidney showed a scar the seat of an old gumma with surrounding fibrosis. Below the diaphragm there was no separation of the coats of the aorta.

Newcastle-on-Tyne.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Fatal Lymphocythæmia in Early Life.—Multiple Rheumatic Nodules in an Adult.—Right Hemiplegia with Optic Atrophy.—Exhibition of Cases.

A MEETING of this section was held on April 10th, Sir THOMAS BARLOW, the President, being in the chair.

Dr. J. GRAHAM FORBES and Dr. F. S. LANGMEAD communicated a paper on Fatal Lymphocythæmia in Early Life based on 12 cases. Dr. Forbes said that the ages of the patients ranged from seven months to 11 years, ten being under four years. The disease as exemplified by these cases was of indefinite onset, with a history of increasing rom this time up to October, 1905, he had at least ven attacks, but only two of them were severe, the mainder only lasting about a week. He remained well ntil August, 1907, when the worst attack I have attended im in commenced and lasted till the middle of October. p to this attack I had always been able to keep the pupil ilated and recovery took place without damage to sight, ut this time the inflammation was most violent, blood-essels gave way, and he had hæmorrhage in the anterior hamber; all the mydriatics I used caused irritation; here were much pain and frequent rise of tension. I as unable to keep the pupil dilated, extensive synechiæ ormed, and the pupil became occluded; vision was reduced reading J. 12 c. + $\frac{1\cdot25 \text{ cyl.}}{4 \text{ sph.}}$; by the beginning of ecember it had improved to J. 4 and $\frac{6}{12}$ with correction. n the 20th of that month I performed iridectomy and he as since made good progress and his sight is improving. t is worthy of note in this case that up to the time I first aw him the right eye was the one almost always attacked nd that after the iridectomy it was slightly inflamed on two ccasions only; all the severe attacks for which I treated he patient being in the left eye alone, which had been but rely attacked before. It would seem almost as if it would ave been well to have let the damaged eye alone and allow to suffer instead of its sound fellow.

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[1] THE LANCET, August 17th, 1907, p. 443.

[2] Annals of Surgery, 1897.

[3] Bland-Sutton on Gall-stones and Diseases of the Bile-ducts.

CASE 3.—The patient, a man, aged 37 years, was first een in April, 1906. He had severe iritis in the right eye; his was the first attack. He had had gonorrhœa shortly efore and besides the iritis, complained of pain in the oints. The iritis lasted about a month and I did not see im again till Dec. 6th of the same year when he had quite ecovered. On Dec. 20th he started a fresh attack which asted some weeks. I did not see him again till February, 1907, when he had quite recovered from the iritis, but had gleet and complained of pain in his joints. He has got over his two attacks without the formation of synechiæ, but I suspect that this is only the beginning of his troubles. I have strongly advised iridectomy, but up to date (January, 1908) he has not consented to have the operation done.

Treatment.—The treatment of this form of iritis is most unsatisfactory. Mydriatics irritate and rise of tension is of very frequent occurrence, consequently they must be used with caution. I have used atropine, *daturine*, *homatropine*, hyoscyamine, and scopolamine in solutions of varying strength and in ointment, but have had difficulties with all of them. If the pupil can be got to dilate fully at the beginning of an attack before much congestion has taken place it is a point gained, but even then there is a great tendency to contraction as the case progresses, and we may experience great difficulty in keeping it dilated, which may be still further increased by a rise of tension.

Heat applied in the form of bathing with simple hot water, solutions of boric acid or other antiseptics, decoction of poppy heads or belladonna lotion, used as hot as can be borne and constantly applied for from 10 to 20 minutes several times in the 24 hours, or by Leiter's coil, electric coil, or heated pads of cotton wool, and covering the eye with hot compresses are all useful, especially in cases where pain is a marked symptom or where there is increase of tension. Blisters I do not care about. Leeches I believe in; three or four applied to the temple often cause a marked decrease in congestion and may act almost like magic in relieving pain.

Before going further let me sound a note of warning against the use of cocaine and allied substances and also of adrenalin. They are constantly ordered to be used frequently and the treatment is flattering both to surgeon and patient, for they reduce vascularity and relieve pain, but their after-effects are positively harmful, for they cause paralysis of blood-vessels and thus add fuel to the fire which they are intended to extinguish. I have no hesitation in saying that none of these should ever be used except for purposes of local anæsthesia and prevention of bleeding during an operation or for the examination of painful or sensitive parts.

The constitutional treatment I have employed has been free purgation and washing out the system by copious draughts of hot water; mercury, iodides, salicylates, and quinine; opium, bromides, aspirin, and hyoscyamus, internally, or hypodermic injections of morphine to relieve pain; visits to Aix-les-Bains, Homburg, Harrogate, Buxton, Bath, and other spas between the attacks; limiting as far as possible the consumption of alcoholic drinks and avoidance of all foods which the patient knows upset his digestion. I cannot say that I am satisfied with the results of the treatment I have adopted.

Salicylates generally I do not think do any good but aspirin relieves pain. Iodides in my experience depress the patient and do no good. Mercury administered by the mouth or by inunctions I believe in, especially in cases where there is exudation, and I am very strongly of opinion that a visit to one of the spas has warded off an attack. Of serum treatment I have no experience but can believe that it might do good. I am not certain about iridectomy but should recommend it in all cases where recurrences are frequent; in cases of excluded or occluded pupil and *bombé* iris its performance is imperative.

Remarks.—Syphilis is responsible for a large number of the ills to which flesh is heir, but I am not certain that gonorrhœa does not run it pretty closely; at any rate, a large amount of misery and suffering may be caused by it beyond the subject of this paper. We have only to look at the multitude of persons blind or partially so from ophthalmia neonatorum and gonorrhœal ophthalmia later in life. Then there are the pain and inconvenience of its initial stage, and if it ended there no particular harm would be done, but it does not. Urethral stricture with all its attendant complications would scarcely exist if it were not for gonorrhœa. Men crippled and incapacitated by gonorrhœal rheumatism, women with health ruined from tubal and uterine affections or dying from septic peritonitis, are a few of the evils which result.

The question which must present itself to all well-balanced thoughtful minds is, Why should these things be? Gonorrhœa and syphilis are preventable diseases and can be stamped out. Why is this not done? Is it from motives of morality—in this case synonymous with hypocrisy—cant, false modesty, fear of interference with the liberty of the subject, or what? Whatever may be the cause the fact remains that men and women are allowed to go about at will suffering from highly contagious and easily communicable diseases without let or hindrance and this in an age of preventive medicine. Venereal disease should be prevented and I would suggest that, as a beginning to the attainment of this much-to-be-desired object, gonorrhœa and syphilis, whether occurring in men or women, should be placed on the schedule of notifiable diseases.

Brook-street, W.

THE INFLUENZA BACILLUS AS A CAUSE OF FATAL ENDOCARDITIS AFTER EIGHT YEARS?

(AN INFLUENZA-CARRIER?)

BY FREDK. J. SMITH, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL.

To Mr. Candy, the ward clerk to the case, I am indebted for the following details of the patient and his last illness.

A man, aged 45 years, married, was admitted to the London Hospital on Dec. 2nd, 1907, in a condition supposed to be a relapse from typhoid fever.

Family history.—The patient has been married 18 years and has had four children. Three have died from diphtheria, bronchitis, and whooping-cough with congestion of the lungs, respectively. One child alive is only eight months old and healthy. The last of the three to die died eight years ago, and the patient has worried over this ever since. The patient's father, aged 74 years, is still living and healthy though he suffers from melancholia, but his mother died 36 years ago from typhus fever.

Previous history.—The patient is a spring-maker in the Great Eastern Railway works. The work is rather hard; he is in the habit of getting up at 5.30 A.M. and knocking off at 5.30 P.M. He drinks about two glasses of ale a day but takes tea only in small quantities. Eight years ago he had influenza followed by nervous debility; for this he was attended by the medical officer of his club and had a nurse at home; the illness lasted six months. Three years ago he had an attack of enteric fever which lasted six months; for this he was also treated at home. One year ago a rash appeared and the patient was in bed for 14 days.

History of present illness.—The attack began two months before admission (approximately Oct. 6th), the symptoms being severe headache, bronchitis, light loose stools, enlarged spleen, typhoid spots, and a temperature ranging from 101° to 99° F. For about two months before this the patient had lost his appetite and had complained of a tired feeling, with pains in the joints, especially in the ankles. These disturbances were accompanied towards the end of this period with fits of shivering, thirst, and inability to speak, this inability to speak lasting perhaps 30 minutes. After being in bed for three weeks (approximately Oct. 27th) the temperature fell to normal and ten days later (Nov. 6th) the patient got up. The temperature rose at once. Ten days later (Nov. 16th) a cardiac murmur was first heard; the typhoid spots were well marked; there was some delirium and slight sweating.

Dr. **NORMAN MOORE** showed a case of Myxœdema with Optic Atrophy. The patient was a man, aged 44 years, who was admitted to St. Bartholomew's Hospital on Feb. 7th last suffering from blindness and lethargy. He was first conscious of defective sight in his left eye in September, 1906, and in his right eye in June, 1907. He was a waiter and realised his defect of sight one day when he swept all the glasses off a table with the crumbs. His sight was a little better in the summer. On admission he was very drowsy and usually did not answer questions until after a long interval but now and then became so talkative that it was difficult to stop his flow of conversation. His eyes were kept half open or shut. The thyroid gland could just be felt. His complexion was pale. The skin was dry and thick all over, looking œdematous but without pitting on pressure. The mucous membrane of the mouth was thickened. The fingers were thick and there was tremor of the hands. The temperature was subnormal or normal. The knee-jerks were exaggerated and ankle clonus was present. Both optic discs showed atrophy, the left much more than the right. The visual field was not markedly contracted, but slightly so on the nasal side. He could perceive light with his left eye and could count objects with his right. After continued administration of thyroid extract his lethargy and abnormal mental state have disappeared, and he can walk well and has no tremor of his hands. He speaks of his left eye as blind, but can use the right better. The discs show no change.

Dr. **PARKES WEBER** showed a case of Œdema of the Hands and Feet with mediastinal affection. He said that the patient, an unmarried woman, aged 21 years, was admitted into the German Hospital on March 23rd last with great œdematous swelling and cyanosis of the hands and feet. The œdema was symmetrical; in the lower extremities it extended upwards as far as the knees and in the upper extremities to about the middle of the forearms, but the upper limit was not sharply defined in either extremities. The swelling had commenced to appear gradually in the feet about five or six weeks, and in the hands about three weeks, before admission. There was no œdema of the face or loins or elsewhere in the body. The patient said that she had previously enjoyed good health and was not aware of having anything else the matter with her. Examination of the thorax, however, showed dulness with diminished breath sounds and voice sounds over the lower part of the left anterior and axillary regions, up to the second rib in front, and up to the sixth rib in the middle axillary line. The upper part of the dull area was separated by about half an inch from the left border of the sternum. There was some impairment of resonance over the left infrascapular region. Vocal vibrations could be felt over the right front but not over the left front. There were no pulmonary adventitious sounds anywhere. The upper part of the left lung and the whole of the right lung appeared normal. The apex beat of the heart was in the normal situation but the cardiac dulness extended rather too far to the right; there was no evidence of valvular disease. Roentgen ray examination showed an extensive shadow on the left side of the thorax which corresponded to the abnormal area of dulness and was separated by a fairly sharply defined, dome-shaped border from an upper normally clear area. The heart shadow, which was not separated from the abnormal shadow, extended rather too far to the right of the sternum. There was slight anæmia. The superficial lymphatic glands were not enlarged. The thyroid gland was apparently of natural size. There was no paralysis of either vocal cord. The pupils were equal and reacted naturally to light and accommodation. The knee-jerks were very active, of the "trepidation" or "vibratory" type. There was no ankle-clonus and the plantar reflexes were not obtained. The radial pulse, usually about 100 to the minute, was regular and equal on the two sides and of low pressure. The temperature varied between 99° and 101° F. There was no cough or expectoration or history of hæmoptysis. The respirations were 30 to the minute. There had been no pain anywhere except a little when the feet were greatly swollen and the skin was very much stretched. The swelling, and especially the cyanosis, of the extremities had greatly diminished on rest in bed.

Dr. **PARKES WEBER** also showed a case of Hæmangiectatic Hypertrophy of the Foot, possibly of spinal origin. He said that the patient was aged 19 years and that his left foot was decidedly larger than the right and of a red or bluish-red colour as if turgid with blood. The skin over the part of the foot was closely studded with small venous loops (varices), as in a lesser degree was the skin over the knee-cap. The calf muscles and other muscles of the leg were about equally developed on the two sides, but there was considerable wasting of the left thigh and buttock and the left hip-joint was ankylosed. The pulsation in the dorsalis pedis artery was well felt in both feet. There was no anæsthesia and the reaction of the muscles to galvanism was normal. There was considerable kyphosis in the dorsal region of the spine. There was no evidence of any disease elsewhere in the body. Radiograms showed that the hypertrophy of the left foot was practically confined to the soft parts and that there was bony ankylosis of the left hip-joint (of doubtful origin). The history was that about two years ago the patient complained of pain in the back of the left thigh. He was at first treated for sciatica and was afterwards supposed to have hip disease and wore a Thomas's splint for 18 months. The hæmangiectatic hypertrophy of the left foot and the wasting of the thigh muscles had developed during the last two years, but the kyphosis of the dorsal region existed to some extent previously, though it seemed to have increased during the last two years.

Dr. **DAVID WALSH** showed a case of Spurious Acromegaly in a patient suffering from exophthalmic goitre associated with a congenitally high forehead. The patient was aged 35 years and for five years had been under treatment for recurrent patches of alopecia areata of the scalp. After a severe mental shock at Christmas, 1907, the patient developed symptoms of exophthalmic goitre. The face was suggestive of acromegaly but the appearances were similar in a photograph taken 18 years ago. The patient had a congenitally high forehead, a condition present in every one of a consecutive series of 35 cases of exophthalmic goitre. This congenital sign might be described as a band of baldness or semi-baldness of variable character stretching across the frontal region of the scalp, with a further triangular area or bay projecting backwards at each end. Sometimes the band was outlined by a thin pencil of hair showing where the hair should have reached in normal conditions of growth. It was suggested that this congenitally high forehead was connected with a peculiar temperament—"potential exophthalmic goitre," and in several cases exophthalmic goitre had actually developed under observation. As regards the resemblance to acromegaly the features might perhaps be of a reversionary type.

Mr. **HERBERT TILLEY** showed a case illustrating the result of operative treatment for Chronic Bilateral Empyema of the Frontal, Ethmoidal, and Sphenoidal Sinuses. The patient, aged 35 years, had suffered for two years from a profuse, purulent, offensive discharge from both nostrils, associated with a feeling of "tension" in the lower central region of the forehead. It was ascertained upon examination that pus was being discharged from all the sinuses and radical operations had been performed upon the antra only in May, 1907, by another surgeon. The discharge continued freely from the higher sinuses, and when it was found that free irrigation failed to check the flow radical operations upon the fronto-ethmoidal and sphenoidal sinuses were carried out. On Feb. 12th Killian's radical operation was performed on the right side and the sphenoidal sinus was also opened. On March 4th an incomplete Killian's operation was carried out on the left side. The size and disposition of the sinuses before the operation were shown by a skiagram. The case illustrated the superiority of Killian's complete operation to any other in extensive suppurative disease of the upper sinuses. There was an almost entire absence of deformity over the right sinus but there was slight deformity over the left, where an incomplete, but otherwise successful, operation had been performed.

Mr. **T. H. OPENSHAW** exhibited an appliance for obtaining Extension of the Spine in the Treatment of Scoliosis and Caries. This consisted of a bed made of plaster-of-Paris, which was accurately moulded to the whole dorsal surface of the patient, from the head to the heels. It fitted with the utmost accuracy, with the result that the patient could lie on the back during the whole night or for 24 hours without the slightest discomfort. It was specially fitted with an arrangement of pulleys, weights, and a Glisson's sling in order to extend the spine. Counter-extension was obtained by means of a leather pelvic girdle which was attached by straps to the iron framework of the plaster bed. This pelvic girdle was accurately moulded to the iliac crests and pelvis, thus obviating pressure sores. There was also attached to the middle line of the plaster bed at a point corresponding with the centre

THE ACCURACY OF OPSONIC ESTIMATIONS.

BY L. NOON, B.C. CANTAB., F.R.C.S. ENG.,
JOHN LUCAS WALKER STUDENT IN THE UNIVERSITY OF CAMBRIDGE;
AND
ALEXANDER FLEMING, L.R.C.P. LOND., M.R.C.S. ENG.,
ASSISTANT IN THE INOCULATION DEPARTMENT AT ST. MARY'S HOSPITAL.

(From the Inoculation Department, St. Mary's Hospital.)

Dr. A. Reyn and Dr. R. Kjer-Petersen, in THE LANCET of March 28th, publish figures on which they question whether the tuberculo-opsonic index of tuberculous patients really does present any specific variation from the normal. This is a blow aimed at the very base of all opsonic work, and we feel that an answer to the attack is not out of place.

Some sources of error to which the technique is liable are discussed by one of us in a paper which is due to appear in the *Practitioner* for May of this year; so that we can here confine ourselves to the criticism of Dr. Kjer-Petersen's figures, against which we produce some figures obtained at St. Mary's Hospital in the routine work of the Inoculation Department.

Our argument is arranged under four heads, which deal respectively with (1) Dr. Kjer-Petersen's position; (2) our reasons for regarding the variations of normal sera as small; (3) our reasons for regarding the variations of tuberculous sera as large; and (4) some general criticisms of Dr. Kjer-Petersen's methods.

1. *Dr. Kjer-Petersen's position.*—Dr. Kjer-Petersen presents us with the mean error or *standard deviation* of his three series of observations and proceeds to show that each series approximates to the distribution known as the "normal curve of error." This implies three propositions. (*a*) The calculated *standard deviation* of each series is a measure of the variation of the observations. (*b*) Nearly 70 per cent. of observations will fall within this limit, and deviations larger than four times the *standard deviation* are only to be expected six times in 100,000 trials.[1] (*c*) When we are presented with the *standard deviation* of a series of observations, we are face to face with a number which represents deviations due to many causes. If, by any means, we can find out the *standard deviation* due to one of these causes acting alone, we can eliminate this (by squaring both numbers, subtracting, and taking the square root of the remainder), and so obtain the *standard deviation* due to the remaining causes.

From what precedes we see that Dr. Kjer-Petersen's figures are open to analysis, if we can obtain the necessary data from which to work. Before we undertake such a task we wish to draw a distinction between certain terms which we shall use. When we speak of the *standard deviation* presented by a series of observations, it is to be understood that the individual observed deviations may be due to *errors* introduced by imperfect technique, or, on the other hand, to actual *variations* in the biological quantity measured. Therefore we speak of a *standard deviation* as compounded of a *mean error* of observation and a *mean variation* of the quantity measured.

Having made these definitions we may now approach Dr. Kjer-Petersen's figures and make use of the statistical method in which he trusts. We shall see what conclusions may be drawn from these figures.

Dr. Kjer-Petersen finds a *standard deviation* (from unity) in his observations on normal sera of 0·19, as opposed to 0·25 and 0·29 in two series of tuberculous cases. *The standard deviation* 0·19, for normals, represents *variations* in the normal sera used and *errors* in the technique of opsonic estimation. One or other of these factors must be considerable. If the variations of normal sera have been more important than the errors of technique, then the difference between 0·19 and 0·25, or 0·29 (the difference, that is, between normal and tuberculous serum), is not of great value, and Dr. Kjer-Petersen's criticism is justified. If, on the other hand, the *errors* have been more important than the *variations*, then no definite conclusions can be drawn from his figures.

We propose to show that the variations of normal sera are small in comparison with the figures given above. Consequently Dr. Kjer-Petersen's work lacks accuracy. Hence we may set aside his conclusions in favour of others which are supported by better figures.

2. *The variations of normal sera are small.*—The records of routine work in the Inoculation Department of St. Mary's Hospital have supplied us with 763 pairs of observations on normal sera. The samples of serum have been obtained from 60 presumably normal individuals, who from time to time offered themselves for this purpose. The difference between the counts for the two normals we have expressed as a percentage of the mean of the two counts. Bearing in mind Mr. M. Greenwood's letter, in THE LANCET of April 11th, we are careful to premise that we have attempted, not a complete mathematical treatment of these data, but an approximation, which is still near enough to justify our rejection of Dr. Kjer-Petersen's results. Our figures are distributed very nearly acccording to the normal curve of error and give a standard deviation of 10 per cent. Table I. gives the observed distribution, compared with the theoretical, which is enclosed in brackets.

TABLE I.

Within 5 per cent.	326 = 427	per mille	(383).
„ 10 „	558 = 731	„	(683).
„ 20 „	722 = 945	„	(954).
„ 30 „	754 = 988	„	(997)
„ 40 „	762 = 999	„	(999·94).

What does this *standard deviation* of 10 per cent. mean? It is not the *standard deviation* of single observations from a hypothetical mean normal; it represents two such deviations, because it measures the difference between two observations, both of which may vary. Then the value 10 per cent. is compounded of two equal *standard deviations* from the mean normal. Observations of the indices of normal sera are consequently subject to a *standard deviation* of $\frac{10}{\sqrt{2}}$, or 7 per cent. Estimations of unity, depending on the mean of two such observations, are subject to a *mean error* of $\frac{7}{\sqrt{2}}$, or 5 per cent.

Now this *standard deviation* of 7 per cent. is compounded of the *mean variation* of the opsonic indices of normal sera, and the *mean error* of observation at St. Mary's Hospital. Either of these unknown quantities must therefore be less than 7 per cent. That such a deviation is relatively small may be seen by correcting Dr. Kjer-Petersen's figures in the light of our own. Suppose for example we assume a *mean variation* for normals of 7 per cent. (the largest our figures admit); this corresponds to 0·07 of unity. Eliminating this factor from Dr. Kjer-Petersen's *standard deviation* of 0·19, we are left with a *mean error*, for Dr. Kjer-Petersen's observations, of between 0·17 and 0·18, which we must attribute wholly to imperfections in his technique.

Having said this, we must examine the method by which our figures have been obtained. Most observers either knew, or were liable to know, when they were counting their "normals." This introduces the question of bias. Then, 100 cells were counted in most cases, but a second lot of 100 has been counted, at the observer's discretion, if the normals were found to disagree widely, or if the phagocytosis in any film appeared to be irregular. This introduces the question of reduction of error by taking larger samples. That neither this practice of revision, nor personal bias, has tended to reduce divergencies to any serious degree is the opinion of most practised observers. This opinion is supported by the following facts. (*a*) The close agreement of the distribution of our figures with the law of error. We lay stress on this, because Dr. Kjer-Petersen himself insists that "the influence of any predominant cause" will prevent a correspondence to the law of error. (*b*) During the last two months one of our fellow-workers, to avoid entirely the question of bias, has had his slides re-numbered and mixed up, being thus quite in the dark as to which of his slides were controls. During this time he has made 22 pairs of observations on normal sera, counting only 100 cells of each slide. The *standard* line and the dulness showed that the organ was enlarged on the right side also. On palpation the heart beats were found to take place in pairs, a forcible beat being followed prematurely by another beat of less intensity. Each pair of beats was followed by a pause. As a rule, the feebler beats did not reach the wrist, pulsations at the heart and the radial artery being as 120 to 60. There was a presystolic thrill every few beats at the apex and a systolic thrill was present over the base which was most marked over the pulmonary area. The heaving action of the right ventricle could be felt to the right of the sternum. At the apex a presystolic murmur was often audible. A systolic murmur was to be heard all over the præcordium during the forcible cardiac beat, only this murmur was loudest over the pulmonary area. Since first seen the patient had been kept in bed for five weeks and digitalis was administered during part of the time. For the last seven weeks she had been taking 5 minims of Fowler's solution three times a day but her condition remained unchanged.—The case was discussed by the PRESIDENT and Dr. WILFRED HARRIS.—Dr. SYMES-THOMPSON replied.

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[1] It must be remarked, however, that the frailty of human nature may introduce into any collection of measurements occasional large errors which are neglected by the "law of error" in its simplest form. If such errors are rare, statisticians generally reject them from their calculations and content themselves with recording their occurrence. For this purpose they use Chauvenet's criterion, which they apply in order to define a *limiting deviation*. An observation which falls outside this limit is not included in the determination of the constants of a curve.

Mr. T. H. KELLOCK exhibited a case of Paraffin Injection for Depressed Nose four years after operation in a patient, 23 years of age. The length of time that had elapsed since the operation made him hopeful that the successful result would be permanent.

HARVEIAN SOCIETY OF LONDON.

Treatment of Incompletely Descended Testis.—Clinical Cases.

A MEETING of this society was held on April 9th, Mr. D'ARCY POWER, the President, being in the chair.

Mr. LOUIS B. RAWLING read a paper on the Surgical Treatment of the Incompletely Descended Testis, based on an investigation of 120 cases admitted into St. Bartholomew's Hospital during the past five years. The conditions prior to, and at, operation were alluded to and it was shown that the almost constant presence of a peritoneal process added to the necessity of operative treatment. In dealing with the question of the treatment of the affected testis those cases were first discussed in which one organ was normally placed whilst the other was incompletely descended. Scrotal placement was attempted in 40 cases, in 29 of which the ultimate result was observed. In 25 of these the late result was unfavourable, the testis either retreating to the pubo-scrotal, pubic, or inguinal regions, and becoming small and atrophic. In four cases only was the result at all favourable. The remaining cases could not be traced, though in three the early result showed that only failure was to be expected. For these and other reasons it was obvious that scrotal placement except in the most favourable cases was doomed to failure from the very beginning. The three alternatives, of allowing the testis to remain in the inguinal region, replacing it in the abdomen, or removing it altogether, were then considered. All evidence pointed to the fact that the inguinal testis was a source of great discomfort to the patient and that it was more than usually liable to infection, torsion, and malignant disease, whilst the uselessness of the replaced testis from a spermatogenetic point of view was generally acknowledged. In 50 cases the testis was removed, the patients being of all ages, and it was apparent that the removal of the one organ in no way interfered with the mental or physical development of the patient and the procreative powers were in no wise impaired. The normally placed testis fulfilled all the desired functions, internal and external. Granting, therefore, that due time was allowed for the further descent of the organ and that exposure showed that scrotal placement was out of the question, it was advisable that the affected organ should be removed and the inguinal canal sewn up. Attempts to place the testis in the scrotum offered the best chance of success when the operation was carried out after seven years of age and well before puberty. With regard to double failure in descent, it appeared necessary that every effort should be made to place the testes in the scrotal region, for the examination of testicles removed showed that the spermatogenetic functions were more active when the organ was in that position than when abdominally replaced. All evidence showed that the abdominally replaced testes were functionless from a procreative point of view and double abdominal replacement was therefore most inadvisable. In case of failure in scrotal placement it was even preferable that the testes should be allowed to remain in the canal rather than that they should be abdominally replaced.—The paper was discussed by the PRESIDENT, Mr. W. M. ECCLES, Mr. E. M. CORNER, Mr. E. LAMING EVANS, Mr. LAWRENCE JONES, Mr. IVOR BACK, Mr. CAMPBELL WILLIAMS, Mr. T. CRISP ENGLISH, Mr. KENNETH A. LEES, and Dr. T. CLAYE SHAW.—Mr. RAWLING replied.

Dr. KENNETH LEES showed a case of Ruptured Aortic Valve.

Dr. D. W. CARMALT-JONES showed a case of Ataxy of acute onset in association with Tabes Dorsalis.

Dr. W. H. WILLCOX exhibited a case of Arterio-Sclerosis with Retinal Changes following Parenchymatous Nephritis in a boy aged nine years.

Mr. CRISP ENGLISH showed a case of Scrotal Tumour.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Unusual Cause of Dysenteric Diarrhœa in the Tropics.

A MEETING of this society was held on April 15th, Dr. F. M. SANDWITH being in the chair.

Dr. W. T. PROUT communicated some notes on an Unusual Cause of Dysenteric Diarrhœa in the Tropics. The small epidemic to which the notes referred occurred when he was chief medical officer of the Gambia. There was a company of the West India Regiment stationed there and as there was no army medical officer available he was for a considerable period the medical officer in charge and it was among the men of that company that the outbreak occurred. It took place in the early part of the rainy season—that is to say, the weather was still fine and clear but there were occasional heavy showers of rain. The men lived in large barracks, which formed two sides of a large square, and though old these barracks were clean and on the whole in good sanitary condition. It was important to note that the water-supply of the troops was derived solely from rain-water which was stored in large iron tanks. Towards the end of the dry season, as the tanks became empty, they had been thoroughly cleaned and whitewashed inside, while the inlet pipes had been disconnected until the first shower had washed the collecting area, which was the barrack roofs. At the time of the outbreak the tanks were pretty well filled. One day a man presented himself to him (Dr. Prout) at the hospital complaining of griping pains and diarrhœa with a certain amount of blood in the motions. There were very little constitutional disturbance, very little tenesmus, and none of the serious signs of an attack of acute dysentery. He (Dr. Prout) very naturally paid little attention to it until one after another of the soldiers came to him suffering from the same symptoms. At the beginning of the rains, when the water-supply was very liable to contamination, diarrhœa was by no means uncommon, but at that time curiously there were no cases of dysenteric diarrhœa among the civil population, so that it was clear that the cause was one confined to the troops. He had thought at first that some of the men had been drinking water in the town, but he was able practically to exclude that. The drinking water of the native population was derived from shallow surface wells, from four to eight feet deep, and as Bathurst was simply a sand bank the water was often brackish, and the men did not like it after being accustomed to the pure rain water. He need hardly say that the water in those wells was very much polluted as they often found a cess-pit a few feet away. He had, then, to seek the cause in the barracks, and he must confess that after the precautions which had been taken with reference to the tanks he did not at first examine the water very carefully. He had a bucketful run off and it appeared clear, sparkling, and had no bad taste or odour. An inquiry into the food-supply and a careful inspection showed nothing wrong, the men absolutely denied having eaten or drunk anything outside which could have disagreed with them, and the barrack-rooms and latrine arrangements were in perfect sanitary condition, so by a process of exclusion he was driven back to the water. He had one of the manholes taken off one of the tanks, a bucket sunk to the bottom, tilted over, and dragged along; he then found that there appeared to be some sediment. With some reluctance, for one does not like to waste good drinking water in Bathurst, he gave instructions that the water should be run off and he found at the bottom a deposit three weeks to subside, though not severe. On June 1st venesection was performed, 24 ounces of blood being drawn off. Examination of the blood gave the following result: specific gravity, 1081; red cells, 9,140,000; hæmoglobin, 160; white cells, 91,000, consisting of polymorphs 93·2, eosinophiles 1·2, large lymphocytes 2·6, small lymphocytes 2·4, and myelocytes 0·8 per cent. There were two nucleated red cells to each 500 whites. The red cells varied a little in size and shape. The blood clotted in from six to ten minutes and the viscosity coefficient was 51·2. The volume of corpuscles was 90 per cent. As a result of the bleeding the patient felt very much better and the blood examination showed next day: red cells, 8,050,000; hæmoglobin, 125; white cells, 50,000; and polymorphs, 94 per cent.

The number of red cells and the amount of hæmoglobin kept about the same during the next five weeks. The white cells ranged from 50,000 to 72,500. The patient was then bled again to the extent of 34 ounces. Examination of the blood showed that the specific gravity was down to 1073·5 and the volume of corpuscles to 85 per cent. A week later the number of red cells was reduced to 7,650,000 and white cells to 68,000. 1480 cubic centimetres of urine were passed in the 24 hours; it was of specific gravity 1012, acid, and contained one-half albumin (Esbach), granular and hyaline casts; P_2O_5 0·07 per cent., equivalent to 1·035 grammes; and chlorides 0·45 per cent., or 6·6 grammes. The patient felt much better and was discharged. During his stay in hospital the temperature was generally subnormal, ranging between 97° and 98° F., occasionally reaching 99°. The pulse-rate varied between 76 and 108, the most constant rate being between 80 and 90. The daily output of urine averaged 57 ounces, with a minimum of 21 and a maximum of 106 ounces; its specific gravity was 1008–1015. A trace of albumin was still present when he left the hospital. He gained about a pound in weight. Observations were made subsequently on the blood and urine but showed no special changes from the condition on discharge, except for an increase in the albuminuria. Death resulted from cerebral hæmorrhage on Feb. 4th, 1907.

Necropsy.—Post mortem the body was very cyanosed. The heart's blood was sterile. There was large hæmorrhage into the left cerebral hemisphere. The veins in the neck and chest were much distended with very dark bluish-black fluid blood (two days after death). The lungs were engorged. There were pleural adhesions at the left base and over the right upper lobe. The heart was 16 ounces in weight; the right side was distended with blood and clots; the walls were rather friable. There was slight atheroma of the aorta, aortic and mitral valves, and coronary arteries. As regards the abdomen, there were firm adhesions around the spleen, between it and surrounding organs. The liver weighed 72 ounces and was of a natural colour and structure. The spleen weighed 18 ounces, was firmly adherent to the surrounding structures, and contained one very large and one small, soft, yellow, diffluent, breaking down infarct. The rest of the spleen was divided into rounded lobules of soft splenic tissue, chocolate-brown in colour, separated by fibrous tissue. The suprarenals were normal. The right kidney weighed two ounces and was granular; the left kidney weighed eight ounces and was slightly granular. The left testis was small, fibrous, and puckered. Microscopical examination of the various organs and the bone marrow afforded no indication of the etiology of the condition. Most of the post-mortem appearances could be explained as the result of local thrombosis of the extremely viscid blood.

Remarks.—Although any condition of cyanosis induces polycythæmia it does not follow that the increase in the number of red cells is due to the cyanosis in cases of the above type. More probably there is an actual increase in the production of red cells and the cyanosis is consequent on the increasing viscosity of blood and difficulty in its efficient aeration. The considerable increase in the number of white cells, especially in the polymorphs, suggests that we have to deal with an inflammatory affection of the blood-forming organs, possibly the result of some toxin. In many instances the number of white cells is little increased. So far microscopical examination of the various organs has yielded no positive information. Venesection in this patient certainly relieved the symptoms considerably. The omission of milk from the diet and large doses of sodium citrate did not appear to produce any beneficial effect.

I am indebted to Dr. H. Beckett-Overy and to Mr. Ernest Shaw for the careful pathological observations above recorded.

Upper Brook-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF APPENDICULAR ABSCESS CONTAINING A PIN.

By J. Marcus Hayes, L.R.C.P. & S. Irel.,
LATE HOUSE SURGEON, STROUD HOSPITAL; LATE HOUSE PHYSICIAN AND HOUSE SURGEON, ST. VINCENT'S HOSPITAL, DUBLIN.

In connexion with the subject of appendicitis the following case may be of some interest.

The patient, a female, aged 28 years, unmarried, was admitted to Stroud Hospital on Sept. 11th last with the following history. She had "always been delicate," and about ten years ago she first complained of great weakness across the lumbar region. She started work as a tailoress about five years afterwards but the pain in her back becoming much worse she had to give up her employment three years ago. At this time (i.e., three years ago) she first complained of pain in the right side, localised in the right iliac region and occasionally shooting down the outside of the right thigh. The bowels were not regular and she had two or three attacks of severe abdominal pain. About this time she also suffered a good deal from sickness of the stomach which occasionally brought on vomiting but she did not connect this sickness and vomiting with the pain. She said they occurred at different times; the sickness and vomiting came on, as a rule, after breakfast. She was not able to give any more definite information except that for the past three years she had had a persistent slight pain or feeling of uneasiness in the right side, the pain being sometimes very severe and of a "screwing and burning" character, but was much relieved when she lay flat on her back. She had been seen from time to time by different medical men and a good deal of her trouble was attributed to neurosis. She had been in bed for two weeks with one of these attacks of pain just before her admission to hospital, and on admission she looked sallow and distinctly ill. The temperature was 97° F., the pulse was 80, and the tongue was fairly clean. She localised the site of pain about one and a half inches inside the right anterior superior spine. There was no swelling or area of dulness but a good deal of tenderness on pressure. The bowels acted that evening without an aperient. During the next two days the temperature was subnormal and the pulse was about 80; she did not complain of pain but said she felt weak and giddy, and there was still much tenderness on pressure.

On Sept. 14th, under an anæsthetic, a hard, well-defined mass was felt in the appendix region. The usual incision for appendicectomy was made and was continued to a length of about three inches. There was considerable thickening of the peritoneum, and this having been divided the cæcum immediately presented. It appeared to be normal and was not bound down in any way by adhesions. On following down its anterior longitudinal muscular band the root of the appendix was found; it looked congested and dilated to about the size of an average terminal thumb phalanx. In endeavouring to isolate the appendix it was found that what should have been the body and tip of the organ was in reality a hard mass of about the size of a golf ball, imbedded in the substance of the iliacus muscle, but continuous with the base of the appendix. The cæcum and other coils of intestine having been carefully packed off, an attempt was made to isolate the mass, but in so doing it burst and about one and a half drachms of most offensive pus and some inspissated material (which contained evident remains of the wall of the appendix) were discharged. This was removed and then the tip of the finger could be worked around a pretty large cavity containing a quantity of this inspissated débris, which was removed piecemeal. On examining one of the small concretions so removed it was found to be formed around the head of an ordinary pin one and a half inches long. The cavity was cleared out as well as possible and a counter-opening was made through the loin. Through the latter, and also through the wound in front, there was a copious discharge of most offensive pus for three weeks. As the evening temperature was remaining up, being regularly 100° or 101°, the wound in the loin was explored on Oct. 8th, and as the pus was burrowing upwards obtained in 2. Altogether 17 were free, 5 had recurrence, 7 had died from the disease and 2 from the operation, and there was no report in 4. Those free had been operated on in years and months respectively, 3·4, 3·0, 2·11, 2·11, 2·10, 2·5, 2·2, 1·10, 1·9, 1·7, 1·3, 1·2, 1·1, 1·0, 0·5, 0·4, 0·4 = 17. Mr. Paul strongly advocated a definitely planned attack on the glands in all suitable cases of cancer. He previously thought that the importance of this had been fully recognised for several years. But it was one thing to accept a general principle and another to adopt a definite plan of attack, and since he had carried out thoroughly the details of Butlin's operation on the neck his results in tongue cases had been infinitely better than they ever were before.

Dr. H. DRINKWATER read a paper on Brachydactyly—a Study in Heredity, giving an account of a brachydactylous family. The chief defect in these people consisted of an abortive condition of the middle phalanx in all the digits both of hands and feet. Sometimes in the middle and ring fingers this middle phalanx was reduced to a small cubical bone, but in most instances it had become ankylosed to the ungual phalanx. In no instance was it seen as a separate bone in the first or fourth finger or toe. The first phalanx of the thumb was greatly shortened and in young children showed no sign of an epiphysis. In this respect it had undergone precisely similar changes to the middle phalanx of the fingers. The epiphysis of the so-called metacarpal bone of the thumb was at its base, whereas that of the other metacarpals was at the distal end. This showed that the metacarpal bone of the thumb was in reality the first phalanx and that the first phalanx was homologous with the second phalanx of any other digit. The same held good for the big toes. The metacarpals were all short and undulated at the distal ends. There were 25 people living belonging to one family who showed these defects. The stature and the finger measurements of the "abnormals" of these families were always less than the "normals." The hands and feet were always symmetrically affected. They were prolific, with from eight to 17 children in a family; one woman had had 99 descendants (three generations). The fecundity of the women exceeded that of the men. There was not a single abnormal individual over 23 years of age who had remained single, whilst among the normal relatives more than a dozen had remained single. The defect had been traced through seven generations comprising 174 individuals. Among the children of abnormal parents the defect was found in over 50 per cent., thus agreeing with Mendel's law of inheritance. The children of normals were in every instance normal. The deformity prevented the abnormals from learning trades requiring manual dexterity. They were all English.—Dr. T. R. BRADSHAW said that the great point of interest in the paper from the view of the physician was the possibility of the inheritance of disease taking place on Mendelian lines, so that they could in many cases assure their patients that unaffected individuals need have no fear of transmitting a family disease to their posterity. Unfortunately, there were many diseases which were clearly transmitted by unaffected people, as was shown by Dr. A. M. Gossage in the current number of the *Quarterly Journal of Medicine*.—Dr. R. J. M. BUCHANAN thought that the study of heredity in disease was important in that it might throw light on the etiology of diseases about which they still remained more or less ignorant. He had found a tendency to hereditary transmission in pernicious anæmia and quoted an instance which he had met with of a mother and two sons having died from this disease; there seemed to be an hereditary tendency in the splenic anæmia of adults.—Dr. HUBERT ARMSTRONG recalled the case of a family of which some years ago he had been able to show before the institution several members in three generations. The deformity in these was microdactyly and their hereditary history was very similar to that of Dr. Drinkwater's series and they were also symmetrical.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Duodenal Ulcer.

A MEETING of this section was held on April 3rd, Dr. JOHN M. FINNY being in the chair.

Mr. ARTHUR B. MITCHELL (Belfast) read a communication on the Diagnosis and Treatment of Duodenal Ulcer, based on a series of 19 cases which he had operated on during the previous year. He said that this was a more serious condition than gastric ulcer, being much more liable to become perforated and to lead to fatal hæmorrhage and being also less amenable to treatment by medical means. As prominent symptoms he specified (1) "hunger-pain"; (2) discomfort after food; (3) local tenderness above, and to the right of, the umbilicus; (4) hæmatemesis and melæna; and (5) early dilatation of the stomach. He thought that (at all events in chronic cases) the only reliable and efficient method of treatment was by a surgical operation.

Dr. JAMES LITTLE said that he agreed with Mr. Mitchell's view that duodenal ulcer was much more frequent in men than in women; he had also found it much more frequent among private patients than among hospital patients.

Dr. THOMAS G. MOORHEAD said that hyperchlorhydria had been a typical symptom in the cases of duodenal ulcer which he had seen.

Mr. FRANK K. CAHILL said he had been able to diagnose duodenal ulcer through giving foods of different degrees of digestibility, such as beef and pork, and watching the time relation of the onset of pain.

Dr. JOSEPH F. O'CARROLL said that they might regard gastric cases as being either muco-gastric and associated with a diminution of acid secretion or associated with an excess of acid secretion, or a necrotic or ulcerated condition. These three divisions would form a serviceable basis for diagnosis. They might assume that excess of acid was in many cases associated with ulceration in the stomach or duodenum. He hoped that they would in future be able to diagnose the condition at a stage that would prevent cases having to go to operation. Tests for acid were not always absolutely reliable, as in some cases the acidity of the stomach overstayed its emptying and set up an ache which might be relieved by food. He agreed, of course, that if they could be sure of the diagnosis there should be operation on the spot.

Mr. MITCHELL, in reply, said that he agreed with Dr. O'Carroll's remarks and had himself declined to operate in certain cases. While it was valuable to have an outstanding symptom that would give a direction to their thought it would be a mistake to regard a single symptom as infallible. He had not, however, found a case of duodenal ulcer in which there was not "hunger-pain."

GLASGOW SOUTHERN MEDICAL SOCIETY.—At a meeting of this society held recently Dr. James Mackenzie of Burnley delivered his presidential address, the subject being Some Platitudes and the X Disease. He first thanked the society for the honour which it had bestowed on him in asking him to be its honorary president—an honour which he had appreciated all the more as it was the first recognition which he had received from his own country of Scotland. All his life he had been a general practitioner he was proud to say and all his work had been done in that capacity, and it was to the general practitioner he felt that they must look for the greatest advances in medicine in the future. He was going to speak to the society on some of the "ignored trifles," the things taken for granted, the platitudes of medicine. The first platitude was the necessity for careful observation of the patient and the understanding of what they saw. In his own case the first subject in which he had particularly directed his attention was that of pain. He had begun by making notes as full as possible as to the position and character of pain complained of by patients. He found that in a large number of cases of visceral disease (such as gall-stones, intestinal and renal colic, &c.) hyperæsthesia of the superficial tissues was present—never in definite areas as Head averred—but with an indefinite changing border which was characteristic. The muscles as well as the skin showed this hyperæsthesia and the abdominal muscles (unlike other long muscles) could contract in segments over the painful lesion. Two instances were cited where a hyperæsthetic area at a distance might be either a help or a stumbling block in the diagnosis according to the experience and knowledge of the medical man. In the first case (one of gall-stones) the hyperæsthesia was present in the shoulder and arm, and in the second (one of renal calculus) the hyperæsthesia was in the skin of the scrotum. It was a most striking fact, he said, that of all the serous membranes the tunica vaginalis was the only sensitive one. The second platitude was to observe what became of their cases. There was the greatest need for this observation on the part of the general practitioner since he was the only man who could finally answer such questions as Was this cardiac murmur pallor and languor for some weeks, while the duration from onset to death varied from three or four months in the more prolonged to under two weeks in the rapidly fatal cases. The average duration was five weeks. The clinical features were marked by progressive anæmia, associated with a tendency to hæmorrhages in the form of purpura, retinal or conjunctival hæmorrhages, bleeding from the gums, epistaxis, or more rarely hæmaturia or hæmatemesis. The cases also presented, usually but not invariably, slight general enlargement of the lymphatic glands, more obvious enlargement of the spleen and liver, and in a few instances the kidneys were palpable. Diarrhœa and vomiting were not uncommon at the onset and during the course of the disease. The temperature was irregularly raised. The urine in several cases contained traces of albumin. Blood examination showed an increasing diminution in the number of red corpuscles to yield a figure between 1,000,000 and 2,000,000 per cubic millimetre or lower, and the colour index varied between 0·5 and 1·5. The highest leucocyte count obtained was 1,000,000 per cubic millimetre; three other cases yielded counts of 321,000, 196,000, and 126,000 leucocytes per cubic millimetre; and in six cases the number varied from 81,000 to as low a figure as 3500 per cubic millimetre. The frequency with which the leucocytes showed a considerable fall in numbers, preceding death, was pointed out, and was attributed to the probable influence of a terminal septicæmia. Differential counts of the leucocytes yielded in all cases a marked absolute or relative lymphocytosis, the percentage of lymphocytes varying from 66 in the earlier to 99 in the later course of the disease. The large lymphocyte tended to predominate in the acute, and the small lymphocyte in the more prolonged cases, but this feature was subject to variation according to the stage of the disease. On post-mortem examination there was found usually slight enlargement of the superficial and deep lymphatic glands. The pericardium and pleuræ were scattered with punctate hæmorrhages. The spleen and liver were enlarged. The kidneys in the majority of cases were much increased in size and displayed extensive hæmorrhagic and pale mottling. The intestines showed but little change beyond a few hæmorrhages and swelling of Peyer's patches. The bones showed no alteration and the marrow, which varied in colour from pale to dark red, did not appear increased in amount. In four cases short streptococci were obtained in pure culture from the heart's blood, spleen, and other organs, and from the marrow in two cases. The streptococci conformed in subculture and fermentation tests with the behaviour of streptococcus salivarius. The microscopical changes characteristic of the disease were illustrated by means of coloured drawings, demonstrating lymphocytic invasions with occasional hæmorrhages into the connective tissues of the heart muscle, liver, spleen, lymphatic glands, and kidney. The extensive changes, both macroscopic and microscopic, found in the kidneys were emphasised as a common and striking feature. The appearances of the blood and marrow were also shown by drawings of film preparations, displaying large numbers of lymphocytes. In discussing the pathogeny of lymphocythæmia, it was pointed out that the weight of evidence of most recent work was strongly in favour of the marrow being the primary seat of disease, while the changes found in the blood and various organs were probably secondary. Some support had been given to the view that the disease was of microbic origin and that the lymphatic glands were primarily involved as the result of infection. Though the bacteriological investigation of previously recorded cases and of those above described showed the presence of a streptococcal infection, yet there was strong probability of such infection being merely terminal or intercurrent rather than primary. Reference was also made to the suggestion that the disease originated in the thymus, but little evidence could be brought in support.—The PRESIDENT related the details of a case pointing to an infective origin but admitted the possibility of explaining what was taken to be the septic focus as an accompaniment of the disease rather than its starting point. —Dr. F. J. POYNTON described a case similar to that narrated by the President. He favoured the idea that the infective theory of the origin of the disease was the correct one and urged the importance of experimenting on animals to elucidate the point.—Dr. FORBES was not prepared to admit that the cases arose primarily in the marrow and Dr. LANGMEAD said that clinically the cases closely resembled acute septicæmia.

Dr. FRANCIS H. HAWKINS recorded a case of Multiple Rheumatic Nodules in an Adult. The patient, a woman, aged 35 years, had had rheumatic fever at the age of 17 years followed by chorea. A second attack of rheumatic fever occurred three years later and was accompanied by the formation of nodules on the head and spine. Following a more recent attack nodules were observed on the spinous processes of the dorsal vertebræ, both scapulæ, both ulnæ, the skull, and the left index finger. A year later the only nodules which could be detected were on the clavicles.

Dr. LEONARD G. GUTHRIE and Mr. M. STEPHEN MAYOU recorded a case of Right Hemiplegia with Atrophy of the Left Optic Nerve. Dr. Guthrie said that the patient, a boy, aged seven years, was in July, 1906, run over by a cab and sustained fracture of several ribs on the left side. Three days later he developed pneumothorax on the left side. Six days after the accident he became aphasic, hemiplegic on the right side, and blind in the left eye. Speech had now returned and he had partially recovered from the hemiplegia. The left optic disc was completely atrophied, the ophthalmoscopic appearances being those of complete occlusion of the arteria centralis retinæ. Intelligence and physical health were good. No trace of the left common carotid artery nor of its terminal facial and superficial branches could be detected. The simplest explanation was that those vessels and the left middle, central, and ophthalmic arteries became occluded by thrombi formed in the heart and escaping into the circulation at the time when pneumothorax occurred. The boy's healthy mental and physical condition, however, was against such extensive occlusion of vessels. Possibly the left cervical arteries were abnormal and occlusion had only taken place in the arteria centralis retinæ and branches supplying the neighbourhood of the left internal capsule.

Mr. CHARTERS J. SYMONDS showed a case three years and nine months after complete Excision of the Larynx illustrating an improved method of speaking. The patient, aged 52 years, was admitted to Guy's Hospital in July, 1904, with extensive malignant disease of the larynx affecting primarily the left side. The disease had penetrated the left ala and involved the muscles. Complete extirpation was carried out in the usual way, together with removal of the thyrohyoid and sternohyoid muscles on the left side. The fascia with lymphatics and the left thyroid lobe together with all surrounding fascia were also removed. The trachea was attached to the skin above the sternum and the pharynx was closed with three rows of catgut sutures. Primary union was obtained. The patient was shown in order to exhibit his phonetic power, especially with the aid of the device suggested by Gluck, which by inserting a rubber tube into the cannula carries a current of air to the lips. By this means the patient could be heard at some distance and was able to carry on his duties. There was no difficulty in swallowing.

Mr. SYMONDS then showed a patient, aged 65 years, in contrast to the first case. On Oct. 17th, 1906, the left cord was removed for a strictly localised malignant growth. The excellent voice retained represented the average phonetic result when the arytenoid was not interfered with and the opposite cord was not injured in the operation.

Mr. W. SAMPSON HANDLEY showed two cases illustrating the results of Lymphangioplasty for the Brawny Arm of Breast Cancer. This procedure was described in THE LANCET of March 14th, p. 783, and consists of the introduction into the subcutaneous tissue of the swollen arm of a number of buried silk threads running longitudinally up to the axilla.—Mr. CECIL H. LEAF described the successful results which he had obtained by venesection.—Dr. F. PARKES WEBER suggested that Mr. Handley's method might be useful in elephantiasis.—Dr. J. P. ZUM BUSCH narrated how he had secured relief by the use of silver wire.—Mr. HANDLEY agreed that his method by silk threads was applicable to other conditions of lymphatic œdema.

Dr. HAWKINS showed a case of Ascites treated by paracentesis performed 25 times in 15 months. He said that the patient, a man, aged 43 years, began to suffer from swelling of the abdomen and feet, with loss of flesh, in August, 1899. He had never been a heavy drinker and had not suffered from venereal disease. When the patient came under observation in September, 1899, there were œdema of the lower limbs and slight œdema of the chest wall and sacral region. The abdomen contained a large quantity of free fluid. The heart sounds were normal. The urine on some occasions contained blood and albumin. The abdomen was tapped on 25 occasions during a period of 15 months, the maximum amount of fluid withdrawn being 36 pints. Since December, 1900, the patient had had good health and had followed his occupation as a gardener.

showed cases of Acute Anterior Poliomyelitis in an adult, Hæmatomyelia, Ataxic Paraplegia, Tricuspid Disease, and Complete Transposition of the Viscera.—Mr. S. Snell showed the following: 1. Two cases of Steel in the Eye removed by the electro-magnet. Both were in the vitreous. In one the chamber was filled with blood, but, nevertheless, eight weeks after the accident removal of the foreign body through the sclerotic was followed by excellent vision. The other was adherent by one extremity to the posterior capsule, the other end being free and moving on the approach of the magnet. It was immediately removed through the sclerotic incision. 2. Three cases of Excision of the Lacrymal Sac for Chronic Dacryocystitis. 3. Six cases of Hypopyon Ulcer which had been treated by anti-pneumococcic serum. 4. Streptococcal Inflammation of the Eyelids (treated with serum) and a rare Tumour of the Lid. 5. Two cases of Symblepharon treated by grafts; one, Thiersch, the other, conjunctival from another case. 6. A case of Ectropion treated by a non-pediculated flap 20 years ago, the result remaining excellent.—Mr. R. J. Pye-Smith showed a man, 30 years of age, with Dislocation of the Cervical Spine. He had been caught in a revolving shaft. Some thick steel tools in his pocket were much bent. His head was now permanently flexed and projected forwards. He could move the head at the occipito-atlantal and atlanto-axial joints. There was no paralysis. The dislocation was thought to be about the third or fourth cervical.—Mr. Graham S. Simpson showed a boy, aged 16 years, suffering from Spondylitis Deformans. The disease started four years ago in the right hip. Since then the spine had become increasingly stiff and there was now no movement possible from the seventh cervical to the coccyx. The disease resembled osteo-arthritis in its exacerbations of pain at the onset of wet weather.

Pathological Society of Manchester.—A meeting of this society was held on April 8th, Dr. J. J. Cox, the President, being in the chair.—Dr. D. Orr and Dr. R. G. Rows showed lantern slides illustrative of the Toxic Lesions of the Spinal Cord found in cases of Abdominal Cancer. The characteristic change consisted of atrophy of the myelin sheaths in the central portions of the cord and was most marked in the cervical region.—Dr. A. Corsar Sturrock described a case of Hæmangeio-endothelioma of the Liver. It occurred in a woman, aged 44 years, who died after four months' illness. All the organs except the liver were fairly healthy. The liver was greatly, but uniformly, enlarged and of normal shape, smooth on the surface, firm on section, and mottled or nutmeg-like in appearance. The capillary spaces within the lobules were dilated and filled with proliferated endothelial cells, many of these being free and mingled with blood corpuscles. These cells varied in size and shape, some of their nuclei showing mitotic figures. The columns of hepatic cells were atrophied and compressed, the atrophy occurring mostly in the peripheral zones of the lobules. No fatty changes or iron deposits were seen in the hepatic epithelium remaining. The endothelial proliferation did not occur in nodules but was uniform throughout the whole liver, and in one place where a small cavernous angeioma existed the endothelium had taken on the same proliferative change. The very evident relation of the tumour to the vessels indicated a source of irritation connected with the blood, the tumour change seeming to originate in the same way as a specific inflammation. No metastasis occurred although many of the proliferated endothelial cells must have been conveyed to the general blood stream, as if such cells when conveyed beyond a certain sphere of influence ceased to proliferate so as to produce metastatic deposits. That sphere of influence must be the liver parenchyma in a state of more or less disordered activity.—Dr. W. Milligan showed: (1) A Temporal Bone from a case of Suppurative Middle-ear Disease with cholesteatoma, temporo-sphenoidal abscess, and septic encephalitis; (2) a Temporal Bone from a case of Epithelioma of the Middle Ear; (3) two Temporal Bones from cases of Fracture of the Base; and (4) specimens of Laryngeal Benign Growths.

Leeds and West Riding Medico-Chirurgical Society.—A meeting of this society was held on April 10th, Dr. J. Allan being in the chair.—Mr. R. Lawford Knaggs showed a case of Interscapulo-thoracic Amputation by Littlewood's operation performed for Chronic Axillary Suppuration.—Mr. W. Thompson showed a man two years after Removal of six and a half feet of Small Intestine which was Ruptured.—Dr. E. F. Trevelyan showed a woman, aged 59 years, in whom Tremor of the Left Hand, probably due to early paralysis agitans, had followed the Amputation of a Finger. Also a girl, aged nine years, with recovery from Meningitis following whooping-cough. The patient now suffered from vertigo.—Mr. J. F. Dobson showed a case of Diffuse Tuberculous Peritonitis which had been complicated by Acute Intestinal Obstruction. The patient was admitted in April, 1907, suffering from acute intestinal obstruction. On opening the abdomen the peritoneum was found to be thickly studded with miliary tubercle; the obstruction was caused by the adhesion of a coil of ileum to a breaking-down mesenteric gland. The adhesion was separated and the dislocated gut was opened and emptied of its contents; the opening in the gut was closed by suture; the diseased gland was enucleated from the mesentery. The patient was now in excellent health.—Dr. A. L. Whitehead showed a case of Chronic Otorrhœa, Mastoid Disease, Facial Palsy, and Labyrinthine Suppuration, with Cerebellar Abscess. Also a case of Optic Neuritis in One Eye, with Consecutive Atrophy in the other, following influenza eight weeks ago.—Mr. Alexander Sharp showed a case in which Severe Tuberculous Laryngitis had become practically healed under treatment by creasote internally, and the application locally of menthol in parolein, lactic acid, curetting, and galvano-cautery.—Dr. A. G. Barrs showed a case of Rheumatoid Arthritis, with Enlargement of the Spleen.—Dr. T. W. Griffith showed a man with Bilateral Facial Paralysis.—Dr. J. Gordon Sharp showed a case of Infantile Spastic Paraplegia in a boy, aged 12 years. He was a seven-months child and fits commenced when three days old.—Mr. H. Secker Walker showed a case of Detached Retina, probably due to sarcoma of the choroid.—Cases were also shown by Dr. W. H. Maxwell Telling, Dr. T. Churton, and Mr. Michael A. Teale.

Nottingham Medico-Chirurgical Society.—A meeting of this society was held on April 15th, Dr. L. W. Marshall, the President, being in the chair.—Mr. W. B. Blandy showed a man, aged 23 years, the subject of Thomsen's Disease. The symptoms of temporary stiffness of many of the muscles during voluntary movement had been present for eight years, the muscles themselves being well developed. His only surviving relative, a sister, also suffered from similar symptoms.—Dr. A. C. Reid showed three male patients, aged respectively 54, 35, and 60 years, who had suffered from varying types of Cerebral Syphilis during the last 12 months. In all there had been headache, vomiting, ocular paralyses, and changes in the fundus oculi, while in the third case the illness set in with a sudden apoplectiform attack and loss of consciousness whilst in the street. In this case severe laryngeal ulceration also occurred.—Dr. J. A. Waring read a paper on the Dangers and Evil Effects of Infant Binders, in which he condemned binders as harmful and unnecessary. Warmth was supplied better by loose clothing and support was not needed. The only justification for the use of binders was as a safeguard against rough handling, especially about the recently ligatured umbilical cord during the first two or three weeks. The constriction of binders was frequently responsible for such injurious effects as restlessness and loss of sleep, vomiting, inguinal and umbilical hernia, chest deformities, interference with free respiration which was of great importance where there was already pulmonary disease, and interference with the cerebral circulation leading to convulsions and other serious results. Such constriction was probably largely responsible for many of the cases in which infants were said to be overlain.—The paper was discussed by the President, Dr. W. Hunter, and Mr. W. Morley Willis.—Dr. Waring replied.

Brighton and Sussex Medico-Chirurgical Society.—A meeting of this society was held on April 2nd, Mr. H. H. Taylor, the President, being in the chair.—On the motion of the President a resolution of deep sympathy with the family of the late Dr. H. C. Lecky was passed.—Dr. J. S. Risien Russell read a paper on the Diagnosis of Intracranial Tumour, in which he reviewed seriatim the localising signs and symptoms of tumours of the brain in the various areas.

Medical Inspection of School Children.—At a recent meeting of the Gloucestershire county council it was decided that the county medical officer of health should be appointed to undertake the ordinary sanitary work of the county and also, with the aid of assistants, the medical inspection of the school children.

or most prominent part of the dorsal convexity or bump a broad band of webbing which passed laterally across the convexity and was attached to a horizontal iron bar fixed in the plaster bed. The convex ribs rested upon this band of webbing and were consequently continuously subjected to considerable pressure in an anterior direction. The influence of such pressure upon the dorsal convexity was enhanced by the recumbency of the patient and by the simultaneous extension of the vertebral column.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 13th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Dr. STCLAIR THOMSON showed two radiographs to illustrate the value of the x rays in showing and washing out the frontal sinus. He said that when unprovided with the x rays it was usual to depend upon the direction taken by the cannula to decide whether the frontal sinus had been entered or not. One of the radiograms showed that the point of the cannula passed up towards the frontal sinus and that the portion of it outside the anterior nares was flat against the upper lip. Those two points might make them think that the frontal sinus had been certainly entered, particularly when pus could be washed out. But on the x ray screen it could be seen that the cannula had not entered the fronto-nasal duct but had passed up into an anterior ethmoidal cell and that its point was pressed against the floor of the anterior fossa of the skull. It would readily be recognised that any roughness in manipulation in that area might have serious results. He showed another skiagram of the same case, with the same cannula, where the instrument was with the help of the x rays securely guided up into the centre of the frontal sinus. He also exhibited a radiogram showing complete absence of the left frontal sinus; it could be seen that the right frontal sinus was of exceptionally large size and crossed the middle line so as to occupy not only the right side but also the left side of the forehead. The condition, as revealed by the radiograph, was confirmed by operation. The case illustrated the great value of the x rays in showing the position and extent of the frontal sinus.

Dr. C. W. CHAPMAN showed a case of Bradycardia with Valvular Incompetence in a man 38 years of age. The patient was first seen by him in June, 1903. He had been passed as a first-class life at an insurance office in 1901. The first symptom noticed was in May, 1903, when he had an attack of giddiness followed by shortness of breath and a feeling of tightness in the chest. Later he had a second attack of giddiness, with dimness of vision. In September, 1903, the pulse-beat varied from 34 to 40, no abnormal sounds could be detected in the aortic region, a mitral systolic murmur was present though only heard during the stronger contractions, and all the cardiac beats could be felt at the wrist. In February, 1907, he was taken with a sense of severe constriction of the chest, followed by faintness and loss of consciousness. There had been attacks of transient dimness of vision and giddiness during the last year, otherwise he had been very well.—The PRESIDENT observed that bradycardia was not a condition inconsistent with prolonged life.—Dr. F. PARKES WEBER raised the question whether the affection developing in adult life was against the patient reaching an advanced age, and Dr. CHAPMAN pointed out that in the case which he brought forward the condition might be congenital with delay in the appearance of the symptoms.

Dr. F. S. PALMER showed a case of Progressive Muscular Atrophy in a boy, aged 15 years. The condition was most marked in the left upper limb, there being extreme wasting of the hand muscles and almost complete wasting of all the muscles of the limb. The hand was in the position of "main en griffe." Dr. PALMER, in reply to an inquiry from the PRESIDENT, said that an unusual point in the case was that fibrillary twitchings had commenced in the muscles of the shoulder girdle and not in those of the hand.

Dr. PALMER also showed a case of Articulatory Defect following attacks of Transient Hemiplegia.

Dr. PARKES WEBER showed a case of Primary (?) Splenomegaly with Anæmia. The patient was a Jewish married woman, aged 50 years, said to have come from a non-malarious part of Russia. The spleen was hard and greatly enlarged, reaching downwards into the iliac fossa, and reaching to the right across the middle line slightly to the right of the umbilicus. It was not tender to pressure. In January, 1908, a differential count by Dr. A. E. Boycott of the white cells in the patient's blood showed that in 500 cells the lymphocytes were 20·8 per cent., the intermediates 7·6 per cent., the large hyalines 4·4 per cent., the neutrophile polymorphonuclears 66·8 per cent., the eosinophiles 0·4 per cent., and the mast cells 0·0. Whilst counting the 500 white cells he saw 24 ordinary normoblasts, 16 erythroblasts which resembled megaloblasts except in their relatively small size, and three typical megaloblasts. He saw many polychromatophilic red cells, a few punctate basophilic red cells, and three megalocytes. The platelets were apparently increased in amount. Removal of the spleen would probably be advisable were it not for the obvious danger to life of such an operation in the present patient. It was possible that later the condition would develop into that of so-called "Banti's disease," with leucopenia and hepatic cirrhosis.

Dr. PARKES WEBER also showed a patient with an Enlarged Spleen and described the case as one of pernicious anæmia.

Dr. W. H. WILLCOX showed a case of Cirrhosis of the Spleen and Liver (? Banti's disease).

The PRESIDENT, in discussing the three cases of enlarged spleen, considered that in Dr. Parkes Weber's second case there must be some other condition present than pernicious anæmia, and Dr. F. J. POYNTON asked how many cases of pernicious anæmia with an enlarged spleen Dr. Parkes Weber had seen.—Dr. PARKES WEBER said that he had heard that enlargement of the spleen and of the liver occurred in pernicious anæmia but not always.

Mr. E. M. CORNER showed a case of Old Fracture of the Head of the Astragalus and the Scaphoid of the Foot in a man who had fallen 16 feet on to his foot as the result of an accident in July, 1907. He was "faint" and carried home, not standing on the foot. He remained in bed three days, after which he went about on crutches for three weeks. It was supposed that his left ankle was "sprained." Coming under the Employers' Liability Act there was great dissatisfaction because he recovered so slowly and could not work. The treatment consisted of massage, exercises, and the use of a pad in his boot under the arch of his foot. Under it he improved slowly, the foot not swelling so much, the man sleeping better and getting about better. In March, 1908, the insurance company referred him to Mr. Corner for an opinion as to why he did not get well. On examination, a bony swelling was found between the tubercle of the scaphoid and the internal cuneiform, such as was not present on the uninjured foot. This suggested a possibility of a fracture of the astragalus. Skiagrams were taken of both feet, which showed that "in the left foot there has been a piece broken off the inner side of the head of the astragalus and also a fissure fracture through the scaphoid, directed upwards and forwards, involving both articular surfaces, and showing little or no displacement." The broken-off part of the astragalus was seen by the lower part of the head, the fissure in the scaphoid beginning opposite it and being directed upwards. This case was an example of what might be called the "obscure fractures," undiscovered until the x rays demonstrated them.

Mr. CORNER also showed a case of Overgrowth of the Great Toe with Dislocation of the Metatarsophalangeal Joint. The condition was in part congenital and in part acquired, the congenital factor being the overgrowth of the soft parts and bones, the acquired factor being the abducted position of the toe due to wearing boots. As the man was perfectly satisfied there was no need to treat the condition.

Dr. O. K. WILLIAMSON showed a case of Aortic and Mitral Stenosis in a boy, eight years old. The heart's apex beat was found to be in the fifth left intercostal space half an inch outside the nipple line. At the apex both sounds were audible, the first being short. At and within the apex was heard a crescendo presystolic murmur. At the second right interspace both sounds were audible, also a harsh systolic murmur having its maximum intensity at this spot and being conducted up to the clavicle. There was no diastolic murmur. At the second left interspace the systolic murmur was audible and the second sound was markedly accentuated. The pulse was small, rapid, and regular; the vessel was full between the beats. Slight choreiform movements were present.

Dr. H. E. SYMES-THOMPSON showed a case of Bigeminal Heart in a single woman, aged 20 years. The apex beat of the heart was in the sixth space in the nipple data. There is one point in this chapter which might have been written otherwise and that is "that the foramen ovalis *is seen lying just below* and between the two limbs of the genu formed by the canal for the facial nerve." The part on Examination of the Patient is written very clearly but here again there is an anatomical error, for it is stated that the vessels of the labyrinth communicate with those of the tympanum through those of the inner wall of the middle ear, which we are under the impression is exactly what they do not do. On p. 121, in considering the treatment of chronic suppurative disease of the middle ear, the following prescription appears: "Politzerisation should be practised as a help in the evacuation of the discharge, which *is best done while the meatus is filled with hydrogen peroxide, which is thus sucked in and forced out of the* middle ear." We fail to understand how it is sucked in. On p. 180 the recognition of the diagnostic value of the so-called double negative Rinné is attributed to Lake. This is, of course, incorrect, as this important discovery was made by Professor Bezold of Munich. In the *treatment of the wound after operating for acute disease of* the mastoid the first dressing is advised to be performed within 24 hours. This certainly is erring on the side of safety, and in describing the radical mastoid operation one style of instrument is recommended for the right side and another for the left, which seems to us scarcely necessary or advisable.

Speaking generally, we think that notwithstanding the above criticisms this book is one which will be extremely useful to students and practitioners and which does credit to the author.

Manual of Ophthalmic Operations. By F. P. MAYNARD, M.B. Durh., D.P.H. Camb., F.R.C.S. Eng., Lieutenant-Colonel, Indian Medical Service; Professor of Ophthalmic Surgery, Medical College, Calcutta, &c. With six stereoscopic plates and 104 illustrations. London and Calcutta: Thacker and Co. 1908. Pp. 223. Price 9*s.* net.

UNTIL the publication recently of Grimsdale and Brewerton's Text-book of *Ophthalmic Operations* there was no work of importance in the English language devoted to this branch of ophthalmology. In reviewing this book we pointed out that it was a systematic treatise in which the opinions and predilections of the authors were kept severely in the back ground and that there was still room for an authoritative work, written from a more personal point of view, by an operator of extensive experience. Such a work is supplied in Colonel Maynard's manual. The author has benefited by the peculiar advantages of practice for many years in India; he has, moreover, availed himself to the full of the somewhat scanty opportunities which his position affords him for keeping abreast of the methods in vogue in England and on the continent. The result is a work of sterling value which may be safely recommended to the student and will be read with profit by every ophthalmic surgeon. The latter will appreciate the excellence of the general teaching, though he will doubtless discover details in Colonel Maynard's practice which will fail to meet with his approval. None of the latter, however, can be included under the opprobrious category of "fads." All have been adopted deliberately upon the basis of accurate knowledge of ophthalmology and ophthalmic pathology, and though individuals will differ as to the soundness of the deductions they will find little reason to quarrel with the facts upon which they are founded. We may cite as examples the author's routine use of atropine before extraction of cataract and of eserine immediately after iridectomy for glaucoma. The experienced ophthalmologist will probably be most interested in the chapter on expression of the lens in its capsule by the method of Major Smith, I.M.S. The author has somewhat modified his adverse criticism of the operation which was based upon 175 cases in which he performed it. He now holds that it is valuable in hypermature cataract and in some cases of unripe cataract.

The recently described operations of Professor Lagrange and Lieutenant-Colonel Herbert, I.M.S., for glaucoma receive attention; the latter, though in Colonel Herbert's own words, is almost unintelligible; we think that neither is yet of proved utility and like *cyclodialysis* should have been omitted. In extirpation of the lacrymal sac Axenfeld's retractor is used in an original manner; after considerable experience we are of opinion that it is a clumsy instrument which is best dispensed with altogether. We notice that Worth's advancement operation is chosen for description. If we had not found this to be the rule in recent publications we should not have considered it necessary to comment upon it. How many of the authors really adopt this method? In our opinion it is founded upon a fallacy and practical experience shows that it possesses notable disadvantages. The only novelty about the illustrations is the use of stereoscopic photographs. Considering the extreme difficulty of obtaining satisfactory photographs—doubtless less in India than in England—the results are gratifying. None the less, we do not think that they are worth the trouble and expense.

The book is well printed and is handy in size. We cordially wish it the success which we believe it fully to deserve.

Confessio Medici. By the author of "The Young People." London: Macmillan and Co. 1908. Pp. 158. Price 3*s.* 6*d.*

THE nameless author of this confession, or rather profession of professional faith and of faith in his profession, boasts that he has stolen *half of his title from* Sir Thomas Browne, and we can charge him with including in his plunder no mean measure of the quality of English medicine's *sweet philosopher.* Not that the matter or the manner of these essays owes direct inspiration to the physician of Norwich, but that in their pages, as in Browne's own stately prose, is manifest a ripe counsellor uttering words of convincing worth. The book forms another link of the right metal in the chain that binds medicine to letters; much of it is infused with true art no less than clear thought, although our author may not thank us for saying so, seeing that he has a measured warning for all who would woo the austere spirit of Practice (of which company he professes membership) lest they should be tempted to dalliance in the Palace of Art; but his phrasing of the very warning proclaims him free of that household no less than the whole tenour of his thought shows him one for whom a seat is set in the sterner hall of philosophy. His essays range over the whole career of medicine, chiefly as the general practitioner finds it, for the first is concerned with the voice that bids the boy enter upon its service, and the last with the inevitable mandate at which the man must leave all earthly things for a destiny, he would have us think, other than the speculations of Haeckel's school can tolerate. We commend the book to every student and every practitioner of medicine, for it contains advice which is above rubies, the strong, sane, and tender guidance of one who has himself trodden the thorny track. His style is well shown in two of his chapters, that in which he worships at the shrine of the genius loci of his own hospital and that in which his shrewd wit seeks to shatter with ringing blows the fetters of materialistic and monistic thought in which the "deserted maiden Psyche" is lying bound. With a right good heart does this debonair champion sally forth to do battle with the dragon of Deterministic degradation for her honour. This Confessor is a notable maker of phrases and we are tempted to quote from his store. Let these two suffice: "I know of one who said to of greenish grey mud, in which he observed some spindle-shaped bodies of about the size and shape of oats but slightly longer, which gave him the key to the problem. He admitted that he should not have known what they were unless he had seen them under different conditions a short time previously. One day when riding to the hospital in the morning he noticed on the horizon a long narrow dark cloud. By about 12 the cloud had reached the town and a dense mass of locusts was passing over and millions were settling on the ground, on the trees, and on the roofs of the houses. And when in about 36 hours the visitation passed on every blade of grass and every green leaf with the exception of a few noxious weeds had disappeared and the ground was as brown and bare as one of the streets of London. But, as the locusts ate, they had necessarily to defæcate and their stools consisted of spindle-shaped bodies which were composed of the fibrous indigestible parts of the grass matted together and also of the silicious spicules which were to be found in many grasses. He had noticed them lying about after the locusts had gone and had examined them and it was quite clear to him that those which had been deposited on the large expanse of barrack roof had become partly disintegrated and had been washed into the tanks with the first shower of rain. The specific gravity of the particles kept them in suspension for some time, so that they sank slowly, and it was evident that he had to deal with a case of irritant mechanical poisoning caused by the passage of the spicules through the alimentary canal, similar to, but not so severe as, the ground-glass poisoning of the Obeah man in the West Indies (or the diamond dust of the Egyptians). That this view was correct was shown by the sequel. He stopped the source of water-supply and utilised a surface well in the barrack yard, the water from which was carefully boiled. The roof and the gullies were cleaned and a considerable quantity of similar débris was found. The tanks were emptied and cleaned and the pipes disconnected until after the next heavy shower and the outbreak of dysentery ceased as abruptly as it had begun. It was an interesting illustration of the curious and unexpected problems of sanitation which had occasionally to be dealt with in the tropics, and the obvious lesson was that in localities where the water-supply was dependent on the collection of rain water, and where locusts occasionally paid a visit they should see that the pipes were disconnected until the excretory efforts of the insects had been removed.

Mr. J. CANTLIE observed that the epidemic resembled the "hill diarrhœa" in India which was sometimes ascribed to mica being present in the water after heavy rains in the hill country.

Dr. W. HARTIGAN said that a corresponding affection to "hill diarrhœa" was known in *Hong-Kong* where mica from disintegrated granite was no doubt a cause of diarrhœa after rain.

Fleet-Surgeon G. T. COLLINGWOOD, R.N., drew attention to the fact that lime carried by rain from the roofs of houses in Bermuda was ascribed as a reason for outbreaks of diarrhœa.

Dr. W. CARNEGIE BROWN pointed out that unless the first portion of water collected from roofs was prevented from entering the tanks it was impossible to avoid contamination of the water.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Town Planning and the Housing Bill.

A MEETING of this society was held on April 10th, Sir SHIRLEY F. MURPHY being in the chair.

Dr. FRANCIS E. FREMANTLE read a paper upon the Garden City, Rural Housing, and the Government. He claimed the Garden City as the pioneer in England of the town-planning movement, for it attacked the root of conditions inimical to public health on the only scientific plan by making it practicable and profitable to prevent to a large extent the creation of future evils, trusting to death and decay for the natural passing away of those that already exist. He insisted upon the importance of recognising the doctrine of linear extension as applied to towns, but with modern methods of communication the true method of urban development was along the tramway and railway and as soon as the industrial as well as the residential development of a town acknowledged this principle there would seem to be no limit to the gradual spread of towns, big and small, into the country, permeating it in all directions. In connexion with the obstacles which attended the erection of labourers' cottages in rural districts Dr. Fremantle expressed the opinion that the real difficulties lay in the depression of agriculture, which prevented an increase of wages, and in modern requirements of sanitation and decency. If, he said, the labourer could not pay more than 3*s*. a week for his cottage then the rates must be burdened to a sufficient extent to build him his necessary house—a certain proportion of the cost, representing the recent enthusiasm of the community, must fairly be charged on the public purse when other sources fail. When commenting upon the general provisions of the Housing Bill he said that the crux of the housing question was the efficiency of the executive authority and its officers, but the Bill in this respect left the machine locked. It gave no new responsibilities or duties to the county council but gave to one of its officers the power to extort information from a district officer by which the county council might take action under its previous powers that had hitherto largely been a dead letter. The Bill did nothing to remedy the palpable and crying anomalies of the position of district medical officers of health and inspectors of nuisances and was altogether framed upon wrong lines. The necessary reforms lay in the rearrangement of authorities and officers and duties so as to include in one reasonable and uniform service the whole administration of school and general public health.

The paper was discussed by Mr. MONTAGU HARRIS, Miss CHURTON, Dr. W. BUTLER, Mr. F. J. BURMAN, and Dr. W. A. BOND.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Butlin's Operation for Cancer of the Tongue.—Brachydactyly.

A MEETING of this institution was held on April 9th, Mr. T. H. BICKERTON, the President, being in the chair.

Dr. F. J. S. HEANEY reported a case of Malunited Fracture of Leg Bones on which he had operated twice. The fracture of the tibia was spiral and comminuted and in spite of careful treatment some 14 weeks after the injury the lower fragment of this bone was found united with the upper fragment of the fibula. The fracture was identical with one shown by Mr. Arbuthnot Lane in his recent work on fractures, and the same peculiar vice of union had supervened in both cases as well as in others that had come under observation. In the present case, union had been brought about by screwing and wiring. Dr. Heaney advocated operation in all such cases in the first instance.—Mr. G. P. NEWBOLT was of the opinion that all cases of compound fracture of the tibia and fibula should be operated on as soon as possible.

Mr. R. C. DUN reported a case of Acute General Peritonitis in a Child, aged four years, the result of perforation of a typhoid ulcer in the lower ileum. The sudden appearance of acute peritonitis was the first indication of illness. The diagnosis of acute appendicitis with peritonitis was made. At the operation no cause for the peritonitis was found. The child lived 12 hours after the operation and at the necropsy definite changes characteristic of typhoid fever in Peyer's patches were found. A small perforation through an ulcer was present four feet from the ileo-cæcal valve. Mr. Dun commented on the rarity of typhoid fever at that age and especially perforation, the fact that there were no symptoms of illness until the perforation took place, and the difficulty of making an accurate diagnosis in such a case.—Dr. N. P. MARSH thought it quite possible for a child to have an attack of ambulatory typhoid fever as met with in adults. He agreed that typhoid fever was very rare in children so young and especially perforation.

Mr. F. T. PAUL gave his experience of Butlin's Operation for Cancer of the Tongue and Mouth during the three years since Mr. Butlin's lecture had been published. The total number of cases was 35 (lip 3, cheek 3, palate 1, and tongue 28). Of these 11 were favourable in site and size, 15 were advanced, and 9 involved the bone. Of the favourable cases 9 were free from recurrence, 1 died from operation, and in 1, a slight case, no report was obtained. Of advanced cases 8 were free from recurrence, 1 had recurrence, 5 had died from it, and no report could be obtained in 1 case. Of the bone cases none were known to be free, 4 had recurrence, 1 died from the operation, 2 from disease, and no report was

THE LANCET.

LONDON: SATURDAY, APRIL 25, 1908.

The Research Defence Society.

WE publish in another column a letter from Earl CROMER announcing the formation of the Research Defence Society, of which he is the first President, and we have appended to that letter the names of the Vice-Presidents, which sufficiently show the powerful and varied nature of the support which the movement is receiving at its inauguration. It is to our mind absolutely necessary that the society should start under such fortunate auspices, for it is to act in an educational and advisory capacity in behalf of members of the public and members of the medical profession who want to know the truth about physiological and bacteriological work as pursued by the medical profession and the authorised investigators. Membership is open to everyone on payment of a small annual subscription, as is pointed out in Lord CROMER'S letter, and it is imperative that the public should feel that the sayings and doings of a society which extends so wide an invitation have their origin in a desire and a capacity to inform and derive no inspiration from prejudices. The society will do its utmost to counteract the copious inaccuracy of sentimentalists, the astonishing self-esteem of faddists, and the misguided and unrestrained zeal of certain agitators who never rest from their endeavours to prove that the scientific physiologist is a person of devilish cruelty, in which connexion it should be noted that among its members the names can be found of leading members of the Society for the Prevention of Cruelty to Animals. The publicity which much of the proceedings before the Royal Commission on Vivisection has already received has enabled the public to gauge the kind of evidence upon which the most serious accusations of inhumanity against physiological workers have been lightly founded, and the Research Defence Society should have no great difficulty in explaining to all reasonable folk on which side the truly merciful man is to be found.

The society has for its president the Earl of CROMER; it numbers among its vice-presidents the presidents and chairmen of 12 of the best known London hospitals, the secretaries of the Metropolitan Hospital Sunday Fund and the King's Hospital Fund for London, six bishops and four deans; such veterans of science as Lord AVEBURY, the Rev. Dr. DALLINGER, Sir NORMAN LOCKYER, Sir JAMES DEWAR, Sir JOSEPH HOOKER, Sir DAVID GILL, Lord ROSSE, Sir WILLIAM HUGGINS, Dr. HUGHLINGS JACKSON, Sir JAMES CRICHTON-BROWNE, and Sir HENRY ROSCOE; such famous professors as Sir GEORGE DARWIN, FRANCIS DARWIN, Sir E. RAY LANKESTER, and Sir WILLIAM RAMSAY, as well as the Regius Professors of Physic in the Universities of Oxford and Cambridge, and the Principal of the University of London; such well-known medical men as Sir SAMUEL WILKS, Sir FREDERICK TREVES, Sir JOHN BATTY TUKE, Sir JAMES REID, and Sir THOMAS SMITH; men of affairs like Lord STRATHCONA, the Duke of ABERCORN, the Earl of HALSBURY, Lord LINDLEY, Lord CLAUD HAMILTON, Lord BATH, Sir HERBERT MAXWELL, Lord ROBERT CECIL, Canon DUCKWORTH, and Sir ALFRED JONES; men of art and letters like Sir ALMA TADEMA, Sir A. CONAN DOYLE, and Sir LUKE FILDES. We make no attempt to give a larger selection of the names of those who have already promised adherence to the new association—the list is already fully representative of all that is best in medical science and medical organisation, professors and practitioners uniting with educational authorities and those responsible for the conduct of great charities in the intent to furnish the public with an opportunity of learning the truth about scientific teaching. The honorary secretary of the Research Defence Society is Mr. STEPHEN PAGET (70, Harley-street, Cavendish-square, London, W.), who will be glad to furnish all information as to the movement, and to whom scientific workers owe a heavy debt of gratitude for the energetic way in which he has worked for the formation of the new association.

We wish the society well. It has been founded for the spread of truth and not, as will be stated by interested persons, either for the promotion of vivisection or for the glorification of the physiological laboratory. We wish to lay particular stress on the educational advantages which the public will enjoy by being able to obtain accurate information upon the work of medical research. While medical science is advancing by gigantic strides and annexing in every direction departments of learning which were in times quite recent definitely allocated to other sciences, the public intelligence has not been standing still. The public has vastly improved in general knowledge and recognition of this fact is now incumbent upon the medical profession. The half knowledge of scientific truths which so many now possess ought not to be exploited perpetually either by sentimentalists or agitators without an honest attempt being made by scientific men to explain the reasons for their faith and their actions. The Research Defence Society is already issuing pamphlets and leaflets upon different subjects, and will be a source from which accurate information can be drawn by lecturers, public speakers, and humanitarians. When this is found to be the case serious audiences will not be forthcoming who can be swayed by the clamours of the avowed enemies of medical science. The dark deeds of our medical schools, the ineptitudes of our medical men, and the futilities of accepted medical practice will continue to be dwelt upon by a certain class of lecturer for some time to come—indeed, the formation of the Research Defence Society will be the signal for an outburst of this kind of activity—but the audience will no longer be made up of intelligent units. The audience will be the credulous and the ill-informed, for the properly educated public will see where truth lies and it is the aim of the Research Defence Society to educate the public.

dangerous? or What would be the fate of this man with an irregular heart? The third platitude was to treat the patient and not the disease. Of course all medical men agreed with that, but if they just analysed their treatment for one day they would find that in the majority of cases they rather treated the disease. The "x disease" was a name which he had applied to a well-marked congeries of symptoms which he thought should not be dubbed neurasthenia as this name cloaked our ignorance and tended to prevent a proper spirit of inquiry. The person suffering from this condition was generally spare and thin, with livid face, cold hands, and other evidences of a weak circulation. Some slight pelvic, stomachic or other visceral lesion was often present and attacks of minor ailments were frequent from which the patient quickly recovered. The patient had often a mental "twist," was very introspective, and generally was a faddist (religious or dietetic) with strong opinions and beliefs. The condition was often quickly cured, possibly by (1) an appeal to the reason; or (2) by some strong emotion; (3) frequently by pregnancy; or (4) by some marked change in the mental outlook or mode of life. The President hoped that by this ridiculous name medical men might be reminded of their ignorance of its pathology and stimulated to research.—Mr. A. E. Maylard, in conveying to the honorary President the cordial thanks of the society for his most interesting address, referred in particular to the originality of mind and the keenness of observation which were manifested throughout and hoped that they would have much more work from Dr. Mackenzie and that he would live long to give it.—The President briefly acknowledged the vote of thanks.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on April 10th, Dr. E. Hobhouse being in the chair.—Mr. Hugh Lett read a paper on a Case of Henoch's Purpura associated with Intussusception. The patient, a child, aged three years, was quite well until two days before admission to hospital. He then had pain and swelling of the left knee and elbow. On the next day both legs were swollen and severe paroxysms of abdominal pain were experienced. On the same afternoon two purpuric spots were seen on the left leg. The patient was admitted on the following morning and a cæcal intussusception was operated upon and reduced. The purpura steadily became worse and the patient died from a second intussusception of the enteric variety nine days after the first operation. Mr. Lett drew attention to the difficulty which was often met with in diagnosing between intussusception and Henoch's purpura when the abdominal symptoms appeared before the onset of any cutaneous lesions and also to the difficulty of deciding in many cases of undoubted Henoch's purpura whether an intussusception were present or not. He indicated the main points in the differential diagnosis between the two conditions and laid stress on the importance of determining the presence of a tumour before making a diagnosis of intussusception. The paper was discussed by Dr. G. A. Sutherland and Mr. Duncan C. L. Fitzwilliams.—Dr. J. Porter Parkinson read a paper on a fatal case of Tetanus Neonatorum in an infant aged two weeks. The infant had had the umbilicus dressed with fuller's earth and it was suggested that this might have been the cause of infection both in this child and also in the previous child who had died from tetanus. Dr. Parkinson drew attention to the prevalence of this practice and to the fact that this possible source of tetanus was well recognised by coroners. He thought the knowledge of this should be more widespread.—Dr. L. G. Guthrie showed a case illustrating Eustace Smith's Bruit. The patient was a boy aged seven years. The superficial veins were enlarged over the front of the chest. An undulating musical venous bruit could be heard at the base of the heart, occupying the whole of the cardiac cycle. The bruit was intensified and the venous engorgement became more pronounced when the head was retracted. The condition was probably due to pressure of enlarged mediastinal glands on the innominate vein or superior vena cava.—Dr. F. S. Langmead also showed a case with Eustace Smith's Bruit. The patient, a girl, aged five and a half years, had had whooping-cough in April, 1907. Since then she had had frequent coughs which were neither laryngeal nor paroxysmal. There was some impairment of note in the interscapular region on the right side. To the right of the manubrium sterni a definite to-and-fro rushing murmur was heard when the head was retracted, but it was lost when the head was flexed.—Dr. Porter Parkinson showed a case of Aortic Regurgitation in a boy aged four years. There was no history of rheumatism or other acute specific fever.—Dr. George A. Carpenter showed a case of Recovery from Encephalitis in a girl aged one year and eight months. The patient had had screaming fits, double optic neuritis, and squint. The cerebro-spinal fluid was sterile and contained no cellular elements. The optic neuritis disappeared.—Mr. A. Hamilton Burt showed a case of Hypospadias.—Specimens were shown by Dr. Hobhouse, Dr. E. Cautley, Dr. Carpenter, and Mr. John Poland.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Manchester on April 10th, Dr. A. J. Wallace (Liverpool), the President, being in the chair.—Dr. Alexander Stookes (Liverpool) exhibited specimens of: (1) Fibromyoma Uteri; and (2) Adeno-carcinoma Corporis Uteri which had given rise to similar physical signs. The former had occurred in a patient, a II.-para, aged 43 years, who had suffered for two years from menorrhagia and for the last four months had had continuous bleeding. A nodular tumour could be felt in the lower abdomen and per vaginam a polypoid mass occupied the cervical canal. The growth proved to be multiple fibromata. The second specimen occurred in a single woman, aged 51 years, who had enjoyed good health until 18 months previously, when she began to have severe pains in the left side and menorrhagia. These symptoms persisted. An irregular, hard tumour was felt in the lower abdomen which on abdominal section proved to be the uterus enlarged by adeno-carcinoma involving the entire thickness of the uterine wall. The right ovary was also the seat of adeno-carcinoma. Recurrence with a fatal result occurred four months after the operation.—Dr. Henry Briggs communicated a case of Pelvic Kidney with Congenital Absence of both Müllerian Ducts occurring in a patient, aged 33 years, who had been married for one year and who complained of occasional, never periodic, pain in the lower abdomen and slightly increased frequency of micturition. She had never menstruated. He gave an accurate anatomical description of the kidney as revealed at an exploratory operation.—Dr. Arnold W. W. Lea (Manchester) narrated a case of Dermoid Cyst of the Mesentery in a woman, aged 39 years, and showed the specimen and sections of it obtained by operation. The cyst was lined by large multinucleated cells but did not show any specialised epithelial elements.—Sir William J. Sinclair (Manchester) read a paper on Analgesia *versus* Anæsthesia in Obstetrical and Gynæcological Practice. After a brief historical review he referred to the method of spinal anæsthesia produced by cocaine and its derivatives, and to the inadvisability of such procedure in obstetrics. A few years ago great successes were reported from the lying-in hospitals of Germany from small doses of scopolamine, but this was not without real danger both to mother and child. He advocated the use of a combination of morphine, alcohol, and cocaine as an analgesic in minor gynæcological operations and in such manipulations as the removal of retained placenta following abortion, &c. He gave two ounces of alcohol, masked by the liquid extract of liquorice, about two hours before operation, followed by a hypodermic injection of a quarter or half a grain of morphine 20 minutes before the operation. The vagina was then swabbed with a 10 per cent. solution of cocaine. By this method any minor operative procedure was possible. The amount of morphine required modification according to the type of patient. In some cases where a general anæsthetic was necessary the amount required was exceedingly small if morphine and alcohol were previously administered.—Dr. A. Kynvett Gordon (Monsall) and Dr. Lea both spoke in favour of this method from their own experience of it.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd, Dr. G. Thomson, the President, being in the chair.—Dr. Arthur J. Hall showed the following: 1. A girl with a very Moveable Liver. On deep inspiration the lower edge was tilted forwards and formed a prominent tumour. 2. A similar case in an adult woman. 3. A case in which the diagnosis between Herpes Zoster and Herpes Febrilis was difficult. The eruption recurred every three months in the region supplied by the second division of the fifth nerve. 4. A patient with a Cavity in his Lung and much Offensive Sputum, which had been repeatedly examined for tubercle bacilli with negative results. Dr. Hall demonstrated by means of charts the effects of Chaplin's creasote inhalation method, which had been highly successful.—Dr. H. G. M. Henry the signs of disease in the writers and the artists whose respectable conformity to outworn models endears them to the Philistine than in the revolutionary propagators of new ideas and new methods. At all events, the fact—for fact it assuredly is—that insanity is much more prone to produce in art what is commonplace than what is original may perhaps be borne in mind with advantage by those critics who are so ready to brand as morbid and decadent every artistic development which conflicts with conventional models.

Plague in India.

THE great Powers of the world may consider themselves fortunate in that none of them have had such a factor to face as that with which our own great dependency of India has been struggling now for 12 years. In 1896 plague was introduced into Bombay from Hong-Kong and from Bombay it has spread gradually to the other provinces of the country. The deaths have gradually risen; there were 1704 deaths in 1896, 56,056 deaths in 1897, 577,427 deaths in 1902, and 1,178,989 deaths in 1907. In all up to May, 1907, 5,402,245 deaths have been caused by this dire disease; and to show what this means we have only to remember that the total population in India is about 300,000,000, so that this mortality means about one death in every 60 inhabitants. It must be evident therefore at once that a pressing problem confronts India, for not only has the disease unfortunately of late years affected the territories of the peninsula whence we obtain our most valued recruits, but if left, as Professor W. J. R. SIMPSON so well points out, to take its own course, as it has been within recent years, it will become a danger to the world. That the problem of its suppression and extinction is not an easy one is at once evident when we take into account the peculiar environment present in India. We have here an essentially conservative people who are naturally prone to view with suspicion and aversion any new device sprung upon them. We have also a people imbued with a reverence for animal life, so that one of the chief methods of plague prevention—viz., the destruction of rats—is viewed with dislike. Of the modes of prevention hitherto employed some have been attended with scant success. In the articles on Sanitary Reform in India which have appeared lately in THE LANCET old history has been necessarily dealt with; the time is therefore appropriate to see where we stand now. Captain W. GLEN LISTON, I.M.S., member of the Plague Research Commission and acting director of the Bombay Bacteriological Laboratory, Parel, in December last delivered a most interesting lecture before the Bombay Sanitary Association on the cause and prevention of the spread of plague in India, and we have also to guide us the illuminating Croonian lectures of Professor SIMPSON, one of the greatest living authorities on plague, delivered before the Royal College of Physicians of London. Let us briefly examine the course of action recommended by these experts. Plague is essentially a rat disease as defined some three years ago by the first of the above writers. The Plague Research Commission, of which he was a member, has conclusively proved that rats are the chief source from which man acquires plague and has also afforded the strongest possible grounds for inferring that man becomes infected through the agency of rat fleas which previously to biting him have fed upon infected rats. This officer, in the lecture referred to, first showed how the association of rats with man was the cause of epidemic plague and how this association was dependent on the habits of rats and on the customs of the people. He divides rats into field rats and house rats, and then shows that the latter are of prime importance so far as man is concerned, and that, of these, the Mus rattus, from its remarkable domestication, is the most important plague-spreading rat, as was proved by the Plague Commission. The plague amongst Mus rattus precedes the plague amongst man by an interval of a week or a fortnight. Next the author proceeds to show how the habits of the people favour the multiplication of rats; how the structure of their houses affords shelter to rats; how, again, the mode of residence in these buildings brings about an association of rats with man, as exemplified, for instance, in the cases where baskets or open sacks of grain are often left uncovered at night in the shops so that the rats gain a ready access; again, the same event is brought about by the inhabitants storing up grain and grocers' materials in their ground and upper storeys. The very streets are habitually used as a depository for filth and refuse, and thus afford a food-supply for these animals; cows, goats, and hens kept in human dwellings attract them. The above environment will be found throughout India. The infected rat now transfers its infection by the rat flea to man.

Hence in the prevention of plague we have primarily to cope with the rat. That destruction of rats where thorough will accomplish this has been proved in many instances; we may mention, for example, the case of the Punjab; here in 1906 evidence was obtained from 18 centres of endemic plague; in 11 of these, where the destruction of rats was thoroughly carried out, there were no cases. In the first place, however, measures must be brought into play which aim at decreasing the food-supply and shelter afforded to these animals; regulations should be made preventing the erection of flimsy and ill-made buildings, and also insisting on the maintenance of the houses in a proper state of repair, for if not these houses will be found to afford shelter to rats. Dwellings must be kept free from grain stores, godowns, and stables; the public streets must not be used as depositories for food refuse; and tenants must be compelled to maintain their dwellings in a clean and tidy state by the health departments in the cities. Such measures will doubtless be difficult to enforce amongst the ignorant conservative people of India, but Captain LISTON wisely recommends their commencement in the larger towns where education is somewhat advanced. These being purged of the blemishes above described the villages will be directly benefited, for the cities are the great distributing centres of the disease. In the meantime the villagers should insist on a modified form of quarantine and should prevent those who have come from infected places entering their village until they have freed themselves from all fleas on their persons or kits. With this policy of the exclusion of rats must also be employed that of the destruction of rats, and a noteworthy method of accomplishing this is not by means of chemical poisons or by the dissemination of bacterial diseases amongst them, but by trapping them alive and then destroying them. Captain LISTON shows how in a certain village the rat population was reduced by this

Reviews and Notices of Books.

Text-book of Otology for Physicians and Students. By F. BEZOLD, M.D., Professor of Otology, Munich; and F. SIEBENMANN, Professor of Otology at Basle. Translated by J. HOLINGER, M.D., Chicago. With 75 figures. Chicago: Colegrove Co. Pp. 314. Price $3.50 net.

THIS is a translation of the work which we reviewed last year and there can be no doubt that a translation of it should be of extreme value to all English-speaking otologists. Unfortunately, however, the translation which we are considering, although in the main good, is in parts so inaccurate that were a beginner in otology to take it as his chief authority without having recourse to the original German he would be liable to fall into grave errors, even anatomical ones. On p. 13 of the translation the long process of the incus is said "to extend upwards and backwards in a vertical direction," a thing in itself impossible, the word "backwards" being gratuitously inserted. Again, on the same page the "cupola of the cochlea" is said to "rest against the tympanic end of the osseous Eustachian tube, whereas it should be "it borders on the commencement of the bony inner wall of the tube." On p. 14 the word *Krankheitserscheinungen* is translated "diseases," whereas it should be "symptoms." On p. 15 we meet with more anatomically incorrect translations. The facial nerve is said "to run mostly on the inside of the temporal bone," instead of that "the trunk of the nerve lies chiefly within the temporal bone." Again, on the same paragraph it is said that the "canal of the facial nerve forms a horizontal protuberance on the inner wall of the aditus, just above the oval window." No comment is needed on this. In one of the most important chapters in the book, Chapter VIII., on the Testing of Hearing, in the second paragraph it is stated that "it is fundamentally important for our examination of the function of hearing that all noises can be placed in the line of the sound scale. We have therefore completely examined the hearing as soon as we know quantitatively the hearing for all tones, and do not need to care for the noises." We feel convinced that this paragraph will convey but little to any reader. It would have been better rendered: "Going through all the sounds of the scale is fundamental for our examination of the hearing function. For in these cases, if we have thoroughly tested and established the qualitative hearing power for the whole series of tones, no further investigation of sound is necessary." On the same page we read that by certain methods "any audible number of vibrations," and so on. This should read "any number of audible vibrations." The mistakes in translation and composition are frequent but we can allude to only a few more. For instance, on p. 66 the word "improvement" is used with regard to bone conduction instead of "prolongation." On p. 70 we find the "prolongation of bone conduction above the normal interchange of the sound conducting apparatus was accepted in our discussions as a fact pure and simple, which we met with in all our observations," whereas this sentence should have concluded "which we continually met with in our observations."

From the foregoing examples it must be obvious that, valuable though the translation will be to those whose knowledge of German is not sufficient to allow them to read the original text but who have sufficient acquaintance with the subject matter to be able to recognise inaccurate translations, and knowledge enough of German to work out the correct translations where necessary, this translation, if accepted as correct, must be conducive to erroneous conceptions. We sincerely hope that the translator will carefully revise his rendering of this work, which is of inestimable value, so that it shall be both more readable in places and more accurate. Of the subject matter we have nothing to add to our previous remarks on Professor Bezold's work.

Diseases of the Digestive System (Modern Clinical Medicine). Edited by FRANK BILLINGS, M.D., Professor of Medicine, University of Chicago, &c. An Authorised Translation from "Die Deutsche Klinik," under the general editorial supervision of JULIUS L. SALINGER, M.D. London: Sidney Appleton. 1907. Pp. 824. Price 25*s.* net.

THE volume before us contains a series of articles written by eminent authorities in Germany and Austria upon matters connected with the digestive system. It opens with a contribution on Stenosis of the Œsophagus, by Th. Rosenheim of Berlin, followed by a series of articles on Gastric Disorders, W. Fleiner of Heidelberg writing on Gastric Lavage; H. Leo of Bonn on Functional Disorders of the Stomach; H. Strauss of Berlin on Secretory Disturbances; F. Riegel of Giessen on Gastric Dilatation; C. A. Ewald of Berlin on Gastric Ulcer and Hæmorrhage; and J. Boas of Berlin on Gastric and Intestinal Carcinoma. F. Hirschwald of Berlin deals with Displacements of the Abdominal Viscera and L. Oser of Vienna writes a very brief account of Diseases of the Pancreas. Jaundice and Hepatic Insufficiency are dealt with by O. Minkowski of Cologne; Chronic Inflammation of the Liver, by E. Stadelmann of Berlin; Neoplasms of the Liver and Biliary Passages, by Fr. Kraus of Graz; Echinococcus of the Liver, by Stadelmann; and Gall-stones, by Neusser of Vienna. Acute Peritonitis, Diffuse and Circumscribed, including Perityphlitis, is discussed by O. Vierordt of Heidelberg, and Chronic Perityphlitis, by Boas who also treats of Constipation and Hæmorrhoids. An account of the Methods of Examining the Fæces is given by J. Strasburger of Bonn; and Diarrhœa, Intestinal Catarrh, and Intestinal Tuberculosis are dealt with by Fleiner. G. Hoppe-Seyler of Kiel writes on Mucous Colic and Membranous Intestinal Catarrh and the book ends with an account of Intestinal Constriction and Occlusion by H. Nothnagel of Vienna.

The foregoing array of distinguished names sufficiently indicates that the book contains valuable matter. It is not, and does not profess to be, a complete and systematic textbook of the subject with which it deals, as it is easy to point out matters of importance, such, for example, as tuberculous peritonitis and the various forms of gastritis which are entirely omitted. The translation is of about the usual degree of merit found in American translations of German works. It is intelligible but not elegant, and here and there we meet with curious expressions, as, for example, "the abdominal press" for the intra-abdominal pressure, "its inclosure, the appendix" for the organ which incloses it (a calculus).

On the whole, the book is interesting and useful as illustrating contemporary continental practice, which differs in some points from that usual in this country—such differences lying in the views prevalent on subjects such as the need for immediate operation for appendicitis and the early use of gastric lavage. Discussion of opposing ideas cannot fail to be stimulating and valuable, as the last word has not been said on many points which are too readily accepted as settled by dogmatic assertions.

A Short Practice of Aural Surgery. By J. ARNOLD JONES, M.B., Ch.B. Vict., Assistant Aural Surgeon to the Manchester Eye and Ear Hospital. With 25 figures. London and New York: John Lane. 1908. Pp. 246.

THIS little work, produced by a young aural surgeon, is one which possesses the great advantage of being written in a very readable way. The first chapter is devoted to a short *résumé* of the more important anatomical and physiological uttered didactically; and (3) twaddle; whilst Dr. Mackenzie's own definition was "a statement of ignored trifles or things taken for granted." We can certainly acquit his platitudes of having any part in the dictionary's final alternative, and if we accept the other two definitions in this special connexion, truth, no less than courtesy, demands the deletion of their contemptuous adjectives. Combining, then, our modified authority with the meaning which Dr. Mackenzie himself gives to a platitude, we may define it as "a statement which is so true as to be obvious, dealing with things so commonplace as to be taken for granted and which have consequently come to be ignored as trifles." We submit that this meaning puts a different complexion upon the despised platitude, and even though we allow our dictionary to add that it is "uttered didactically," may not such formal delivery invest its lesson with a force lacking in casual utterance? We are prepared to justify our defence of platitudes by quoting the three on which Dr. Mackenzie based the paper in question: "Carefully observe your patient and understand what you see." "Treat the patient and not the disease." "Observe what becomes of your patients." How often has young Laertes, M.B., freshly "capped and doctored and a'," listened to such platitudinous counsels from the tedious lips of Dr. Polonius, his professional father! Oh yes, he's heard all that a hundred times and only wants to be spurring on his way. And yet, if he ponder upon this trilogy of truisms (of which, by the way, the third deserves more attention than it generally receives), he may fuse them into a golden rule for the practice of medicine, a very compendium of its science and art. It is, as Poe insisted, the name writ largest on the map which we fail to find, the obvious which escapes our attention, and it is well to be now and again formally reminded of the importance of the commonplace principles upon which experience shows we may best conduct the business of our lives. And a platitude has this great claim to respect, that granted it embraces a truism, *a fortiori* it contains a truth, and in the practice of medicine the establishment of an unassailable fact raises a new rock of safety out of a shifting quicksand. The man who can find nothing but tedium in the contemplation of such platitudes as we have quoted, if asked his candid opinion of Newton's statement of the laws of motion, would not improbably confess that to his intelligence they appeared a somewhat pedantic expression of obvious natural phenomena, in fact, mere dynamical platitudes. It would never occur to this superior person that had the philosopher not embodied his observations in convenient formulæ the knowledge of these phenomena would not have been his own birthright. And so it is with the platitude, for which, in place of the dictionary's scornful utterance, we now venture the more respectful and handier definition of "crystallised experience."

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THE recently published yearly summary of the weekly returns issued by the Registrar-General for Ireland during last year records a rate of urban mortality in that part of the United Kingdom in marked excess of the rate that prevailed during the same period in the principal urban population of England and Wales. In the 76 large English towns, each having an estimated population exceeding 50,000, the mean rate of mortality during last year did not exceed 15·4 per 1000, while in London, with a population little short of 5,000,000, the unprecedentedly low death-rate of 14·6 per 1000 prevailed. The return referred to contains statistics relating to 22 town districts of Ireland, with an aggregate estimated population of little more than 1,000,000; and the population of the individual town districts ranged from 300,850 in Dublin city and 370,163 in Belfast, to 7909 in Queenstown and 7588 in Armagh. Indeed the population of but three of the Irish towns exceeded 50,000, while in each of 16 of the 22 town districts the population was considerably below 20,000. Notwithstanding, however, the inclusion of so many small towns in the Irish list the mean rate of mortality in the 22 town districts during last year was equal to 21·1 per 1000, exceeding the rate in the 76 far larger English towns by no less than 5·7 per 1000; thus the rate of mortality in the Irish urban population exceeded that in the principal urban population of England and Wales by 37 per cent. The contrast between the London and Dublin death-rates was still more startling. The recorded rate of mortality in the Administrative County of London during last year did not exceed, as is stated above, 14·6 per 1000; whereas in the Dublin registration area the death-rate was equal to 24·2, thus exceeding the London rate by 9·6 per 1000, and by no less than 66 per cent. Moreover, this excessive death-rate in Dublin was 1·1 per 1000 below the average rate during the ten preceding years. It is also worthy of note that the death-rate last year was equal to 21·3 per 1000 in Belfast, and that among the smaller Irish towns it exceeded 20 per 1000 in Cork, Galway, Kilkenny, Newtownards, and Waterford. These high rates of mortality in the Irish towns can only reflect the defective health condition of the urban population which calls for careful investigation. It is only possible here to note one or two facts disclosed by this summary of the Irish weekly returns. In the first place, it is clear that the excessive rate of mortality in the Irish towns is not due to exceptional fatality of epidemic disease, as the rate of mortality during last year from the seven principal epidemic diseases was identically the same—namely, 1·6 per 1000, both in the 76 English towns and in the 22 Irish town districts. It is true that the rate of infant mortality, which did not exceed 127 per 1000 births during last year in the English towns, was equal to 135 per 1000 in the Irish towns; this excess of infant mortality, however, accounts for but a small proportion of the excess in the crude death-rate in the urban population of Ireland. As the birth-rate last year in the Irish towns was equal to 28·4 per 1000, against 27·0 in the English towns, it is improbable that the excess of mortality in the former is due to any very exceptional age constitution of the population, but it may be pointed out that while the proportion of deaths of persons aged upwards of 60 years to total deaths did not exceed 26·5 per cent. in the Irish towns, it was equal to 29·2 per cent. in the large English towns. These figures appear to suggest that the main excess of mortality in the Irish towns occurs among adults aged between 20 and 60 years. The true explanation, however, of this excessive mortality is not disclosed by the Irish Annual Summary under notice, and could only be ascertained by a full and careful analysis of more detailed statistics of the mortality in this Irish urban population, at various groups of ages and with due regard to its sex and age constitution.

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THE existence of forms of the tubercle bacillus which become decolourised in the course of the ordinary Ziehl-Nielsen method of staining is affirmed by Dr. Hans Much of Hamburg, in an interesting paper published in the *Berliner Klinische Wochenschrift* of April 6th. He has found that on making post-mortem examinations of cattle infected with tubercle bacilli of known origin and of ordinary characters, and presenting typical nodules in the lungs, the most careful examination may in certain cases fail to reveal ordinary acid-fast tubercle bacilli, in spite of the fact that inoculation experiments may demonstrate the tuberculous nature of the lesions and that from some of the cases tubercle bacilli may be obtained by culture. Similar results [illegible] observed with a friend, *I don't want my doctor to talk to me about the National Gallery:* which is a shrewd saying. People who are seriously ill care no more for preciosity in us than for gold dust in the beef-tea." And again: "Hospital letters are a survival of the bad Georgian way of *patronising the unfortunate.* Nothing can justify them, unless it were the existence of people who would not subscribe even to the maintenance of Heaven, without an Annual Report and the right to recommend four souls for immediate admission, if found suitable cases." One word more. Our author knows his Juvenal and makes such apt employment of his Shakespeare that we should welcome from his pen a set of essays frankly concerned with the interpretation of the Master's mind. It may seem a bold thing to urge the further tilling of that well-cultivated field, but the author of "Confessio Medici" has the stuff in him that, if we are not mistaken, might well enhance its fruitfulness.

LIBRARY TABLE.

The Cottage on the Fells. By H. DE VERE STACPOOLE. London: T. Werner Laurie. 1908. Pp. 306 Price 6s.—Mr. Stacpoole in his most recent work has made quite a departure from his previous book, "The Blue Lagoon," that charming idyll of the South Seas with its delicate flavour of Theocritus XXVII., or perhaps we should rather say the Daphnis and Chloe of Longus. "The Cottage on the Fells" is a story of a murderer who was a genius in his horrible way. We will not give away the plot but it is a good one and the mystery is kept up till the end. There is one point where we think Mr. Stacpoole must have been nodding and that is in Chapter XXIX., where the motor-car of the director of the Criminal Investigation Department which is taking him to a road near Holland House goes from Scotland-yard all the way round by Regent-street, the Bayswater-road, Silver-street, and Kensington-road. As the director was in a hurry this seems inexplicable. Why not have gone by Piccadilly? There is nothing medical in the book but that is all the more reason why medical readers will find in its pages welcome relaxation from professional study.

Lessons in Practical Hygiene for Use in Schools. By ALICE RAVENHILL, F.R San. I., late Lecturer on Hygiene and Inspector, County Council, West Riding of Yorkshire; Lecturer, University of London Extension Board. With Preface by Professor M. E. SADLER, M.A. Leeds and Glasgow: E. J. Arnold and Son, Limited. 1907. Pp. 750. Price 5s. net.—This is far more than a work on elementary hygiene. It is divided into five parts and ranges over an extensive series of fields of study such as the requirements, phenomena, and characteristics of life, the conditions by which life is affected, air and water. Nearly 200 pages are devoted to the human body; about 170 to food and foodstuffs, cooking, beverages, and food preservation; about 60 to personal hygiene; and 120 to the dwelling in all its aspects. Many of the chapters contain much that is far outside the scope of the sixth standard child. Careful lists of apparatus and materials required are given, while full directions are furnished for the performance of experiments. It is not a textbook in the ordinary sense of the term to be placed in the hands of the pupil. It appears to us to be rather a guide to, and most useful quarry of, information from which the teacher can select material for his lectures. It is throughout thoroughly practical but the number of experiments given is so large that no single scholar could overtake them. It will prove a most useful source of information to teachers of hygiene and indeed to teachers of elementary physiology in secondary and higher schools. It is excellent throughout and is a trustworthy guide to practical hygiene, while its price brings it within the reach of all.

First Aid to the Injured: Six Ambulance Lectures. By the late Dr. FRIEDRICH ESMARCH. Translated from the German by H.R.H. PRINCESS CHRISTIAN. Seventh edition, revised and enlarged, with additional illustrations. London: Smith, Elder, and Co. 1907.—The first English edition of Dr. Esmarch's lectures on ambulance work was published by the Princess Christian in 1882, and the appearance of a seventh edition 25 years later is a good guaranteee of the favour with which it has met. The favour has been deserved, for it is well written and clearly arranged and the translation is worthy of its author. We can safely commend it to all who are engaged in ambulance work or lecturing. Some of the old pictures which illustrate the book appear somewhat quaint at a day when we are accustomed to elaborate photographic reproductions, but new illustrations have been added and though the old blocks are a little the worse for wear they serve their purpose well enough.

Aids to Surgery. By JOSEPH CUNNING, M.B., B.S. Melb., F.R.C.S. Eng., Surgeon to the Victoria Hospital for Children; Assistant Surgeon to the Royal Free Hospital. Second edition. London: Baillière, Tindall, and Cox. 1908. Pp. 404. Price, paper, 3s. 6d.; cloth, 4s. net.—This is the second edition of a little revision book for students about to be examined in surgery, which we reviewed when it first appeared (THE LANCET, March 26th, 1904, p. 878). We then said that it was an excellent product of its class and although all such books must owe a great deal to larger works yet they have a distinct use, provided they are not abused. A few pages of the book have been rewritten. The information is sound and the book seems likely to become in surgery much the same as "The Pocket Gray" has become in anatomy. We note that the present edition, although larger than the first, is slightly cheaper in price.

The Pocket Anatomy. Sixth edition, revised and edited by C. H. FAGGE, M.B., M.S. Lond., F.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1908. Pp. 269. Price 3s. 6d. net. —The little green covered book which has been carried about by many generations of students at the time when they are preparing to face their examiners in anatomy, and which has declared its normal *habitat* under the title of "The Pocket Gray," is to be known in future as "The Pocket Anatomy." Mr. Fagge in his preface states that his reason for the change of title is that he has borrowed from the works on anatomy by Quain, Cunningham, and Morris in compiling this edition, so his revised title is well justified. As we have often said, this class of book can be used and abused—it may be either a revision book or a cram book—but "The Pocket Anatomy" in intelligent hands is, we consider, an extremely useful little book. We see that Jonesco's description of the pelvic colon is given and the term "rectum" is restricted to that portion of the gut to which it is rightly applicable. The book is carefully indexed.

A Manual for Hospital Nurses. By E. J. DOMVILLE, L.R.C.P. Lond., M.R.C.S. Eng. London: J. and A. Churchill. 1907. Pp. 152. Price 1s. 6d. net.—We need say little about this book beyond recording the fact that it has reached its ninth edition, which is a guarantee of its popularity. It is an elementary book on nursing, intended for both nurses in training and others engaged in attending on the sick, and it briefly covers the usual ground in an adequate manner.

HEALTH OF BOURNEMOUTH.—Mr. P. W. G. Nunn, the medical officer of health of Bournemouth, in his annual report for 1907, which has just been issued, states that on an estimated population of 73,000 the total number of deaths was 827, giving a death-rate of 11·32 per 1000. 1205 births were registered, corresponding to a rate of 16·52 per 1000.

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Art and Insanity.

From the day when Moreau of Tours gave a new form to the trite aphorisms of our ancestors and affirmed in set scientific terms that genius was a neurosis, distinction in art or letters has been a recognised title to the attention of the pathologist. The intellectual and moral aberrations of men of genius have been the theme of many volumes, most of which appear to have been compiled from the evidence of that notoriously disillusioned person to whom no man is a hero. Sometimes, too, it has been possible to supplement the testimony of the valet with information gleaned from the great man's tailor or his hatter and so to ascertain, for instance, whether the laurel wreath of fame rests more often on an oxycephalic or on a scaphycephalic cranium. The result of these investigations, according to the enthusiasts who have pursued them, has been to establish quite conclusively the kinship of great wit not only to madness but also, and in even nearer degree, to epilepsy and to crime, and to prove that originality of thought, if not perhaps quite as dangerous socially, is fully as morbid and as indicative of "degeneracy" as any form of delinquency known to the law. This doctrine has been found very useful when it has been desired to attach the stigma of unhealthiness to literary or artistic work which shows any tendency to depart from traditional models, and it is with this application of it to modern writers and artists that we are most familiar. So useful, indeed, has it proved in this way to the advocates of conservative ideas in art that they have for the most part confined themselves to this use of it and have never imperilled their faith in the general soundness of their theory by pursuing the complementary line of inquiry and seeking for evidences of original talent in the art of the insane.

It may therefore be worth while commending to their notice and to the notice of all who are curious in these matters a small volume recently published by Dr. Marcel Réja under the title of "L'Art chez les Fous."[1] In this very interesting contribution to a comparatively neglected subject Dr. Réja is mainly concerned with the efforts of the insane in literature and in design, while he touches only briefly on sculpture and makes no reference at all to music. This latter omission, we may note in passing, is somewhat significant, for it is due to the fact that it is extremely rare for the insane to seek in music an outlet for their morbid artistic activity—a fact which must be rather embarrassing for those who would have us believe that the great development of music in modern times is one of the morbid symptoms in contemporary art. Whatever be the explanation, it is certainly the case that the art of the lunatic asylum is practically confined to pictorial and literary expressions, being characterised in both by peculiarities of somewhat similar import. Of these peculiarities the most constant and distinctive is, curiously enough, not a spirit of licence and innovation but, on the contrary, a spirit of excessive traditionalism. In the pictorial art of the insane, for instance, the most characteristic feature is the resemblance to archaic art, and this, it may be remarked, is seen both in the work of lunatics who have received a technical training before the onset of their mental disease and in the work of insane amateurs. The mad painter, far from introducing startling innovations in technique or conception, is much more inclined to revert to primitive formulas. So far does this tendency go that the designs of the insane often reproduce the naive devices of the early masters, so that, for instance, as in primitive frescoes, the size of the personage will be made to correspond not to their place in the perspective but to the importance of their rôle in the dramatic action, or, again, several successive phases of the same action will be represented in the same picture. When not distinguished by a reversive tendency of this sort the works of insane painters, unless quite incoherent, are, as a rule, without any special characteristics at all; certainly they hardly ever reveal, even in the most rudimentary degree, any straining towards new horizons. And we find just the same lack of originality when we examine the literature of the asylum; and here, of course, we have more abundant material to deal with, literature being notoriously the favourite direction for the artistic energies of the lunatic. The most striking feature of insane literature, and one doubtless which may also be regarded as of reversive significance, is the predominance of poetry; relatively few lunatics, and, as a rule, those only whose mental integrity is but slightly impaired, make any attempt to produce work of literary pretensions in prose. This preference for the metrical form appears to be due in great part to what may be termed an orthopædic influence of verse on the invalid brain; verse supplies, as it were, a channel into which the incoherent stream of words and images can be poured, so that in the automatic activity of the disordered mind metre and rhyme act as substitutes for the processes of rational association. In the examples quoted by Dr. Réja the rhymed alexandrine is the most usual form of metre; in part, no doubt, the literary traditions of France might be expected to create a preference for this type of versification, but it is probable that the chief reason for the general use of this or of some other variety of rhymed couplet is to be found in the obvious advantages of such a simple metre as a means of giving rhythm to the insane logorrhœa, for the same pedestrian sort of verse is specially affected by asylum poets in other countries. If there is no novelty of technique to be discovered in the poetry of the mad-house, it is equally hard to discern in it any originality of conception; the characteristic of its matter is rather, indeed, a tendency to a dreary didacticism reminiscent of the late Mr. Martin Tupper in his most platitudinous moments. Even in the very rare instances where verse of real distinction is written under the influence of insanity, this influence is shown chiefly in a too faithful observance of traditional formulas, which gives it at its best the appearance of a passable imitation of some accepted master of style.

The conclusion of the whole matter is, then, that, alike in literature and in painting, conventionality and traditionalism appear to be the distinguishing features of the work of the insane; so that if we are to deduce from the characteristics of that work our criterion of what is morbid in art we shall be more likely to discover

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[1] L'Art chez les Fous: le Dessin, la Prose, la Poésie. Par Marcel Réja. Paris: Société du Mercure de France. 1908. Pp. 235. Price 3fr. 50c.

Mr. Arthur Edmunds showed at a meeting of the Society for the Study of Disease in Children [3] an English baby with similar pigmentation in the sacro-iliac region. The occurrence of the so-called Mongolian pigmentation in European infants may therefore be accepted as a fact, but the condition would appear to be one of great rarity.

AN "ACADEMIC PROLETARIAT."

"THE phrase" (writes an Italian correspondent) "is Guido Baccelli's who, when Minister of Public Instruction, coined it in order to give currency to an impression, borne in upon himself and his predecessors in office, as to the evil wrought by Italy's plethora of universities which turn out annually many hundreds of graduates in law, in medicine, and in engineering, of whom scarcely one half can expect to gain a livelihood by their nominal profession. What becomes of this great army of the educated unemployed? Disdaining to go into commercial or industrial pursuits, for which indeed they have scarcely more aptitude than training, they reinforce the already swollen ranks of journalism mainly political or of parliamentary 'agitation' mainly demagogic. Hangers-on of this or that political group, they court the patronage of its chief by services on the platform or the press, contributing to journals which crop up like mushrooms, often as deciduous as they are unwholesome, or strutting their little hour on public platforms and diffusing the malady, of which they are alternately the cause and the effect, known to continental alienists as 'mania contionabunda.' All this was put before parliament in Italy some nine or ten years ago by Dr. Baccelli in the memorable speech in which he advocated the reduction of Italy's multitude of seats of learning to a minimum of four which, duly endowed and equipped, would be beyond the temptation of competing with each other in the matter of matriculation, curriculum, and graduation, and by making their degrees attainable only by earnest and competent aspirants would bring down the total of graduates to a number corresponding to public wants and so cut at the roots of the upas tree—'the academic proletariat' aforesaid. Unfortunately, the administration in which Baccelli was charged with the portfolio of Public Instruction collapsed before his Bill for University Reform could pass through its preliminary stages, and so the mischief wrought by the plethora of 'seats of learning' remains as active as ever—to the prejudice alike of professional efficiency and of public well-being. In fact, the University curriculum would seem often to be accepted by the undergraduate less as a preparation for the legal or the medical calling than for the career of the 'publicist,' if we may judge from the proneness of the student to intervene in the politics of the hour, domestic or international. Messages of sympathy, voted by undergraduates 'in council assembled' (which is often but a turbulent meeting in the quadrangle), are despatched to this or that 'cause,' native or foreign, which happens to be in conflict with the central authority; sides are taken with a fervour and a vehemence redolent of the parliamentary arena rather than of the 'Groves of Academe'; and many a youth who might have made a respectable citizen as practitioner in law or medicine is seduced by the success of his harangue and the triumph of his 'side' to pose ere long as a little Gracchus hungry for 'place,' or (let us say) as a 'Gracchulus esuriens' in the parliamentary lobbies. Aping the methods of the industrial proletariat, as these are dictated by the professional agitator, the undergraduate here goes out on 'strike' and just the other day we had all over Italy outbreaks of the 'sciopero accademico' on the part of students who wanted their own way in the matter of examinations or who bore a grudge against this or that professor. Interrupting not merely their own studies but those of their class-fellows from whom they exact 'solidarity' or action in common, they convert the curriculum of the year into little more than a farce, so that failing (naturally enough) to meet the examination test in their own university they are fain to court that of another more accommodating. All this, as seen and deplored by successive Ministers of Public Instruction but never put so powerfully in evidence as by Italy's prominent clinician and senator Guido Baccelli, calls loudly for remedial legislation, beginning with the suppression of at least three-fourths of the existing universities and the absorption of the resources of these into the four, as proposed by Baccelli, which would encourage real learning and exclude all but the duly qualified from the professions. True, the reform indicated is fraught with difficulties. Just as in the matter of the civil list the King is periodically importuned in Parliament to suppress the many palaces inherited from the deposed dukes, grand dukes, and tiny monarchs who disappeared with Italian unity, but has always to declare his inability to do so from the local protests raised by the communities in which the said palaces are cherished as an heirloom and an asset, so in the case of the universities which, equally with the palaces, are retained long after the duchy or the kingdom to which they belonged has ceased to exist, the reformer who proposes to extinguish them so as to concentrate their lights and to feed a larger and more illuminating flame is met by an outcry from the 'seat of learning' and its neighbourhood which forces him to desist, under a pressure aided and abetted by Parliamentarians who, radical in other questions, become conservatives indeed when their local interests are threatened. And yet something must be done, and that right early and right thoroughly, if Italy is to rise to the height from which she has declined since the Renaissance and make her universities the true 'Almae Matres' or 'nursing mothers' which they once were, not only to herself but to the outlying world. Then, but not till then, shall we witness the disappearance of 'academic strikes' and 'quadrangular duels' between professoriate and *Burschenschaft* and with it the deflection of undergraduate energies into their normal and fertilising channels—to the revival of Italy's fair fame in the sphere of research and practice and to the extirpation of that malignant fungus now poisoning her public life—the Academic Proletariat."

VACCINIA AND VARIOLA.[1]

THE Association of Public Vaccinators of England and Wales has done well to publish Dr. De Korte's paper read at its annual meeting last October. The paper constitutes a most useful addition to the easily accessible literature on the subject. It differs from most writings in defence of vaccination in respect that it touches only slightly on the statistical evidence and confines itself almost wholly to a historical and scientific study of the vaccinal process and to the nature of the immunity conferred. The statistical evidence that vaccination prevents small-pox is so overwhelmingly strong and has been so frequently set forth that there was no need for its repetition, but the bacteriology of vaccinia and variola has been seldom dealt with excepting in larger works. Dr. De Korte discusses the principle of Jennerian vaccination and refers to the experiments of Simpson and King and others as to the relationship of cow-pox to small-pox. He discusses also the cause of ulceration in Jenner's day and the side-chain theory and alexocyte theories of immunity, the histological changes in variola and vaccinia, umbilication and method to one-quarter of the original number. In default of effecting any reduction in the number of rats present in a place the access of rats to man must be minimised by the latter vacating places where rats, and especially plague-sick rats, have been found. Evacuation should take place *immediately* after the rats have died. This measure, as it is pointed out, is efficient for preventing the development of plague amongst man, provided it is adopted early enough—that is, before or immediately after rats have been found dead in a house. But it is dangerous when it encourages those who have been living in the midst of infected surroundings to seek refuge in healthy towns and villages in order to avoid the discomfort of a camp life.

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[3] THE LANCET, Feb. 3rd, 1906, p. 299.

[1] Vaccination Scientifically Considered, by W. E. De Korte, M.B. Lond. Published by the Association of Public Vaccinators of England and Wales. Price 6d.

Lastly, and if we could only insure its universal application, the method of inoculation which has been brought to such a pitch of perfection by Mr. HAFFKINE is the surest means of prevention. Everywhere throughout India the results obtained, contrasted with control experiments, show this, and no greater benefactor to the Indian people has ever visited that country than this distinguished *savant;* even after five years some trace of protection remains. Testimony to its good effects is afforded not only by the communities inoculated but also by the police, the railway companies, and the mill-owners amongst other bodies. Captain LISTON concludes his admirable advice by showing that no single anti-plague measure should be adopted to the exclusion of others; each has its advantages. Where danger is imminent inoculation can best be practised; where it is wished to anticipate the possible epidemic in any village destruction of rats is most advantageously carried out. Evacuation is also a useful adjunct to inoculation. Evacuation and inoculation promptly carried out will stop any epidemic. Professor SIMPSON narrates a striking case occurring in Cape Town where plague was becoming serious amongst the Kaffirs. It having been decided to remove them from their insanitary dwellings some 7000 to 8000 were so removed and all were inoculated. The epidemic at once ceased. In conclusion, it may be mentioned that Professor SIMPSON strongly recommends the disinfection of a plague-stricken domicile by sulphurous acid gas by means of the Clayton method. This will destroy not only the plague germ but also rats, fleas, bugs, and other agents capable of conveying the infection, and, moreover, does away with the irritating procedure of removing all the different effects and chattels of the natives elsewhere for disinfection, as everything is thus dealt with *in situ*.

Annotations.

"Ne quid nimis."

THE NEW CABINET AND THE PUBLIC HEALTH.

WE have on several occasions recently discussed in our columns the status of the Local Government Board and we have pointed out the disabilities which attach to any offices other than those of Secretaries of State by virtue of the promotions which take place from time to time in any given Cabinet and which have often the effect of depriving some important Government department of the services of its president just as such president has had time to learn the work of the department. Probably no other department has suffered more from these Cabinet promotions in the past than the Local Government Board, and in a recent leading article in our columns we protested against the removal of Mr. Burns from that office at a time when he had introduced important public health measures into Parliament and when several others were likely to follow shortly. At the same time we did not for a moment suggest that Mr. Burns should forego any promotion to which his services have justly entitled him, and we suggested that his promotion should take the shape of an exaltation in status of the office which he now holds. We are therefore very pleased to see that events have justified our prophecy and that Mr. Burns is to remain at the Local Government Board to pilot through the House his important Housing Bill as also we trust, amongst others, measures relative to the better control of milk and meat and to the creation of river boards by means of which public health authorities may be better able to deal with the pollution of rivers, the purity of water-supplies, and, last but not least, to secure the wholesomeness of the numerous forms of shell-fish which are consumed in such large quantities and often with such disastrous results to the consumers. The continued reign of Mr. Burns at the Local Government Board will afford him opportunities of redeeming his pledges to deputations in these respects, and for this reason we cordially congratulate him upon his re-appointment as also upon the fact that he has been given as a Parliamentary Secretary Mr. C. F. G. Masterman who takes great interest in natural science and in all schemes for the moral advancement of the people. We have yet to learn what are the precise proposals which the Prime Minister will present to the re-assembled Parliament relative to the status of the Local Government Board and the Board of Trade. We see, for instance, suggestions that the pay of each of these Ministers is to be raised to Secretary of State level but that they are not to enjoy the accompanying rank. We trust that no such invidious distinction will be made, as it seems clear from the recent debate which took place in the House of Commons on the subject that Mr. Asquith fully recognised the absurdity of the existing disparities in so far as the Local Government Board and the Board of Trade were concerned and that both sides of the House were in complete harmony on the subject. A department such as the Local Government Board, which deals with public health, pauperism, local expenditure, and a host of other matters affecting intimately the daily life of the whole population, should enjoy a status second to no other department of the State and we trust that full justice will at last be meted out to it.

A PLEA FOR THE PLATITUDE.

THE Glasgow Southern Medical Society has for its badge a clamant cockerel beneath the defiant motto "While I live I'll crow." We are happy to say that the society has carried out its purpose for 64 years already and has recently shown by a lusty note raised from the presidential chair that it is still animated by the spirit of its founders. The occasion to which we allude was an address delivered by Dr. James Mackenzie of Burnley under the title "Some Platitudes and the X Disease," in which he upheld with convincing vigour the claims upon the gratitude of Medicine which have been earned by the great body of her general practitioners, and the purpose of his address was to set forth the way in which it seemed to him the continuance of those claims might be assured. He brought forward his advice under three headings, to which he made deprecating allusion as "Platitudes of Medicine." A certain standard dictionary gives us three meanings for platitude: (1) a written or spoken statement that is flat, dull, or commonplace; (2) an insipid truism, especially when abdomen, but especially on the right side. On August 1st the pain increased and on the 2nd he was seen by Dr. Duvergey. The pulse was 120, the temperature was 103·2°, and there were muscular rigidity particularly in the right iliac region and tenderness greatest at McBurney's point, where a hard mass was beginning to appear. The condition became worse and on the 7th vomiting of the same character as in the preceding case occurred. Operation revealed a fœtid retro-cæcal abscess which was drained. Recovery ensued. These cases show that appendicitis may be accompanied by the vomiting of liquid containing blood in such small quantity that on superficial examination it may be unnoticed, particularly if the microscope is not used. Dr. Duvergey ascribes the hæmorrhage to ulceration of the gastric mucous membrane from the interference with its nutrition produced by small emboli brought to it from a focus of infection. Hæmatemesis in appendicitis denotes a more or less profound infection of the body and increases the gravity of the prognosis but slight hæmatemesis is not of such serious significance as severe hæmatemesis. Seven out of nine cases of the latter reported by Professor Dieulafoy proved fatal. On the other hand, in the first case of slight hæmatemesis related above the course was benign.

DIPHTHERIA IN ELEMENTARY SCHOOLS.

AN interesting paper on this subject was read at the recent meeting of the Royal Sanitary Institute at Hull by Dr. J. Wright Mason, medical officer of health of the City and Port of Kingston-upon-Hull. After a reference to some points in the bacteriology of the disease Dr. Mason drew attention to the observations of Dr. D. S. Davies who noted that at one time in the same town the type of the pathogenic bacillus may be distinctly different from that found at another time, and that the differences of type are accompanied by different characteristics of the disease both as to fatality and infectivity. This same variation occurs with some of the other infectious diseases and is difficult to explain but is important to remember in estimating the value of new therapeutic measures. Dr. Mason also mentioned that "common cold and sore-throat" are often the precursor of outbreaks of diphtheria in schools, and consequently rightly urged that when a case of diphtheria is recognised all proper measures for isolation and quarantine should be at once adopted. Recent bacteriological investigation has confirmed the suspicion long entertained that children may act as "carriers" of infection without themselves presenting symptoms of diphtheria; consequently Dr. Mason emphasises the importance that when a child attending school is found to be affected with the disease a medical inspection should follow of the family and other children of the class or school. Swabs should be taken from their throats for bacteriological examination and in cases where diphtheria bacilli are shown to be present such children should be excluded from school and should not be allowed to return until they have been declared by bacteriological examination to be free from infection. Dr. Mason further insisted that during epidemic periods there should be frequent medical inspection of the schools and that infected "contacts" and those who have been exposed to infection should be injected with a prophylactic dose of antitoxin. The protection afforded by such treatment lasts about three weeks and if the throat is not clean at the expiration of that time Dr. Mason advises that the dose should be repeated. He also reminded his hearers that another point should not be overlooked with regard to diphtheria—namely, that discharges from mucous membranes are exceedingly prone to recur, and that after a patient has been declared to be convalescent the discharge may recur on exposure of the individual and become a possible source of infection. The various points to which attention were drawn by Dr. Mason are generally known and accepted, but they cannot be too frequently brought before the notice of the sanitary authorities, so that every precaution available to modern science can be utilised when necessary.

A CASE OF HODGKIN'S DISEASE WITH GENERAL EOSINOPHILIA.

A CASE of some interest is described by Dr. O. H. Perry Pepper in the *Bulletin of the Ayer Clinical Laboratory of the Pennsylvania Hospital*, No. 4, December, 1907. The patient was a woman, 50 years of age, an Austrian by birth, and was admitted into the Pennsylvania Hospital on June 22nd, 1907, under the care of Dr. Morris J. Lewis. In February, 1907, she began to lose appetite and to suffer from vomiting and abdominal pain. She lost flesh and her abdomen became distended. The superficial lymphatic glands were found to be enlarged, including the epitrochlear, axillary, supraclavicular, cervical and parotid glands, some of them being as large as pigeon's eggs. The spleen extended downwards and forwards three inches below the costal margin in the mid-clavicular line. It was smooth and was not tender on palpation. The liver was found to extend from the fourth interspace to two and one-eighth inches below the costal margin in the parasternal line. There was slight pre-tibial œdema and a papular eruption was found on the body due to pediculosis. During the patient's stay in hospital she suffered from an intermittent febrile temperature reaching up to 102° F. For some days after admission she appeared to grow worse, the glands and spleen enlarged, and a deep-seated mass of indefinite outline was felt in the left side of the abdomen. Shortly afterwards she improved but left the hospital against advice on July 22nd. During her stay in the hospital the blood was examined four times. On admission there were 3,960,000 erythrocytes and 21,500 leucocytes per cubic millimetre. A differential count showed 77·6 per cent. polymorphonuclears, 4 per cent. lymphocytes, 4·8 per cent. large mononuclears, and 11·6 eosinophiles, i.e., an absolute count of 2494 eosinophiles per cubic millimetre. The percentage of hæmoglobin was 59. On a subsequent count the number was 4608 eosinophiles per cubic millimetre, a percentage of 16 of the total leucocytes. A further count made shortly before the patient left the hospital gave 3,800,000 erythrocytes and 16,160 leucocytes, the differential count being 46 per cent. polymorphonuclears, 40 per cent. lymphocytes, and 8·8 per cent. eosinophiles. The fæces were searched for ova of parasites but none were found. The sputum was examined for tubercle bacilli with negative result and no cause could be found for the eosinophilia. Another noticeable feature in the blood was the increasing numbers of lymphocytes which is said to be a feature of Hodgkin's disease. The diagnosis was confirmed by removal of a gland from the axilla for microscopical examination which was carried out by Dr. Longcope who obtained results typical of the cellular form of Hodgkin's disease. The normal structure of the gland was lost; it was made up of a fairly delicate reticular meshwork through which ran great numbers of small blood-vessels. The meshwork contained cells of many different types mixed together without definite arrangement. There were small mononuclear cells, epithelioid cells many of which showed karyokinetic figures; a few mononuclear giant cells and enormous numbers of eosinophilic cells, most of them being multinuclear. A few plasma cells were also seen. Goldmann and Kanter so long ago as 1894 described the presence of eosinophiles in the lymph glands in Hodgkin's disease and their observations have been abundantly confirmed, but it is only recently that general eosinophilia has been observed in that disease. Dr. Pepper after examining the reports of 19 other cases the so-called "cold abscesses" resulting from the tuberculous process in the human subject. Dr. Much, by using Gram's method as well as the Ziehl-Nielsen, found that there were two forms of the tubercle bacillus which were not acid-fast—one a rod-shaped form which is partly granular and the other a granular form consisting of granules lying singly or clustered into irregular groups. To demonstrate these forms he employs Gram's method, leaving the preparations in the gentian-violet solution for 48 hours before decolourisation. If sections of tuberculous tissues from which no ordinary bacilli were obtained were stained in this manner they sometimes showed large numbers of fine rods in some of the tubercles, often lying in the cells, while in other cases only fine granules lying partly in rows, partly irregularly, were to be seen. Small pieces of fresh lung tissue from such a case (free from other organisms) were incubated for varying periods in serum tubes placed in an incubator at 37° C. At first only granules and rods staining by Gram's method were obtained, but after incubating for six days bacilli staining by Ziehl-Nielsen's method were also recognisable. The granules were not artefacts due to precipitated stain, since they were only found in the tubercles, and no irregular precipitation was observed elsewhere. Other experiments are described showing that under various conditions the ordinary form can be converted into a granular form and yet retain its virulence. Dr. Much, in a paper on the same subject published in the *Beiträge zur Klinik der Tuberculose*, Band VIII., Heft 1, p. 85, gives his methods and his results in more detail. He suggests that the Ziehl-Nielsen staining depends upon some other constituent of the bacillus than that upon which the Gram method rests. In a paper in the same number of that journal by Dr. N. A. Michaelides similar conclusions are arrived at. He also states that there is a form of the tubercle bacillus which does not stain either with Ziehl-Nielsen or with Gram, but which can be demonstrated by the Loeffler-Giemsa method of staining, details of which he gives. These observations are of considerable interest and may prove to be of practical importance in diagnosis.

THE PERADVENTURES OF AN INDIAN LIFE-TABLE.

Sir J. Athelstane Baines, C.S.I., on April 14th read before the Royal Statistical Society a paper with the above title, which was the evident product of much careful study. The ingenious generalisations by which he sought to reduce to order the erratic returns which are alone available for the construction of Indian life-tables could receive proper appreciation from those engaged in actuarial work alone, but the paper contained much information of value to all who are interested in India's welfare. The "peradventures" of which he treated are of double origin, the untrustworthiness of all age returns made by an ignorant people to whom a registration system is still strange, and the incidence of famine which, by the interruptions of regular age-sequence caused by a lowered birth-rate, leaves its mark on the life returns of the whole generation which follows its devastations. In the great drought of 1896–97, for instance, an area of 276,000 square miles, supporting 52,000,000 of people, was famine-stricken, and the same fate befell 489,000 square miles and 58,000,000 of people in 1899–1900. The Census Commissioner estimated the actual loss of life on these occasions at more than 5,000,000. On the other hand, a bumper harvest is sure to be followed by an abnormally high birth-rate, so that the statistical record of the population is from famine alone subject to double disturbing influences. We are surprised that Sir Athelstane Baines made no reference to plague which, taking as it does its toll of millions of lives, must surely affect the birth-rate of its centres of activity in a ratio too inconstant to be predetermined. In dealing with incorrect returns of age, and setting aside the fallacies caused by wilful misrepresentation, the lecturer pointed out a source of glaring error (which occurs in the census returns of other illiterate nations), namely, the overwhelming preponderance of persons stating their ages in multiples of five. Thus, 54 per cent. of people returned their ages as one of the first 15 multiples of five, whilst there were only 46 per cent. who chose the remaining 56 figures open to them as the measure of their years; in every decade the 5 and 10 receive an undue number of claims. The only exception is the year 12, which was claimed for a disproportionately large number of children, 12 being nearly universally regarded as a lucky number; on the other hand, the nines in each decade are markedly avoided from superstitious reasons. A very general overstatement of age in advanced life was found and Sir Athelstane Baines went so far as to say that unless the age could be approximately fixed by some impressive event a margin of 25 or even 30 years could be safely allowed in dealing with the alleged centenarians of India. Another very difficult factor to reckon with is the unduly large proportion of young children in the community, resulting from almost universal marriage amongst adults. The paper described a highly technical method of smoothing out the many rough places in the preparation of Indian life-tables, a work in which Sir Athelstane Baines attributed an honourable share to Mr. S. F. Hardy. This paper is sufficient proof of his own fruitful labour in the same field. Amongst the many formidable tables which illustrated his remarks was one showing the unadjusted return of annual periods concerning which the lecturer quoted the phrase of a Calcutta biographer which has become classical in India, that it "exposes its *cui bono* in all its hideous nudity"!

THE CONGENITAL PIGMENTATION OF MONGOLIANS.

THE subject of the congenital pigment spots or birth marks in Mongolians, to which Mr. Edward P. Leavy has drawn attention in another column, has been studied and discussed by Japanese physicians and accoucheurs for over 150 years. Almost all Japanese infants present at, or soon after, birth one or more blue-looking spots in the lumbo-sacro-gluteal region. The centre is of a bluish-black colour and the peripheral area is lighter in appearance. The spots vary in size from that of a pea to a hand's breadth and may sometimes be found scattered over the back and on the extensor surface of the extremities. They usually disappear during the first five years of life but may persist until puberty, or more exceptionally throughout life. A typical example of the condition was shown at the Clinical Society of London in 1905,[1] the subject being a Japanese baby aged ten months. Dr. Adachi of Japan has fully discussed the question of this pigmentation in man and apes in a paper published in 1903.[2] Monkeys possess pigment cells scattered generally and superficially over all parts of the body. The coloured races, for the Mongols are not alone in this peculiar pigmentation, show larger pigment cells lying in the corium and distributed in the special areas referred to above. In the white races these pigment spots are microscopic in appearance and for the most part non-existent. Dr. Ashmead believes that the spots are evidence of a negroid parentage. The fact that they are present as a rule only during embryonic or early life would suggest that they now represent merely an earlier stage of evolution when the condition was more persistent and possibly served some function. It is of special interest to observe that some Japanese physicians have discovered this typical pigmentation amongst pure German infants, while in this country hand, is extremely desirous of getting these principles established before the hospital is moved and has convened a meeting of the medical practitioners of South London in the Town Hall, Peckham-road, on April 30th, at 4 P.M., when propositions embodying those principles will be moved after addresses have been delivered by several medical men. The points at issue open up fields too wide for discussion now; we shall return to them later.

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[1] THE LANCET, Nov. 4th, 1905, p. 1331.

[2] Zeitschrift für Morphologie und Anthropologie, 1903, Band vi.

THE Department of Public Health of Queensland in a bulletin dated March 7th states that a case of plague occurred at Brisbane on March 3rd. The patient was a male, aged 17 years. He was employed at a warehouse in which plague-infected rats had previously been caught. As regards the Gold Coast, a telegram received at the Colonial Office on April 14th states that during the week ending April 11th there had been 2 deaths from plague at Accra and 1 at Dodowah. All other places had been free from plague. A further telegram received on April 20th states that for the week ending April 18th there were no fresh cases of plague either at Accra or elsewhere in the colony.

UP to date 109 papers have been announced to be read before the First International Congress of First Aid to be held, as announced, in Frankfort-on-the-Main on June 10th to 14th. 25 of these papers are on first-aid in towns and 17 on first-aid in mines and similar works. Papers have also been prepared on first-aid at sea, at fires, on the railway, on the land, on the mountains, and in sport, and on the improvement of non-medical assistants. An exhibition of motor ambulances, sick wagons, and ambulance apparatus will include several novelties.

THE unexpected death is announced from Vienna of Professor Leopold Schrötter, the well-known laryngologist.

SANITARY REFORM IN INDIA.

VI.[1]—THE PLAGUE PROBLEM (*concluded*).

Burma.

A VERY complete and exhaustive survey of the whole subject of plague has been given by Colonel W. G. King, I.M.S., in the report on the Sanitary Administration of Burma for the year 1906, and he deals with the matter in a manner which entitles him to the greatest credit. The whole of the plague rules under the Epidemic Diseases Act underwent a thorough revision, more especially as regards the giving power to local authorities to secure a system of surveillance in advance of plague. It was laid down that in no case should segregation be regarded as the prime rule to be enforced at the commencement of an epidemic unless there was reason to believe that the persons concerned were so untrustworthy as to be likely to leave the neighbourhood of an infected locality without giving information of the fact. Instead of segregation "exemption certificates" were issued, requiring attendance once daily for six days. This proved useful in practice. Ward headmen and block elders had assigned to them definite duties in aid of the civil authorities, so as to enable the system of surveillance to be enforced, whilst the general conduct of disinfection and the organisation necessary in respect to *personnel* and equipment were explained in an appendix to the official notification issued by the Government. But for the correct working of these rules of course a sufficient staff was necessary, and, unfortunately, Burma possessed no certificated sanitary inspectors. Hence to remedy this defect so-called temporary plague inspectors were trained. The Government likewise, owing to the increase of plague, placed at Colonel King's disposal Captain H. A. Williams, I.M.S., D.S.O., as special plague officer for the province, under whom the inspectors were trained and the methods of treating the disease were harmonised. Colonel King himself continued the personal inspection of plague-infected areas as far as possible. There was a total of 8637 deaths from the disease in 1906, or an increase of 4945 as compared with 1905, the death-rate advancing from 0·44 in 1905 to 1·02 in 1906.

Regarding the measures pursued, steam disinfection was substituted for the wet methods of disinfection hitherto employed, this method being more popular probably with the owners of clothing. The success of the Clayton apparatus in killing rats induced Colonel King to ask for sanction for the purchase of the necessary machines, by means of which it was found that if the holes are sought for and the exits are discovered and closed rats can be killed freely. Even when these holes cannot be found and closed the machine is most useful in ejecting rats in a feeble condition so that they can be killed by sticks, and also by tracing the fumes the rat runs can be followed, which, of course, when the rats are infected by plague is important. Colonel King rightly considers the method of dealing with rats by sulphurous fumes, irrespectively of the length of the burrows, very important. The fumes only require to be forced in quickly to displace the air and to overpower the rats. Liston has shown that 0·4 per cent. of the gas suffices to kill the fleas. The Civil Surgeon of Maymyo advises the "flaming" method of disinfection for plague suggested by Colonel King in 1899. The latter officer, however, hesitated to advise its general adoption in a country where wooden structures are the rule. With the most ordinary care, however, he considers it safe even when applied to wooden buildings.

Colonel King very wisely comments on the abandonment of "passporting," which had been legalised by the Government of Burma, consequent on the representations by the commercial communities that the method would trammel trade in the province. These representations are short-sighted. For the prevention of plague, early detection is of prime importance. Man is the great agent for the introduction of the disease; once introduced, rats will disseminate it, but the latter animals are not the sole prime agents involved. This is shown by the results of the investigation of the civil surgeons during 1906. Of 43 cases of plague, in 39 the introduction of the disease was traced to an infected person arriving from an infected area, the infection of rats being the disastrous sequel where sanitary measures were not sufficiently prompt or complete. At present the rules in vogue merely give increased power of controlling "contacts" so long as they are within the infected areas; on their departure, therefore, no system of observation is maintained. Some approach to the passport system has, however, been allowed in uninfected areas lying close to the infected, and this, combined with a surveillance system, has detected several importations and thus presumably has prevented indigenous plague.

Surveillance without the aid of the passport system was also successfully utilised in some instances. At Insein, for instance, Major Singh, I.M.S., caused evacuation of portions of the town inhabited by railway employees during the severe epidemic of the disease that was present early in 1906. The plague then ceased. Surveillance was then rigidly resorted to and before the end of the year 43 cases imported from Rangoon were detected and were promptly treated sanitarily, with the result that although within nine miles of the constantly infected Rangoon and in constant touch with it the place remained free from indigenous infection. Dr. Gaudoin, again, in Yamethin, by organising surveillance and by prompt sanitary action prevented an outbreak of indigenous plague, notwithstanding the infected condition of the neighbouring towns of Pyinmana and Pyawbwe.

Another method was consistently pursued—namely, rat destruction, which was carried out not only after the invasion by plague of a locality but also in advance of any such occurrence. During the year 4,366,867 rats were killed in the province at a cost of Rs. 253,260, or 11·1 pies per rat. But it is found that the problem of killing rats at a cost that will not prohibit other necessary preventive measures has not yet been solved. The reports of the Deputy Commissioner show that he had no hope of any permanent diminution of their number, notwithstanding all the strenuous efforts undertaken to destroy these animals. The Government of Burma, however, was prepared during 1907 to undertake experimentally microbic efforts in this direction. In the meantime various poisons, rat-traps, and asphyxiators have been employed. So long as the burden of taking life rests repair, and the etiological agent of small-pox and vaccinia. He brings well up to date the present knowledge on the subject, referring to the bipolar bacillus of Klein and Copeman, the cytoryctes variolæ of Guarnieri, and the sporidium vaccinale of Funk. Dr. De Korte himself has done some original work on the same lines and is well qualified to set forth the present position of investigation. His brochure will be found very useful by students of the subject.

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[1] Nos. I., II., III., IV., and V. were published in THE LANCET of Feb. 22nd (p. 582) and 29th (p. 661), March 14th (p. 806) and 21st (p. 883), and April 11th (p. 1101), 1908, respectively.

EARLY SITTING UP AND RISING AFTER LAPAROTOMY.

IN the *Albany Medical Annals* for February Dr. George Chandler has advocated the sitting up and rising after laparotomy at a much earlier time than is customary. He adopted this treatment independently, but subsequently found that it had been followed previously by Dr. Herman Boldt of New York and that Dr. Emil Ries of Chicago appeared to have been its pioneer. The following case suggested the treatment to Dr. Chandler. He operated on a man for acute appendicitis in the country under most unfavourable conditions. On going to see the patient next day he was astonished to find him standing at the window shaving himself. He refused to go to bed, went about fully clothed as if nothing had happened, and, to Dr. Chandler's surprise, made an excellent recovery. When Dr. Chandler was house surgeon at St. Vincent's Hospital, New York, 12 years previously patients were kept in bed for four weeks after laparotomy by Lusk, Bryant, and others. During the five years he was connected with the hospital this period dwindled down to two weeks. Then Morris adopted ten days and others even a shorter time. About two and a half years ago Dr. Chandler in a few selected cases had his patients propped up on the second day and sitting on a chair on the fifth day with good results. He now adopts the following method. All the patients, no matter what the lesion or how weak they are, recover from the ether in the sitting posture, in which they are supported by a bed-rest. The result is that they have very little nausea. He keeps them in this position for 12 hours and then allows them to lie down and to assume any position that is comfortable. After they have rested they are encouraged to sit up again with the bed-rest for almost the whole of the next 24 hours. On the third day, if they are strong, and on the fourth, in any case, they are sitting on a chair. Some walk on the fourth day; all do so on the fifth. Subsequently they walk about or sit with their clothes on during the day until they leave the hospital, which they usually do from the tenth to the fourteenth day, well and strong. Dr. Chandler's experience of this method includes about 200 laparotomies and that of other American surgeons over 800. The results have been most gratifying. After closing the abdominal wound Dr. Chandler applies a single broad bandage of zinc oxide plaster extending from just above the pubes to the umbilicus. As regards internal treatment, the patients are given sips of water or bits of ice after the first 12 hours. If there is little flatulence and no gastric or intestinal symptoms are present they are allowed on the second day sterile water, orange juice, and weak coffee or tea, but no milk. The bowels are moved on the third day by divided doses of calomel, followed by a saline. Stimulants are never given, however weak the patients, but if necessary during the first two days they are made comfortable with hypodermic injections of morphine. If the patient's condition is grave, salines are given by the rectum or subcutaneously and the stomach is washed out. After the bowels have acted on the third day a light diet is given and by the fifth day a full diet. If there is acute general peritonitis a large fenestrated rubber tube is inserted deeply into the pelvis through a median incision. A wick of gauze is passed through this and extends from the bottom of the cavity to the gauze outside the abdomen. The patient is placed in a perfectly upright position in the bed, not merely elevating the head and shoulders but also the pelvis. Drainage of the abdomen will take place by gravitation alone during the first 12 or 24 hours, never longer, therefore the importance of posture at the beginning is great. By securing the most upright position possible infectious material will gravitate into the pelvis, where it can be reached later through the rectum or vagina. After the patient is properly placed in bed saline solution is given by the rectum according to Murphy's method. The advantages claimed for the early sitting up of patients are that it prevents phlebitis, that the patient is not weakened by enforced rest, that recoveries are better, that hernia is less frequent, that vomiting is prevented, and that convalescence is shortened.

THE GREAT ORMOND-STREET HOSPITAL FOR SICK CHILDREN.

THE summer session of lectures and demonstrations, which are free to all duly qualified medical practitioners, will commence on May 7th, when Dr. A. E. Garrod will lecture on Infantile Scurvy. On May 14th Mr. H. Stansfield Collier will give a practical demonstration of some minor operations in children. The lectures and demonstrations will be given every Thursday at the Hospital for Sick Children, Great Ormond-street, London, W.C., and will commence at 4 P.M. A list of subjects and lecturers will be published in our columns week by week.

HÆMATEMESIS IN APPENDICITIS.

HÆMATEMESIS has been described in appendicitis by several French writers but appears to have been almost unnoticed in this country. In his "Cliniques de l'Hôtel Dieu," 1901–02, Professor Dieulafoy devoted a lecture to "Vomito Negro Appendiculaire," in which he reported cases of appendicitis accompanied by abundant hæmatemesis, sometimes so severe that blood entered the air passages and suffocated the patient. All the cases were serious and many of them were fatal. As there were often also jaundice and oliguria, recalling the symptoms of yellow fever ("vomito negro"), he used the designation given above. He regarded the hæmatemesis as a manifestation of general infection or intoxication which lead to the production of small gastric ulcers. In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of March 8th Dr. J. Duvergey has described, under the title of "Les Petites Hématémèses de l'Appendicite," a form of hæmatemesis in appendicitis in which the hæmorrhage is slight and not of serious significance. He relates two cases. In the first case he was called in consultation on Nov. 13th, 1905, to a man, aged 52 years, who had always enjoyed good health. On the evening of the 10th he began to feel abdominal pains, which on the 11th became localised to the right side. On the 13th the pain was increased and he vomited twice. The pulse was 90 and the temperature was 100·2° F. The abdomen was not distended and there was no cutaneous hyperæsthesia. On the right side the abdominal muscles were rigid and McBurney's point was tender. The vomit consisted of a slightly brownish liquid mixed with a little mucus, in which floated blackish filaments. Here and there and settled on the bottom were masses like *coffee-grounds. Microscopic examination* of the vomit showed red blood corpuscles for the most part deformed. Dr. Duvergey recommended expectant treatment but knowing the gravity of hæmatemesis in appendicitis he was prepared to operate on the slightest indication. The hæmatemesis ceased and recovery took place in about eight days. On Dec. 26th he removed the appendix which was long, swollen at its extremity, and surrounded by adhesions. In the second case, a youth, aged 19 years, was seized on the night of July 31st, 1907, with violent colic all over the attacked by various oily emulsions, but the utility of this measure is much lessened by the fact that the first intimation of the infection of a house is the report of a case in it and that it is the exception to have a succession of cases of plague in one room. Hence really there are only two ways of escaping plague when once the epidemic has begun—namely, evacuation and inoculation. The former, though largely resorted to by the people themselves, is often unavailable for many reasons; thus we must rely mostly on inoculation. All plague prophylactic is now stored by Maynard's system of bottling, which works without trouble of any kind; tests have shown in 497 brews that no contamination occurs after bottling. Now the results of inoculation are highly satisfactory. Haffkine's antiplague vaccine has been used. No bad results have been reported. From the replies sent out by the numerous medical officers on the subject we see that the health of the inoculated has been, if anything, better since the operation was performed; where the epidemic was severe about 5 per cent. of the inoculated were attacked but only 1 per cent. died. Previous inoculation was found to modify the type of the disease and to reduce its severity greatly. The answers were also unanimous in stating that inoculation was a very great protection against plague and that in no case had any harm resulted and that immunity lasted for about a year. Thus the case mortality and the case incidence have been markedly reduced, no matter where the people lived—in town in their own homes, in camps, or under the best sanitary conditions. Truly a triumphant vindication of Mr. Haffkine's invaluable method of treating plague. Time in this case has certainly brought its undeniable revenge.

LYNN THOMAS AND SKYRME FUND.

THE following subscriptions have been received between April 11th and April 16th by Mr. William Sheen, M.S. Lond., F.R.C.S. Eng. (2, St. Andrew's-crescent, Cardiff), honorary secretary to the fund.

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Looking Back.

FROM

THE LANCET, *SATURDAY*, April 24th, 18

THE ordinary and efficient means by which the aberratio of the human mind are detected, are minute observation the individual's conduct, inspection of his written document and protracted conversations to develop his delusions: a these examinations, on many occasions, require to frequently repeated, before the insanity of the person can exposed. For these tedious processes Dr. Burrows[1] has remedy, which must be considered a peculiar endowmen the operation of which constitutes the greatest of mode improvements, and may be viewed as a short cut to t discovery of madness. We find, page 296, that—

"Mania, especially, is characterised by a peculiar odou it is not the *hircum olet* of Horace, but is a smell qu unique, and when once recognised, it can never be mistak for any other; it has been compared to the scent of hent in a state of fermentation, but I know nothing which resembles.

"This odour does not always attend on mania, and differs in intensity. Personal cleanliness of the skin, frequent changes of body-linen, much modify, and perha may remove it. Where it is generated, it is easiest detect by going in the morning into the chamber of the luna before he has risen, and before fresh air has been admitte The maniacal odour is not noticed by every writer on t signs of insanity; nor, as I have said, is it always prese but I consider it a pathognomic symptom so unerring, that I detected it in any person, I should not hesitate to pronoun him insane, even though I had no other proof of it."

This delicate and prodigious discrimination of the olfacto organs, removes other practitioners, not similarly gifted, a distance truly humiliating, and confers on the sim perception of the lowest sense an instantaneous decision a tainted intellect, which physicians, in general, are oblig to explore by the powers of the understanding, by co parison, by reason, and by judgment. We are not informed, exact admeasurement, to what distance this perfume extend but it must follow, that in states of convalescence, emanations will be comparatively feeble, and formidably p dominant in cases of relapse. In the reign of James First, when witchcraft was in fashion, an individual, the name of Hopkin, boasted, that he possessed an infalli tact for the discovery of these agents of the dev and which he actually exercised under the confiden and patronage of those who ought to have known bett of Hodgkin's disease seen at the Pennsylvania Hospital found that a decided eosinophilia had been observed in three of them, 13·2 per cent. in one, 8·8 in another, and 10·6 in the third. The explanation offered is that the eosinophiles are formed in excess in the bone marrow and that they are on their way to be deposited in the glands affected by the lymphadenomatous process.

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[1] Excerpt from review of "Commentaries on the Causes, For Symptoms, and Treatment, Moral and Medical, of Insanity." George Man Burrows, M.D., Member of the Royal College of Physic of London, etc. London: Underwood. 1823. 8vo, pp. 716.

SCANDINAVIA AS A WINTER HEALTH RESORT.

THE series of articles on Scandinavian Winter Health Stations, being the report of our Special Commissioner, which we commence in another column, are of special interest at the present moment by reason of the visits which the King and Queen are now making to the Courts of Denmark, Sweden, and Norway. At present their Majesties are in Copenhagen. Naturally all British subjects are interested in the countries where the King and Queen may be sojourning, while medical men who have patients likely to receive benefit from a visit to these northern European health resorts will welcome a series of articles on the subject thus early in the year because their patients will have plenty of time to become acquainted with the necessary information and will be able to make their arrangements without undue hurry. The present instalment deals in a general way with the subject of Scandinavia as a health resort and points out the best routes by which to travel as well as giving information regarding the climate and the conditions of life. In subsequent articles it is proposed to deal in detail with some of the more important health stations.

BIRTHS AND DEATHS IN THE PRINCIPAL TOWNS OF EGYPT.

IN Egypt, as far as the native portion of the population is concerned, the birth- and death-rates are both exceptionally high. This has long been recognised but until 1897—when at last a trustworthy census was taken—there was no real foundation for the belief. It is true that in 1882 a so-called *Recensement* was produced but owing to the Arabi disturbance and other causes it was no better than an imperfect estimation. From a return recently issued by the Department of Public Health we learn that the indigenous birth- and death-rates during the year 1907 in 20 of the principal towns of Egypt, and containing in the aggregate a population of 1,530,672, were respectively 43·7 and 36·7 per 1000; the highest birth-rates having been 62·0 at Benha and the lowest 33·9 at Keneh, while the highest death-rate was 47·5 at Fayum and the lowest 23·3 at Damietta. In this connexion it is of interest to note that the last-named town still easily retains its pride of place as the healthiest town in Egypt, the cause of its exceptional salubrity, as was long since pointed out in these pages and elsewhere, being the comparative purity of the water-supply during the low-Nile season, when the bed of the river is little better than an open sewer. Among foreigners, of whom 104,051 were distributed through the 20 towns in numbers varying from 75 at Guizeh to 35,219 at Cairo and 46,118 at Alexandria, the rates were as follows: Births (no record); deaths, highest 153·8 at Assuan, lowest 10·2 at Damanhour; the average death-rate for the 20 towns having been 24·4 per 1000. Among natives the principal causes of mortality were as follows, the figures representing the percentage borne by the disease mentioned to the total number of deaths: dysentery and diarrhœa, 26·2; congenital debility, 10·0; senile debility, 6·3; tuberculosis, 4·8; measles, 4·1; violence, 2·7; malaria, 0·4; plague, 0·3; cholera, *nil*; and "all other diseases," 38·8. The chief causes of death amongst the foreign population were as follows: dysentery and diarrhœa, 17·5; tuberculosis, 7·7; violence, 3·7; typhoid fever, 3·0; small-pox, 2·9; congenital debility, 2·8; senile debility, 2·6; plague, 1·1; other infectious diseases, 7·44; and "all other diseases," 51·3. The total number of deaths due to violence among the natives was 1496; of these 1318 are ascribed to accident, 14 to execution, 151 to homicide, and 13 to suicide. Among the foreigners the total number of violent deaths was 94, accident being responsible for 61, homicide for 15, and suicide for 18. The last table in this useful return refers to the incidence of infectious disease throughout the entire country. It gives the number of cases and deaths that occurred during the twelvemonth under no fewer than 23 heads inclusive of Malta fever, leprosy, meningitis, anthrax, and rabies, the grand total being—cases 11,907 and deaths 9792. Measles and small-pox were by far the most deadly affections that were notified. The first caused 5790 cases and 5456 deaths and the second 2130 cases and 578 deaths.

SIR HENRY CAMPBELL-BANNERMAN.

ALL classes of society and all political parties are alike in sincerely mourning the death of Sir Henry Campbell-Bannerman. To medical men it has long been apparent that the chances of the distinguished patient making effective resistance to his malady were not very good; but if his vitality, under assiduous medical care, had proved equal to his being moved to a more suitable environment, he might have gained a further lease of life. The cardiac weakness, so seriously indicated last autumn, proved, however, a bar to all remedial measures and the patient passed peacefully away in a condition of unconsciousness. It is no exaggeration to say that he died a martyr to duty, for in his physical condition, further depressed as he was by the loss of a beloved wife, the task of governing the country was too great for his powers.

THE PROPOSED REMOVAL OF KING'S COLLEGE HOSPITAL.

A YEAR ago a committee of medical practitioners in South London held a conference with the watching committee of King's College Hospital (which is a subcommittee of the medical members of the managing board having advisory functions concerned with the new buildings) with regard to the administration of the hospital in its prospective locality. The practitioners were represented by the South London Hospitals Committee and this body presented 17 resolutions to the watching committee regarding the control of the hospital when it shall have changed its sphere of activity to South London, framed largely in the desire to promote the ethical interests of "outside" practitioners. 15 of these were accepted by the watching committee but that body found itself unable to recommend the remaining two to the King's College Hospital authorities. These stipulate (1) that every patient on attending a second time at the hospital must bring with him a recommendation signed by a qualified medical practitioner stating that he is a suitable person for hospital treatment from the points of view of his means and of the nature of his malady; and (2) that private wards or nursing homes for paying patients be distinct from the general hospital and not erected or maintained out of the funds given for hospital purposes. We understand that the watching committee felt unable to support the latter resolution in opposition to the views of the King's College Hospital board of management on the subject. With regard to the former proposal the committee considers that practitioners in the neighbourhood of a hospital cannot with the best of intentions be strictly impartial in the distribution of such "letters," especially if they are of opinion that the hospital is in any sense in competition with them. The South London Hospitals Committee, on the other equal to an annual rate of 1·3 per 1000, against 1·6 and 1·4 in the two preceding weeks; the rate from the same diseases in London was also equal to 1·3. No death from any of these epidemic diseases was registered during the week in Tottenham, Ipswich, Handsworth, Bury, or Barrow-in-Furness; the annual death-rates from these diseases ranged upwards, however, to 3·8 in Hastings, 4·1 in Merthyr Tydfil, 4·3 in Rhondda, and 4·9 in Stockton-on-Tees. The fatal cases of whooping-cough in the 76 towns, which had been 203 and 204 in the two preceding weeks, declined to 150 in the week under notice; the highest death-rates from this disease in these towns were 2·0 in Stockton-on-Tees, 2·7 in Northampton, 3·7 in Warrington, and 4·1 in Merthyr Tydfil. The 125 deaths from measles exceeded the number in the previous week by 15; they caused death-rates equal to 1·7 in Birkenhead, 1·8 in Preston, 2·0 in Stockton-on-Tees, and 2·7 in Rhondda. The deaths referred to diphtheria, which had been 62, 52, and 48 in the three previous weeks, rose again during the week to 53, and included 17 in London, five in Manchester and Salford, and three in Birmingham. The fatal cases of scarlet fever also showed a considerable increase upon the numbers in recent weeks, the highest death-rates therefrom being 1·1 in Walsall, 1·5 in West Bromwich, and 2·3 in Hastings. The 29 deaths attributed to diarrhœa showed a distinct decline; and only 14 deaths were referred to "fever," a lower number than in any previous week of this year. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the 18 preceding weeks from 5581 to 3121, had further fallen to 2972 on April 11th; only 297 new cases were admitted to these hospitals during the week under notice, against 378, 355, and 315 in the three preceding weeks. One case of small-pox was under treatment in the Metropolitan Asylums Hospitals at the end of the week. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had increased from 317 to 351 in the four preceding weeks, declined to 274 in the week under notice, and were 49 below the corrected average number in the corresponding week of the five years 1903–07. The deaths directly referred to influenza in London fell during the week to 37, a decline of 27 from the number in the previous week. The causes of 38, or 0·8 per cent., of the deaths registered in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were again duly certified in London, Leeds, Bristol, West Ham, Hull, Newcastle-on-Tyne, and in three other smaller towns; seven uncertified causes of deaths were, however, registered in Birmingham, five in Liverpool, five in Sheffield, and three in Norwich.

In 76 of the largest English towns 7955 births and 4748 deaths were registered during the week ending April 18th. The mean annual rate of mortality in these towns, which had been equal to 17·4, 16·8, and 15·4 per 1000 in the three preceding weeks, further declined to 15·2 in the week under notice, the lowest rate recorded since the beginning of this year. During the first three weeks of the current quarter the death-rate in these towns has averaged only 15·8 per 1000; the rate in London during the same period did not exceed 15·3. The lowest annual death-rates in the 76 towns during the week under notice were 7·3 in Willesden, 7·7 in Burton-on-Trent, 8·4 in Handsworth, and 8·7 in Walthamstow and in Grimsby; the rates in the other towns ranged upwards to 21·7 in Preston, 21·9 in Rhondda, 22·5 in Coventry, 22·7 in Tynemouth, and 24·2 in Huddersfield. The rate of mortality in London during the week did not exceed 14·7 per 1000. The 4748 deaths in the 76 towns during the week showed a further decline of 36 from the numbers returned in recent weeks, and included 382 which were referred to the principal epidemic diseases, against 488, 445, and 412 in the three previous weeks; of these, 134 resulted from whooping-cough, 127 from measles, 39 from diphtheria, 34 from scarlet fever, 30 from diarrhœa, and 18 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·2 per 1000, against 1·6, 1·4, and 1·3 in the three preceding weeks; the rate from the same diseases in London was equal to 1·3. No death from any of these epidemic diseases was registered last week in Leicester, Derby, St. Helens, Wigan, Rochdale, or in nine other smaller towns; the annual death-rat those diseases ranged upwards, however, to 3·3 in P Furness, 3·8 in Reading, 3·9 in Birkenhead, and Stockton-on-Tees. The fatal cases of whooping-coug 76 towns, which had been 204 and 150 in the two p weeks, further declined to 134 in the week under notic highest death-rates from this disease in these towns w in Sunderland, 1·5 in Bootle and in Sheffield, 1 Reading, and 2·5 in Barrow-in-Furness. The 127 from measles showed a further increase of two up numbers in the two previous weeks; they caused deat equal to 2·0 in Salford, 2·6 in Birkenhead, 2·7 in P and 6·9 in Stockton-on-Tees. The deaths from diph which had been 48 and 53 in the two preceding declined during the week to 39, and included 14 in Lo and two each in Norwich, West Bromwich, Live and Manchester. The 34 fatal cases of scarlet fever s a decline of seven from the number in the previous they again showed the highest annual rate, 1·1 per 10 Walsall. The 30 deaths attributed to diarrhœa exc those in the previous week by one, and the 18 deaths ref to "fever" showed an increase of four. The numb scarlet fever patients under treatment in the Metropol Asylums and London Fever Hospitals, which had ste declined in the 19 preceding weeks from 5581 to 2972, further declined to 2837 on April 18th; 328 new cases w however, admitted to these hospitals during the week u notice, against numbers declining from 378 to 297 in the preceding weeks. One case of small-pox was under treatm in the Metropolitan Asylums Hospitals at the end of the we The deaths in London referred to pneumonia and o diseases of the respiratory organs, which had been 351 274 in the two preceding weeks, were again 274 in the w under notice, and were 40 below the corrected aver number in the corresponding week of the five years 1903- The deaths directly referred to influenza in London were corresponding with the number in the previous week. T causes of 42, or 0·9 per cent., of the deaths registered the 76 towns were not certified either by a registered medic practitioner or by a coroner. All the causes of death we again duly certified in London, Leeds, Bristol, West Ha Hull, Bradford, Leicester, and in 44 other smaller town five uncertified causes of death were, however, registered Liverpool, four in Birmingham, and three both in Manchest and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the princip Scotch towns, which had been equal to 18·5, 19·4, an 19·7 in the three preceding weeks, declined again to 18· in the week ending April 11th, but exceeded by no less tha 3·4 the mean rate during the same week in the 76 larg English towns. Among the eight Scotch towns the death rates during the week ranged from 14·2 and 14·8 in Leit and Perth, to 19·5 in Dundee and 21·1 in Glasgow. The 66 deaths in these eight towns showed a decline of 31 from th number returned in the previous week, and included 87 which were referred to the principal epidemic diseases, against 114 and 97 in the two preceding weeks; of these, 40 resulted from measles, 13 from whooping-cough, 10 from "fever," 10 from diarrhœa, and seven both from scarlet fever and diphtheria, but not one from small-pox. These 87 deaths were equal to an annual rate of 2·5 per 1000, against 1·3, the mean rate during the week from the same diseases in the 76 English towns. The fatal cases of measles in the eight Scotch towns, which had been 58 and 35 in the two preceding weeks, rose again during the week to 40, of which 32 occurred in Glasgow, five in Edinburgh, and two in Paisley. The 13 deaths from whooping-cough showed a considerable decline from recent weekly numbers, and included seven in Glasgow and three in Edinburgh. The 10 deaths referred to "fever" exceeded the number in the previous week by three, nine being certified as cerebro-spinal meningitis and one as enteric; five were recorded in Glasgow, two both in Edinburgh and Leith, and one in Dundee. The 10 deaths attributed to diarrhœa were fewer than in any recent week, including five in Aberdeen and four in Glasgow. Of the seven fatal cases of diphtheria six occurred in Glasgow; and of the seven deaths from scarlet fever five were recorded in Dundee and two in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had declined in the three preceding weeks from 158 to 114, rose again in the week under h others the people rarely show any objection to rats ng destroyed.

Vith regard to the employment of Haffkine's antiplague oulation this has been encouraged by every possible means. e local officers concerned have freely offered themselves as jects for the method whenever necessary. The results re uniformly favourable as regard the small number of sequent attacks; no ill effects on the general constitution re caused, whilst patients have declared themselves cured chronic rheumatism and malaria thereby. Of the efficacy evacuation in plague epidemics there has never been any ıbt. By securing voluntary evacuation the Commissioner the Pegu Division secured good results, whilst where there s delay in this measure as at Prome and Mandalay there s great mortality. Lastly, with respect to the variations incidence of plague the Sanitary Commissioner of Burma ıarks in regard to meteorological data that a comparaely low average temperature with great humidity is more mical to plague prevalence than a higher temperature h less humidity, providing the daily maximum temperae in the latter case does not often exceed 96°.

olonel King concludes his admirable report on plague h some weighty considerations as to its prevalence. He s one of the first to recognise the rôle played by rats, in 1896 he issued a circular for public information in ich it was stated that rats die from this disease and that n the bodies of these animals being found they should be efully burnt" He shows how in ancient times the Hindu stras gave definite intimation of the connexion between s and plague. He again urges the possibility of the estinal canal of man playing a part in the transmission of disease; he draws attention also to the possible rôle of e fly, particularly in pneumonic cases, and also to that dust as a means of infection, concerning which Klein lieves in the prolonged vitality of the plague microbe in nd. But he considers it non-proven at present that the rat is e sole medium of transmission, although he is of opinion that an is the chief introducing agent and the rat is the dreaded sseminator. The prime factor to recognise in the matter prevention is that the utmost effort must be given to the rveillance of a threatened population and the control of ose infected. To meet plague an organised sanitary service essential capable of contending each inch of territory the discriminatory use of all sound methods. There ıst be systematised surveillance (with full liberty of the erson) of, usually, controllable human beings, the consenent early sanitary treatment of imported cases in unfected localities, and the consequent prevention of infecon of rats which are uncontrollable disseminators of fection. To obtain a sufficient staff for such a course of ction may be expensive but it will be the cheapest in the nd. The above report is presumably the last one that olonel King will write; we can only say that this wellnown officer has served his Government well throughout is career in India, and that in losing him the Government f India will lose a pre-eminently wise and able sanitarian ho by his ungrudging labour has justly earned the respect f all who have worked with him.

Bombay.

Dr. J. A. Turner, the executive health officer of the unicipality of Bombay, in his report for 1906 deals with he subject of plague administration. The campaign against ats was continued during the year, 231,392 rats having been collected and sent to the Government laboratory at Parel. These included live rats, dead rats in a putrid condition, and all rats sent on Sundays and holidays Very few live rats were examined, as only a very small proportion of them were found to be infected. Of the above number sent 131,322 rats were examined, out of which number 18,572 rats were found to be infected. The larger number were found to infected during the first five months of the year. In January, at the request of Major E. Jennings, I.M.S., the superintendent of plague operations, 18 persons were sent on behalf of the district municipalities for instruction in the use and method of employing the "common-sense rat exterminator." Their instruction seems to have been very complete in all its details. It was brought to the notice of the executive health officer that rats migrated in large number from the steamers at anchor in the docks, and from these vessels to the Bundes, and measures were taken to counteract this migration by poison; whilst the corporation was requested to move the Government to issue a general resolution that no ship should be allowed to enter the Bombay docks before it is operated with the "common-sense rat exterminator" whilst it is in the harbour. Although this measure would cause a certain amount of inconvenience to the navigation traffic yet it would check the rat migration and therefore Dr. Turner urges the Government to enforce the measure suggested. Another measure to which great attention was paid was that of inoculation, in all 10,740 persons having been so treated. No friction was experienced, the divisional health officers devoting much of their spare time to explaining the advantages of the operation to illiterate persons. Railway passengers were also inspected at the instance of the health officer at Poona or other convenient stations, this measure being carried out smoothly and without causing any detention of, or inconvenience to, passengers. This method in 1906 was the means of detecting outside infection in various parts of the city and has thus helped the health department in controlling the spread of the disease.

Dr. N. H. Choksy gives an account of the results of the treatment of plague by the serum treatment and by adrenalin chloride. Three serums were employed. With respect to the Yersin-Roux serum, after rejecting those cases unfit for treatment, 60 cases were chosen, of which half were kept as "controls." In the 30 cases treated with the serum the rate of case-mortality was 46·6 per cent, whilst in the "controls" the rate of mortality was 66·6 per cent., there thus being a saving of life to the extent of 20 per cent. in the former. Comparing these results with those of 1905 there was a difference in favour of the serum of 13·6 per cent. Again, the results obtained from the employment of Professor Tavel's serum were found to be just as efficacious. With regard to the Japanese serum the cases are too few to arrive at any conclusion.

We come now to the results of the adrenalin treatment. This drug was found to be especially useful in supporting and sustaining the action of the heart during the most critical period of the illness. Dr. Choksy, amongst other conclusions, draws attention to the following facts: 1. That adrenalin chloride solution (1 in 1000) is of great use in the treatment of plague; it is most useful when employed early. The dose is best given as from 20 to 30 minims internally every two hours, or 20 minims every hour in very grave cases. It should not be administered with any other drug but given in plain water or, better, in normal salt solution. No alcohol should be used. Infants and children bear it well in proportionate doses but caution is required in advanced age. It is non-accumulative and it can be also employed subcutaneously in doses of from five to ten minims every two hours. Finally, the administration of the remedy, together with the use of the Yersin-Roux serum, constitutes the ideal treatment of the disease. A fair trial was also made of another preparation of the suprarenal gland—namely, the extract rena-glandin. The case mortality in 180 patients was 77·2 per cent., or 5 per cent. higher than that of adrenalin. An improved preparation was used subcutaneously during 1906, and in 36 patients the mortality was 66·6 per cent.—i.e., about the same as that of adrenalin used in the same way. This preparation, therefore, is deserving of further trial.

A very interesting report has been furnished by Lieutenant-Colonel W. B. Bannerman, Director of the Bombay Bacteriological Laboratory (formerly the Plague Research Laboratory), for the nine months ending Dec. 31st, 1906. During this period 119,207 doses of Haffkine's antiplague vaccine were sent out to the territories comprised under the titles British India, Native States, and Countries outside India. The demands for the prophylactic in 1906 fell in number, probably for the reason that the people hoped that some more agreeable method of protection from plague might be discovered by the appointment of the Plague Research Commission. Now, however, that the result of the investigations of the latter is known there are signs that inoculations will once more come to the front as the sheet anchor of the administrator and the sanitarian in their fight with plague. The Plague Commission proved amongst other things: (1) that plague is conveyed from rat to rat, and from rat to man, by means of fleas; and (2) that plague houses are infective only so long as they contain fleas. So to obtain protection from plague we must get rid of rats or fleas or of both. The former, as Lieutenant-Colonel Bannerman remarks, has been tried by many, yet with disappointing results. To be successful the rat population must be destroyed before the advent of plague; it is useless whilst an epidemic is raging in any village. Fleas have been the Burmese Expedition in 1886–87 (medal and clasp). He was gazetted lieutenant-colonel in 1900 and for some time was professor of midwifery at Calcutta Medical College and also obstetric physician and surgeon at the Eden Hospital, Calcutta.

ARMY MEDICAL SERVICE EXAMINATIONS.

An examination of candidates for not less than 30 commissions in the Royal Army Medical Corps will be held on July 29th and following days. Applications to compete should be made to the Secretary, War Office, London, not later than July 20th, on which date the list will be closed. Candidates who are over the regulated limit of age at the date of the examination will be permitted to deduct from their actual age any period of service in the field after Oct. 1st, 1899, that they could reckon towards retired pay and gratuity, if such deduction will bring them within the age limit. The presence of candidates will be required in London from July 27th.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on April 14th, Inspector-General W. H. Lloyd, R.N., being in the chair, the sum of £55 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

THE RESEARCH DEFENCE SOCIETY.

To the Editor of THE LANCET.

SIR,—A society has been formed, with the name of the Research Defence Society, to make known the facts as to experiments on animals in this country; the immense importance to the welfare of mankind of such experiments; and the great saving of human life and health directly attributable to them. The great advance that has been made during the last quarter of a century in our knowledge of the functions of the body and of the causes of disease would have been impossible without a combination of experiment and observation.

The use of antiseptics and the modern treatment of wounds is the direct outcome of the experiments of Pasteur and Lister. Pasteur's discovery of the microbial cause of puerperal fever has in itself enormously reduced the deaths of women in childbirth. The nature of tuberculosis is now known and its incidence has materially diminished. We owe the invention of diphtheria antitoxin entirely to experiments on animals.

The causes of plague, cholera, typhoid fever, Mediterranean fever, and sleeping sickness have been discovered solely by the experimental method. Not only have a large number of drugs been placed at our disposal but accurate knowledge has replaced the empirical use of many of those previously known. The evidence before the Royal Commission has shown that these experiments are conducted with proper care; the small amount of pain or discomfort inflicted is insignificant compared with the great gain to knowledge and the direct advantage to humanity.

While acknowledging in general the utility of the experimental method, efforts have been made by a section of the public to throw discredit on all experiments involving the use of animals. The Research Defence Society will therefore endeavour to make it clear that medical and other scientific men who employ these methods are not less humane than the rest of their countrymen who daily, though perhaps unconsciously, profit by them. The society proposes to give information to all inquirers, to publish *précis*, articles, and leaflets, to make arrangements for lectures, to send speakers, if required, to debates, and to assist all who desire to examine the arguments on behalf of experiments on animals. It hopes to establish branches in our chief cities and thus to be in touch with all parts of the kingdom, and to be at the service of municipal bodies, hospitals, and other public institutions.

The society was formed on Jan. 27th of the present year, and already numbers more than 800 members. It is not an association of men of science or of medical men alone; its membership has been drawn from all departments of public life and includes representatives of every class of educated Englishmen and Englishwomen, including many who have taken an active part in the prevention of cruelty to animals. This fact is in itself a remarkable protest against the which have been made on the researches that the been formed to defend.

The annual subscription is 5*s.* to cover working but larger subscriptions or donations will be gladly The acting honorary treasurer, *pro tem.*, is Mr. J. Pattisson, C.B. (of the Lister Institute), and an account in the society's name has been opened with Messrs. Coutts and Co., 440, Strand. The honorary secretary is Mr. Stephen Paget, 70, Harley-street, London, W., to whom all communications should be addressed.

I am, Sir, yours faithfully,
CROMER,
President.

*** We have the pleasure to support Lord Cromer's arguments in a leading article. We append an alphabetical list of the Vice-Presidents which sufficiently shows the powerful and many-sided support which the movement has already received.—ED. L.

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The Right Hon. Sir ALFRED WILLS.
The Rev. HENRY GEORGE WOODS, D.D. (Master of the Temple).

DEATHS DURING ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—In your issue of April 11th Mr. H. Bellamy Gardner criticises Dr. F. J. Waldo's article in THE LANCET of March 21st. He summarises the article in question in the following way:—(*a*) Dr. Waldo complains that the Registrar-General's statistics of deaths under anæsthetics are not of much use from a statistical point of view "because they do the terror and extermination of innocent old women. kin was too cunning to divulge his secret, and this t perished with the possessor. It is not impossible t the witch-finder was led by the nose to these imant discoveries, for we see no reason why a peculiar vium should not equally issue from a witch as from a atic. In order to estimate duly this pathognomic symptom, have inquired of those practitioners, whose experience has n most extensive in this department of the profession, they univocally deny any knowledge of this scent, and ily state, that it cannot be a sufficient criterion to send pers to gentlemen's houses, or to warrant a certificate for seclusion of an individual in a private asylum; and we fully persuaded, that a jury *de lunatico inquirendo*, and Metropolitan Commissioners, would reject, with scorn indignation, any evidence established on this conmal essence or attar of insanity.

MEDICINE AND THE LAW.

The Medical Man and the Coroner.

T a recent inquest at Worcester the city coroner, Mr. B. Hulme, commented unfavourably upon the conduct of E. Walpole Simmons, the Poor-law medical officer, in the owing circumstances. A labourer named Barnett had tained a fall in his cottage through intoxication and had tured a rib. He had been recommended by Mr. W. G. nett to attend at the infirmary and had done so but l developed pneumonia, from which he died 12 days r receiving the original injury. He had also dised mental symptoms which caused Mr. Bennett give his relatives an emergency order for his admission a lunatic asylum, which was not made use of owing to e patient being too ill from the pneumonia to be moved th safety. After death had taken place Dr. Simmons, o apparently had taken charge of the case with a view to e removal of the patient under the *emergency order*, gave certificate which ascribed death to the pneumonia following on the fracture of a rib, and the coroner upon this being ought to his notice by the registrar held an inquest. At is he found fault with the medical man because he had t communicated with him (the coroner) directly, his quesns and observations, with the answers of Dr. Simmons, ing thus reported in the *Worcester Daily Times* of March 14th. Why was this case not reported to me?" "Because I ned a death certificate knowing it would come to you." I disagree with you there. Here is a man who dies as the ult of an injury, and I ask you why it was not reported to e?" "Why, because I deliberately put broken ribs on the tificate so that it should be reported to you." "You ere depending upon somebody else to do your duty. Your ty is that when there is a case for inquiry you ought report it yourself." "It was an absolute certainty at it would come to you." "Only by a round-about ay. You inform Mr. Everton [presumably the registrar of aths] and Mr. Everton has to inform me but he is der no obligation to do so." As a result of these marks on the part of the coroner the Worcester edical Society held a meeting and instructed its honorary cretary to write to the coroner and to ask him for his thority for saying that it is the duty of medical men to tify the coroner in cases such as that described, with the rther request that, unless he could show legal authority n his side, he should publicly withdraw censure based on an assertion of failure of duty on the part of Dr. mmons. The coroner in his reply denied having "censured" and said that there had been a discussion only as to hat course should have been followed. With regard to the edical man's duties he wrote as follows:—

> It is the common law duty of every person in attendance upon or about the deceased to give information to the coroner. The medical attendant is clearly one such person and he should therefore in a case where there is any doubt as to the death being due to natural causes either withhold his certificate as authorised by Section 39 of the Registration of Births and Deaths Act, 1874, and give notice to the coroner, or if he gives such a certificate he should at the same time communicate with the coroner drawing his attention to the circumstances of the case.

No doubt from the point of view of the Worcester coroner and of other coroners the course suggested above would be a convenient one, and we entirely sympathise with Mr. Hulme in his undoubted desire that the functions of his important office should be performed efficiently. He forfeits our sympathy, however, where he assumes a tone towards a medical witness for the assumption of which there is no just cause and when he seeks to impose by his own authority upon medical practitioners duties which the law does not assign to them. We believe, moreover, that his observations at the inquest of which the report is before us, with regard both to the signing of the certificate and to other matters, were not of a character likely to produce that mutual goodwill and conciliation by which alone the existing Coroners Act can be administered with reasonable smoothness. Dr. Simmons placed on record in an authoritative document information which, as he had every reason to believe, would in due course reach the coroner and upon which the coroner might decide to hold an inquest and which might guide him in obtaining the evidence necessary for doing so. He might have done differently even to following one of the courses which the coroner recommends, and perhaps by tact and conciliation a coroner might obtain the adoption of such a practice within his district. On the other hand, Dr. Simmons might have declined to give a certificate and refused to give any information to anyone except only upon being summoned as a witness to the inquest. We do not say that such a procedure would be commendable but we doubt the coroner having any power to compel any other should the medical practitioners at Worcester choose to adopt it. With all respect to Mr. Hulme, the medical man is not quite in the same position as "the other persons in attendance upon or about the deceased." He is there by virtue of his profession and when the law requires of him in other matters that he should give information as to what he has observed professionally it lays down the course which he is to pursue in plain terms and assigns him a fee for doing that which he is ordered to do. The giving of information not required of him thus plainly by the law is, or may be, a delicate matter. His patient's affairs are not to be revealed lightly and although no medical man would hesitate as to his duty in his patient's interest, as, for example, if he believed that negligence on the part of the patient's relatives had accelerated death, he might think reasonably that it was undesirable to take an active part in procuring the holding of an inquest by writing to the coroner suggesting it, and the course adopted by Dr. Simmons in the particular case under discussion as a matter of fact gave the coroner the opportunity for considering whether he should hold an inquest, while the medical man did that which was legally and ethically correct. A revision of the law in such matters is very much to be desired but it is not likely to be accelerated by medical men doing voluntarily and without reward that which *ought* to be done after a prescribed form for a suitable fee; such voluntary action will never be universal and so the desired results will not be obtained with certainty and precision.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8575 births and 4764 deaths were registered during the week ending April 11th. The mean annual rate of mortality in these towns, which had been equal to 17·4 and 16·8 per 1000 in the two preceding weeks, further declined to 15 4 in the week under notice, a lower rate than had prevailed in any previous week of this year. During the 13 weeks of last quarter the annual death-rate in these towns averaged 18·0 per 1000; the mean rate in London during the same period did not exceed 17 6. The lowest annual death-rates in the 76 towns in the week under notice were 6·1 in Handsworth, 9·2 in Barrow-in-Furness, 9·5 in Leyton and in Tottenham, and 9·9 in Walthamstow; the rates in the other towns ranged upwards to 22·3 in Rhondda, 22·9 in Smethwick and in Rochdale, 23·3 in Norwich, and 27·6 in Hanley. The rate of mortality in London during the week did not exceed 14·7 per 1000. The 4764 deaths in the 76 towns during the week showed a further decline of 438 from the numbers returned in the two preceding weeks, and included 412 which were referred to the principal epidemic diseases, against 485 and 445 in the two previous weeks; of these, 150 resulted from whooping-cough, 125 from measles, 53 from diphtheria, 41 from scarlet fever, 29 from diarrhœa, and 14 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were patients in most instances free of all pits and scars (two patients showed two small pits each on the face).

In future I intend to further push the mercury during the first three days as it is the immediate influence which is so necessary. From experimentation I find that the lethal dose of mercuric chloride is 1 in 1,000,000 in ten minutes, for the bacillus coli suspended in water in quantities of 200,000 per cubic centimetre, at a temperature of 98° F. Also, that all things being equal, the lethal power of $HgCl_2$ is proportionate to the temperature at which the germicidal action takes place. It is very probable that the ingestion of 30 grains of mercury with chalk per day produces at any rate a 1 in 500,000 solution of mercury in the blood (10 stones = 980,000 grains). The spirochæta pallida we know is very susceptible to the influence of mercury; these experiments with variola appear to show that the micro-organism of small-pox (whatever it may be, but probably also a protozoon) is also susceptible. Mercury, in the form in which it exists from the absorption of mercury with chalk from the alimentary canal, cannot be said to exert an active germicidal influence over all forms of micro-organisms, but possibly the biological processes of the spirochæta pallida and the variola organism (?) can engender a bactericidal activity in the comparatively inert circulating mercury; possibly other pathogenic protozoa can also do this. It seems highly probable that mercury has been used before for the treatment of small-pox, but I can find no reference, and the text-books make no reference of it.

It is obviously unsound to draw conclusions from the results of only eight cases, which might all have taken the simple course they did without any medication, but still the results appear worth recording, in the hope that others may be tempted to try this remedy which, at any rate, is harmless. The conclusions drawn are: (1) ten grains of mercury with chalk three times a day by the mouth, continued for six days, produces no symptoms of poisoning in small-pox; and (2) the drug appears to have a marked action in modifying and reducing the severity of the disease.

I am, Sir, yours faithfully,

V. B. NESFIELD, F.R.C.S.,
Captain, I.M.S.; Medical Officer 2nd 7th Gurkha Rifles, Quetta.

April 3rd, 1903.

THE INHALATION TREATMENT OF CONSUMPTION AND "CATARRH."

To the Editor of THE LANCET.

SIR,—The form of inhalations usually prescribed nowadays is that in which volatile drugs are administered through the medium of inhaled steam. This no doubt benefits many mild cases of nasal catarrh and bronchitis, but the relief afforded is most probably due to the soothing effect of the warm moist air inhaled rather than to any action of the drugs placed in the inhaler. To reach the deeper part of the respiratory tract and to produce an effective antiseptic action inhalations must be given of air impregnated with the vapour of volatile drugs without the presence of an undue quantity of moisture. The difficulty and trouble required to obtain a good result have hitherto led to the unpopularity of this method in the medical profession, and want of a proper understanding of the right way in which to carry out inhalation treatment has sometimes led to bad results when it has been tried. Nowadays the treatment is often prescribed in a simple form, as with a small inhaler fitted over the mouth and nose and containing a small sponge charged with volatile antiseptics. These forms of treatment are exceedingly mild and the results obtained, though useful, are not usually very striking.

Some years ago Hassall made considerable advances in the subject and showed that it was possible to thoroughly impregnate the air of a closed room with volatile antiseptics so that a patient subsequently using the room could not avoid drawing a definite quantity of the substances right down into the lungs during the ordinary process of breathing. But such treatment necessitated the use of special inhalation rooms which could not be always placed at the disposal of the patients unless they left their homes, and indeed in most cases would be difficult to arrange in a private house. However, his experiments showing the readiness with which certain drugs capable of destroying bacilli can be volatilised from extensive surfaces when aided by warm air currents made it apparent that this principle was of great importance and only wanted the invention of a suitable apparatus to be of very great use in the treatment of diseases of the lungs and air passages.

On turning my attention to this question, in an endeavour to better the results I had obtained with simple forms of apparatus, it occurred to me that the inconvenience of impregnating the air of a whole room with antiseptics could be avoided by using instead the air of a moderately sized portable chamber, so that patients could breathe such impregnated air through a simple tube and face-piece. Consequently I have had such a chamber made about 3½ feet high and 1½ feet in width and depth, and rendered airtight with the exception of an inlet and outlet tube, both of which are guarded with valves. In it wide strips of Turkish towelling are suspended from side to side in such a manner that the air current from the inlet to the outlet is bound to come freely into contact with the exposed surface of the towelling. By saturating the strips of towelling with solutions of a known quantity of various volatile substances and closing the chamber the air in it becomes thoroughly impregnated with the vapours given off and can be breathed by the patient who adjusts the face-piece over his mouth and nose and inspires and expires in the ordinary way. The length of time the inhalation is continued depends on individual cases and must, of course, be carefully regulated.

There is no discomfort in the use of the apparatus as each patient can adjust the face-piece himself, and should he not like the *strangeness of breathing through a tube at first* he can readily remove the face-piece and breathe the outer air should he so desire. Moreover, by attaching a cylinder containing compressed air to the inlet tube a constant stream of air impregnated with the volatile antiseptics contained in the chamber can be obtained through the face-piece and inhaled with comfort; I am inclined to think that experience will show that this method of using inhalation chambers is the best one. The volatility of substances such as creosote may be greatly increased by raising the internal temperature of the chamber either by a suitable arrangement of electric lamps or by warming the current of air passing into the chamber.

It is unquestionable that every method of inhalation treatment *must be continuous if it is to be effective*, and there is no doubt that greater progress has not been made with this form of medication because it has been tried with unsuitable apparatus. There is all the difference between taking a few intermittent breaths through a small, poorly charged inhaler and continuously breathing purified and medicated air for an hour or so at a time. The reputed success of Hassall's chambers was no doubt due to his appreciation of this essential principle of inhalation treatment, and I have every hope that my portable inhalation chamber will give results as good.

I am, Sir, yours faithfully,

EDWIN ASH.

Harley-street, W., April 20th, 1903.

MALIGNANT DISEASE OF THE CÆCUM.

To the Editor of THE LANCET.

SIR,—Everyone interested in the treatment of malignant disease of the large intestine will have read Mr. Charters J. Symonds's third Lettsomian lecture[1] with much profit and pleasure. We venture, however, to put forward some remarks on points which seem to us to be of more importance than is apparently attached to them by the lecturer.

Throughout the lecture Mr. Symonds makes repeated references to the excision of glands, but we have been quite unable to understand what *has been the* extent of gland removal in his cases. The anatomy of the lymphatics in this region has been worked out by many observers and there is a sufficiently precise nomenclature in use. It is unfortunate that the clearness of the description of the cases is marred by the absence of definite statements as to the gland groups dealt with. The term "glands close to the spinal column," without reference to their position with regard to the ileo-colic vessels or to the duodenum, is vague and might well denote the lumbar glands, which cannot be intended. The glands invaded, or likely to be invaded, in carcinoma of the cæcum are those which lie on and about the ileo-colic artery and its branches, extending upwards as far as the origin of the artery from the superior mesenteric in front of the duodenum, a clearly circumscribed group not extending into the mesentery, except at its extreme lower end. We are unable to imagine the presence of diseased glands in the mesentery or near the aorta except in cases of advanced and inoperable disease.

In considering the limit of operation Mr. Symonds asks how far should enlarged glands set a limit to the question of resection, and says, "Theoretically a gland as large as a ice to 128, and exceeded by eight the number returned the corresponding week of last year. The causes of or 3·3 per cent., of the deaths in these eight towns ing the week were not certified or not stated; in the 76 glish towns the proportion of uncertified causes of death he same week did not exceed 0·8 per cent.

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[1] THE LANCET, April 4th, 1903, p. 936.

The annual rate of mortality in eight of the principal tch towns, which had been equal to 19·7 and 18·8 per 0 in the two preceding weeks, further declined to 16·4 in week ending April 18th, but exceeded by 1·0 the n rate during the same week in the 76 large English ns. Among the eight Scotch towns the death-rate ing the week ranged from 12·9 and 13·8 in Leith and nburgh to 16·7 in Greenock and 18·0 in Glasgow. The deaths in these eight towns showed a further decline of from the numbers returned in the two preceding weeks, l included 77 which were referred to the principal demic diseases, against 114, 97, and 87 in the three vious weeks; of these, 36 resulted from measles, from whooping-cough, 11 from diarrhœa, six m "fever," five from scarlet fever, and one from htheria, but not one from small-pox. These 77 deaths e equal to an annual rate of 2·2 per 1000, against 2, the mean rate during the week from the same diseases the 76 English towns. The fatal cases of measles in the ht Scotch towns, which had been 35 and 40 in the two ceding weeks, declined again to 36 in the week under ice, of which 23 occurred in Glasgow, six in Edinburgh, e in Paisley, and two in Aberdeen. The 18 deaths from ooping-cough exceeded the number in the previous ek by five, and included 13 in Glasgow. Of the deaths attributed to diarrhœa six were returned in lasgow and two in Dundee. The six deaths referred "fever" showed a decline of four from the number in e previous week, all being certified as cerebro-spinal eningitis, four occurred in Glasgow and one each in Edinurgh and Leith. Two of the five fatal cases of scarlet ever and the death from diphtheria were recorded in lasgow. The deaths referred to diseases of the respiratory gans in the eight towns, which had been 114 and 128 in he two previous weeks, declined again to 121 in the week nder notice, but exceeded by 17 the number returned in he corresponding week of last year. The causes of 27, or ·7 per cent., of the deaths in these eight towns during the eek were not certified or not stated; in the 76 English towns the proportion of uncertified causes of death in the ame week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 27·4 and 26·0 per 1000 in the two preceding weeks, declined to 22·5 in the week ending April 11th. During the 13 weeks of last quarter the death-rate in Dublin averaged 25·5 per 1000, the mean rate during the same period being only 17·6 in London and 18·3 in Edinburgh. The 170 deaths of Dublin residents registered in the week under notice showed a further decline of 27 from the high numbers returned in recent weeks, and included nine which were referred to the principal epidemic diseases, showing an increase upon recent weekly numbers. These nine deaths from epidemic diseases were equal to an annual rate of 1·2 per 1000, the death-rate during the week from the same diseases being 1·3 in London and 1·5 in Edinburgh. These nine deaths in Dublin included four from measles, three from diarrhœa, and one each from scarlet fever and whooping-cough, but not one either from diphtheria, "fever," or small-pox. The four fatal cases of measles exceeded the number returned in any previous week of this year. The 170 deaths from all causes in the city during the week included 23 of infants under one year of age and 46 of persons aged upwards of 60 years; both these numbers were below those returned in any recent week. Seven inquest cases and five deaths from violence were registered, and 75, or 44·1 per cent., of the deaths occurred in public institutions. The causes of four, or 2·4 per cent., of the deaths registered in the city during the week under notice were not certified; all the causes of death in London were duly certified, while in Edinburgh the proportion of uncertified deaths was equal to 4·7 per cent.

The annual rate of mortality in Dublin, which had been equal to 27·4, 26·0, and 22·5 per 1000 in the three preceding weeks, rose again to 23·1 in the week ending April 18th. During the first three weeks of the current quarter the death-rate in Dublin averaged 23·9 per 1000; the mean rate during the same period did not exceed 15·3 in London and 15·6 in Edinburgh. The 175 deaths of Dublin residents registered in the week under notice showed an increase of five upon the number returned in the previous week, and included seven which were referred to the principal epidemic diseases, a decline of two from the number in the previous week. These seven deaths were equal to an annual rate of 0·9 per 1000, against 1·3 and 1·5 from the same diseases in London and Edinburgh; they included three from measles, three from whooping-cough, and one from scarlet fever, but not one either from diphtheria, "fever," diarrhœa, or small-pox. The fatal cases of measles showed a decline of one from the number in the previous week, while those of whooping-cough showed an increase. The 175 deaths from all causes in the city during the week included 25 of infants under one year of age and 51 of persons aged upwards of 60 years; both these numbers exceeded those returned in the previous week. Five inquest cases and four deaths from violence were registered, and 67, or 38·3 per cent., of the deaths occurred in public institutions. The causes of nine, or 5·1 per cent., of the deaths registered in the city during the week under notice were not certified; all the causes of death in London last week were duly certified, while in Edinburgh the proportion of uncertified deaths was equal to 7·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: G. Price to the *King Alfred;* and H. G. T. Major to the *Donegal.*

ARMY MEDICAL SERVICE.

Surgeon-General William J. Charlton is placed on retired pay (dated, April 11th, 1908). Colonel John C. Dorman, C.M.G., to be Surgeon-General vice W. J. Charlton (dated, April 11th, 1908). Lieutenant-Colonel Alfred Peterkin, from the Royal Army Medical Corps, to be Colonel, vice J. C. Dorman, C.M.G. (dated, April 11th, 1908). Colonel Charles Seymour is placed on retired pay (dated April 12th, 1908).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Henry K. Allport is placed on temporary half-pay, on account of ill-health (dated April 22nd, 1908). Lieutenant-Colonel Henry K. Allport, from temporary half-pay, retires on retired pay (dated April 22nd, 1908).

Lieutenant-Colonel Denham F. Franklin retires on retired pay (dated April 22nd, 1908).

Lieutenant-Colonel D. Hennessy, commanding the Station Hospital, Deolali, has been granted privilege leave till June next.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Frederick H. Appleby, having reached the age for retirement, ceases to belong to the Army Medical Reserve of Officers (dated April 2nd, 1908).

The under-mentioned Surgeon-Captains to be Surgeon-Majors (dated April 4th, 1908): George Melville and Lewis W. Pockett.

The notification in the *London Gazette* of March 3rd that Surgeon-Captain Samuel M. Sloan ceased to belong to the Army Medical Reserve of Officers is cancelled.

MENTIONED IN DESPATCHES.

In despatches published in the *Gazette of India* relating to the Zakka Khel campaign the name of Lieutenant-Colonel M. W. Kerin, R.A.M.C., is mentioned.

THE KING'S BIRTHDAY.

Notice is given in the *London Gazette* that the King's birthday will be celebrated in London and at all home stations on June 26th. At all other stations His Majesty's birthday will be celebrated on Monday, Nov. 9th.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Francis S. Peck, I.M.S., on board the R.M.S. *Persia* in the Mediterranean on April 9th. He was buried at sea. The deceased officer, who was in his fifty-first year, was educated at Clifton College and received his medical training at the Bristol Medical School and St. Thomas's Hospital. He qualified as L.R.C.P. Edin. in 1880, having taken the M.R.C.S. Eng. in the previous year. He entered the Indian Medical Service in 1880 and served with

NOTES UPON HEALTH RESORTS.

SCANDINAVIAN WINTER HEALTH STATIONS.

(By a Special Commissioner.)

Scandinavia in winter is to most English physicians a *terra incognita.* Much of the favour long extended to the Riviera, Egypt, and Alpine resorts for winter residence has been the direct outcome of the recommendations of members of the medical profession. Now that many of the pleasant resting places and health stations which formerly devoted their first and chief attention to the requirements of the invalid and health-seeker are being invaded by wealthy tourists, sportsmen, and others, it may be not inopportune to consider whether new and desirable climatic centres are not available. Your Commissioner has therefore investigated by personal inquiry and direct observation the attractions and conveniences suited to the tastes and requirements of English patients which are now being offered by Norway and Sweden for winter residence.

These countries are well known and highly prized by many who have visited them in summer, but it must be clearly stated at once that opinions formed from conditions then existing can afford no trustworthy guide as to the methods of life and conditions of climate prevailing during the months of winter. In these articles it is proposed to limit consideration, as far as is possible, to Scandinavia in winter.

It is only comparatively recently that the people of Norway and Sweden have awakened to the possibilities of their countries as winter lands for the seekers of health and sport. The opening up of Switzerland as a popular winter resort has perhaps been the most definite influence in arousing the business instincts of Scandinavians. It must also be admitted that the people of these lands themselves are, generally speaking, only just beginning to recognise their winter privileges and opportunities. Thus winter sports are now being organised and followed with an enthusiasm which comes with the force of a new discovery. The children of to-day are entering into the open-air winter pursuits in a manner hardly dreamt of by their parents. In the same way the establishment of winter health stations is comparatively a new enterprise. It is therefore not to be expected that the needs and desires of foreign visitors can have received as yet full consideration. But having once realised the value of the inheritance there is every reason to believe that Scandinavia will not only considerably extend its health stations for its own peoples but will attract winter visitors from England and other parts of Europe.

Winter Routes to Scandinavia.

Although Norway and Sweden are not so far distant as is popularly supposed, it must be admitted at once that the methods of access are not always as easy as could be desired. In this respect Scandinavia is, and must remain, so far as English visitors are concerned, at a considerable disadvantage as compared with Switzerland. The North Sea intervenes, and this sea is a peculiarly uncertain one, for while the smoothest passage of the year may be in midwinter its waters are readily troubled. Still, all things considered, I am of opinion that for the majority the best route, at least to Norway, is by Messrs. Thos. Wilson, Son, and Co.'s steamers from Hull to Christiania. The Great Northern and North-Eastern Railways run a through coach from King's Cross Station to Hull. During the winter months the steamer leaves the Hull docks on Friday night. The dining-car express leaving King's Cross at 5.45 P.M. should be taken, thus allowing of a comfortable meal before going on board. Your Commissioner, in his tour of investigation, considered it desirable to test the North Sea passage, and crossed by the *Oslo* and returned in the *Montebello*, both excellent boats, comfortable, well furnished, with electric light, hot and cold baths, suitably heated, and admirably staffed. For a patient or health seeker who is a good sailor this route is the most direct, the least tedious, and certainly the healthiest, and, moreover, it has the advantage of being the cheapest.[1]

Visitors to Sweden may travel by steam to Gothenburg by ships of the English Wilson line or the Swedish Thule line. Those wishing to go directly to Stockholm will probably travel by one of the so-called overland routes.[2] For invalids the changes entailed and the over-heating—according to English ideas—of Scandinavian railway carriages are serious drawbacks.

In both Norway and Sweden excellent tourist associations have been formed, the former with a central office in Christiania, and the latter with headquarters in Stockholm. These issue many informing publications and are always ready to afford help to prospective visitors. I desire to take this opportunity of acknowledging my indebtedness to Mr. H. Malling of the "Norwegian Tourist Traffic Association"[3] and Mr. V. Langlet of the "Swedish Tourist Association"[4] for much information and assistance most willingly rendered. But while these central bodies, although somewhat limited by means, are doing much to collect, collate, and distribute material relating to health and sports stations in their respective countries,[5] it must be noted that hitherto comparatively few of the individual sanatoriums and health resorts have even issued prospectuses in English. Some, however, prepare German editions. Until directors of these establishments understand the necessity for a presentation of their claims in English I fear our insular and non-linguistic countrymen will be slow to perceive what the are missing.

The new line between Bergen and Christiania will ha such an influence in the opening up of Scandinavia, ar especially Norway, that its importance can hardly be ove estimated. Along the course of this highway are man centres which doubtless will be quickly developed in summer resorts, and not a few should be well adapted fo winter stations. I had hoped to have been able fully t explore this line, but at the time of my visit the way wa blocked by snow, and although elaborate preparations ha been made for such contingency it would seem that man more snow shelters and tunnels will have to be erected. A quick direct service to Bergen from English and Scottis ports will make some of the finest districts of Norway readil accessible to British visitors. The railway opens up some o the most beautiful parts of the fjords of Western Norway the charming Hallingdal, and mountain plateaux where ski-ing may be practised till almost the middle of summer.

Winter Climatic Conditions in Scandinavia.

In selecting a winter health station there is need for discrimination. Norway and Sweden are such extensive countries that considerable variations in climatic conditions necessarily exist and this is true both for summer and winter.

The West Coast of Norway and the southern parts of Sweden, generally speaking, are not specially suited for winter residence and need not be considered here.

The climatic conditions prevailing during the greater part of the winter throughout a considerable portion of the Scandinavian peninsula are almost ideal as regards the conduct of many forms of winter sport which, one and all, are particularly health giving and health preserving. For many cases of pulmonary tuberculosis, especially in the incipient stage, and for those who by inheritance or acquired infirmities are disposed to this disease, certain centres in both Norway and Sweden present advantages equal to, and in some respects surpassing, those enjoyed by the most favoured winter resorts of Switzerland. Reference to Scandinavia as a desirable land for climato-therapy during winter is in most English and American works dealing with climatic stations conspicuous by its absence, or at best extremely meagre and indefinite. It is interesting to note, however, that in the recent authoritative work of Sir Hermann Weber and state the particular anæsthetic under which they arred." (*b*) Dr. Waldo's own statistics are valueless ause he does not specify the anæsthetic used and the total nber of cases of administration. (*c*) Dr. Waldo argues in our of a coroner's inquest in every case of death under esthesia "in order to improve the statistics."

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[1] Those travelling by this route should communicate with Mr Spaven, passenger manager of Messrs. Thos. Wilson, Son, and Co., Limited, Hull, and reserve an outside cabin some weeks before departure. It is well also to reserve a seat in the dining-car express, which, however, must be vacated at Doncaster and the journey continued in the coach going directly to Hull.

[2] For full particulars concerning the various routes to Norway and Sweden consult Baedeker's Norway, Sweden, and Denmark (London: Dulau and Co., price 8s.); Cook's Tourist's Handbook to Norway (London: Thos. Cook and Son, 1907, price 1s. 6d.); Bennett's Handbook for Travellers in Norway (Christiania: Thos. Bennett and Sons, price 3 kr.); Bradshaw's Through Route to the Chief Cities of the World (London: Henry Blacklock and Co., Limited, price 5s. net); Wroughton's Winter Sports Annual for 1907-8 (London: Simpkin, Marshall, and Co., 1907, price 2s.).

[3] Forening for Reiselivet i Norge, 2 Storthingsgaden, Kristiania.

[4] Svenska Turistföreningen, 2 Norrlandsgatan, Stockholm.

[5] The Norwegian Tourist Traffic Association has issued an English edition of a most useful list of hotels, sanatoriums, and Skyds stations; and the Swedish Tourist Association publishes annually an excellent illustrated directory of sanatoriums, baths, tourist hotels, and other similar institutions ("Hvilo-och Kurorter i Sverge en Öfversikt af Badorter, Luftkurorter, Sanatorier, Turesthotell, Pensionat, Lanthem M. M. utgifven af Svenska Turestföreningen"). A condensed edition should certainly be issued in English.

Now, Sir, I venture to say Mr. Bellamy Gardner shows by this summary that he has failed to grasp the gist of Dr. ldo's article, and I will deal with his points seriatim.

Dr. Waldo complains that the Registrar-General's istics of deaths under anæsthetics are of little use m a statistical point of view "because they do state the particular anæsthetic under which they urred." The total deaths reported for England Wales 1902–06 were 786, but the fact that the drug used was not reported in 204 cases surely justifies Waldo's general proposition that no statistics worthy the ne exist with regard to anæsthetic mortality. Scientific gress, it may be added, depends mainly on increased uracy, and such accuracy is certainly not a distinguishing ture of the study of anæsthesia. From a general survey Dr. Waldo's paper it may be gathered that his objections to Registrar-General's returns are based on the presence of a nber of fallacies in addition to the particular one cited—ely, that of omission of the mention of the drug in-red. Such fallacies include the anæsthetic deaths that ur in private practice, which as a rule never come either official or to public notice. Can Mr. Bellamy Gardner tend that it is *possible* to arrive at any conclusion of entific value unless we have full information of the alities that occur in the administration of anæsthetics in vate practice? In the same way other no less essential ta are lacking, such as, for example, the exact method death, nature of operation, stage of anæsthesia at which ath occurred, and "delayed" deaths due to the æsthetic. Until statistics can be produced on a ge scale, including these and other essential data, venture to assert that the "science" of anæsthetics must e little more than mere guesswork at the balance of probbilities.

(*b*) Dr. Waldo's own statistics "are valueless because he does not specify the particular anæsthetic under which hey occurred," and because he does not give the total umber of administrations in the two large charitable stitutions within his district whence the figures are drawn. s a matter of fact, Dr. Waldo points out in so many words at no sound conclusions can be drawn from these institutions, "which are fully abreast of, if not in advance of, the majority of the hospitals of the United Kingdom." In one of the two, he says, there is reason to suppose that many administrations are not noted at all. If this be so in two of the best-equipped and regulated hospitals in London what must happen in smaller institutions in the rest of the kingdom and from what precise field does Mr. Bellamy Gardner gather the evidence for the formation of his own opinion? He asks if Dr. Waldo is in ignorance of the work of the Anæsthetics Committee of 1900 which investigated some 25,920 deaths under anæsthesia. The very passage he quotes from their report bears out to the letter the general contention of *Dr. Waldo* that there are no statistics in existence on this particular subject of any scientific value. The passage quoted by Mr. Bellamy *Gardner runs*:—"From a careful study of the whole facts at their disposal the subcommittee feel that owing to (1) the large number of factors in the problem; and (2) the personal equation of the numerous recorders it is impossible to arrive at uniformly satisfactory statistics on the several points submitted to their consideration." *In other words*, the subcommittee emphasise the fact that no sound conclusions are possible from the facts at their disposal.

(*c*) Dr. Waldo "argues for a coroner's inquest in every case of death during general anæsthesia in order to improve the statistics." Mr. Bellamy Gardner ventures to think "that a poorer argument than the foregoing never was put forward upon a matter of importance." I fail to gather the existence of any such argument from a careful perusal of the original article. Mr. *Bellamy Gardner* may be somewhat reassured as to Dr. Waldo's wish to get beyond the dry and arid region of statistics if he reads carefully conclusions 5 and 6 *of the* article in question and considers all that is therein connoted; the conclusions are: "5. *That* with such imperfect data it is impossible to form any trustworthy conclusions as to the absolute ratio of fatalities to administrations, or to the relative proportion of deaths to administrations in the case of particular anæsthetic drugs." "6. That it is highly desirable to arrive at satisfactory conclusions as to the precise facts of all deaths under anæsthesia both for the safety of the public and the furtherance of scientific knowledge."

Other points raised in Mr. Bellamy Gardner's letter I leave to be dealt with by those who have the necessary special knowledge and experience. Those to which I have adverted appear to be well within the intellectual province of the average medical man.—I am, Sir, yours faithfully,

Bryanston-street, W., April 13th, 1908. DAVID WALSH.

ON THE TREATMENT OF SMALL-POX BY LARGE DOSES OF MERCURY WITH CHALK.

To the Editor of THE LANCET.

SIR,—Syphilis is an infectious fever; Dr. W. Moxon called it "a fever diluted by time." Of all the fevers small-pox most closely resembles syphilis, especially in its acute secondary form. The acuteness of secondary syphilis, I believe, can only be appreciated after one has seen that *disease* in India; the treatment here, in consequence, has to be correspondingly vigorous; five grains of mercury with chalk three times a day has very little immediate effect, but ten grains three times a day removes all obvious signs of the skin eruption in from three to six days. In fact, mercury appears to act towards syphilis as quinine does to malaria, a certain sufficient *dosage* being necessary to abate the disease, and until this dose has been reached very little immediate relief is given.

In view of the discovery of the spirochæta pallida the necessity of administering a certain quantity of mercury before the disease can be allayed is now readily appreciated. The striking resemblance between acute secondary syphilis and small-pox *suggested the employment* of mercury in the treatment of the latter complaint also. Experience with syphilis showed that 30 grains of mercury with chalk per day for seven consecutive days produced no diarrhœa or symptoms of poisoning but, on the contrary, gave such marked relief that I decided to employ the same dosage also for small-pox. The results have proved so very satisfactory that I have been *tempted to describe them, although* my conclusions are drawn from the observation of only eight cases. Of the eight cases three had been vaccinated and five had not. Seven were adult men and one was a boy aged 12 years. All were natives of Oudh.

The first case was that of a boy, aged 12 years; he was sent from a mission school on the first sign of the disease. His face, arms, and legs were thickly covered with typical small-pox papules, which were present also on his scalp and the palms of his feet and hands. On the face the papules were so closely situated as to be almost contiguous. No vaccination marks were present; the *case would be described as a severe one.* He was removed to the small-pox hospital (Lucknow) and given five grains of mercury with chalk three times a day *for six days, then* twice a day for the next four days, and once a day for the next three days. Sweet oil was used to soften the skin. The diet consisted of four pints of milk a day. The course of the disease turned out to be very mild, though from the first appearances it threatened to be *very severe*. The temperature never rose above 103° F. and the papules did not suppurate and break down. There was no diarrhœa or sign of mercurialism. On discharge, six weeks after admission, there were no scars, merely the usual pigmented patches seen in natives. The desquamation of the palms and soles was rather tedious. The remaining seven (six were sepoys and followers) were typical cases of small-pox, all were more than moderately severe, and all were seen *very early*. The treatment in all seven consisted of 10 grains of mercury with *chalk three times a day* for six days, then twice a day for four days, and once a day for four more days, 14 days in all. Sweet oil was used to soften the *skin; no other medicine* was given. The diet consisted of four pints of milk per day, and in addition four ounces of arrowroot and two of sugar *when the temperature* reached normal. There was never any sign of mercury poisoning and no diarrhœa. The mercury seemed to have a marked influence *in lowering* the temperature and in modifying the course and subsequent fate of the papules in that no active suppuration occurred and the disease was both cut short and simplified, leaving the available and where mountain torrents provide power at a *minimum* of expense for the production of electric light, &c.

Conditions of Life and Facilities for Travel.

It must be admitted that the health seeker requires much more than natural features of climate and landscape. It is necessary to consider carefully whether other conditions of life are likely to be suited to the requirements of the English visitor healthy or sick. To the luxury-loving and extravagant invalid Scandinavia is hardly likely to appeal. But for the majority of vigorous sport-loving Britishers its winter charms will be irresistible. And for the middle-class patient, especially if he is interested in educational and social work, the sanatoriums of Scandinavia offer opportunities for physical restoration and mental enjoyment at a price within his means. The character of food and order of meals, the customs and usages, the domestic arrangements, and general life of the people are all such as are likely to interest and to be acceptable to the average Englishman. The excellence, variety, and richness of much of the food are certainly points of importance for the invalid. Cream enters into the composition of the majority of the dishes and for consumptive and tuberculously disposed cases is undoubtedly generally very advantageous. Unfortunately in all districts houses and railway carriages are much over-heated, and double doors and windows clearly indicate that there is need for a practical exposition of open-air methods. But such matters can usually be adjusted to individual requirements by a little tact and judicious arrangement.

The Norwegian is the Scotchman, the Swede the Frenchman, of Scandinavia. Christiania reminds one of Edinburgh, and Stockholm is the acknowledged "Paris of the North." Scandinavians are, generally speaking, highly educated, progressive in thought and action, democratic in State affairs, courteous and hospitable, and ready to extend a real welcome to English visitors. Relationships between our own King and Queen and the Royal houses of Norway and Sweden afford a very real link binding the Scandinavian people and our own country; and there is also a true kinship in sentiment and sympathy. It may also be noted that in great measure their point of view may be said to be our point of view. The visitor will, however, do well to remember that the events leading up to, and culminating in, the separation of Norway from Sweden are not sufficiently far removed to make it wise or desirable to discuss the matter with those to whom it has been of momentous importance.

The members of the medical profession in both Norway and Sweden, by their long training, careful supervision, and strictly regulated examinations, rank probably among the best qualified of European practitioners, and English medical practitioners need feel no doubt about placing their patients under the care of their Scandinavian *confrères*.

A note may be added respecting railway travel in winter in Norway and Sweden. This, although comparatively slow, is thoroughly comfortable and the arrangements made whereby trains stop at certain stations to allow travellers the comfort of well-cooked but inexpensive meals are particularly admirable.[7]

The non-linguistic Englishman need have no hesitation about not being understood. English is taught in practically all the schools; and in all the important hotels, sanatoriums, and establishments catering for English visitors English is spoken. Most of the Norwegian and Swedish physicians with whom I was in consultation spoke fairly good English, although it must be admitted that they generally stated that their German was better. In the public schools German is usually commenced some two years before English is studied. In the universities German text-books seem to be chiefly used and medical and other monographs appealing to the outside world are usually printed in Germany. Co-education of the sexes prevails more or less throughout Scandinavia and certainly appears to be altogether advantageous, as judged both by the home life and in the conduct of the more public avocations.

Scandinavian Sanatoriums and Health Stations for Winter Residence by English Visitors.

The term "sanatorium" in both Norway and Sweden is used in a much broader sense than that in which we are accustomed to employ it at home. It is used to include what we should designate hydropathic establishments, mountain health resorts, and country hotels. Most of these are not intended for cases of serious illness. Some seek to attract those requiring recuperation for body and recreation of mind, convalescents, the overworked, neurasthenics, and subjects standing in need of a simple rest cure, quiet and gentle exercise in a salubrious and picturesque district. Others have more or less elaborate equipment for simple and medicinal baths and take chronic cases of rheumatism, cardiac derangement, anæmia, and the like. In Sweden excellent arrangements have been made at some places for the employment of mechanical treatments, massage, physical exercises, and medical gymnastics for skill in which the Swedes have justly won world-wide distinction. Not a few of the mountain sanatoriums and country resorts are little more than sports centres. All these "sanatoriums" exclude consumptives. There are, however, sanatoriums for consumptives and other tuberculous cases, chiefly intended, it is true, for local needs, but to which in some cases English patients might be sent with advantage.

The Scandinavian "sanatoriums" may be conveniently classified thus: 1. Private sanatoriums for consumptives. 2. Public sanatoriums for consumptives. 3. Public marine sanatoriums for tuberculous children. 4. Sanatoriums which are health stations for non-tuberculous visitors: (*a*) with resident medical director; and (*b*) without resident physician. 5. Country and mountain sanatoriums (*a*) open all the year round and (*b*) open during certain seasons. 6. Marine sanatoriums, usually open only during the summer. With these last we have at present no concern. In addition to the above there are a number of sports club houses, tourist hotels, and skyds stations, which young and vigorous persons of both sexes frequent in the winter months and particularly during the Easter holidays.

Your Commissioner is of opinion that at present in the selection of a centre suited to the requirements of the majority of English visitors seeking health and rest in winter two important points should be kept in mind: (1) convenience of access and (2) proximity to an important town. Judged by these considerations the most suitable winter stations in Norway may be looked for in the neighbourhood of Christiania and Trondhjem, and in the south-eastern and eastern country districts in Valdres, Gausdal, and Gudbrandsdal and their neighbourhoods. With the opening up of new lines of railway other desirable centres will be rendered accessible.

In Sweden at the present time English visitors will probably be inclined to make their winter centres near Stockholm at such a resort as Saltsjöbaden, or at Hindas or Hultafors on the Gothenburg-Böras line and readily accessible from Gothenburg. In the near future there promises to be a large addition to first-class winter resorts in Sweden.

In subsequent articles it is proposed to deal in detail with some of the more important Scandinavian health stations.

THE BATTLE OF THE CLUBS.

(From our Special Commissioner.)

The Struggle against the Coventry Provident Dispensary.—Formation of a New Dispensary Service.—Result after Nine Months.—Disciplinary Sanctions.—Effect of the Dispute on Hospital Abuse.

Coventry, April 13th, 1908.

The struggle between the medical profession and the Coventry Provident Dispensary has passed through the acute and has now reached the chronic stage. Nothing very startling is likely to occur but a long and patient tussle between the two parties will probably continue for some years to come. More than ten years ago the points at issue were fully described.[1] The abuses were then acknowledged by the medical staff in the employ of the dispensary but they failed to see that it was possible to take any effective remedial action. There were many practitioners close by at Birmingham ready to take their places. The majority of the practitioners at Coventry had united together and had even formed an association called the Coventry Public Medical Service, where contract work was organised by the medical men themselves in such a manner ean, close to the spine, infers lymphatic infection beyond nd points to the impossibility of eradicating the disease." here is no indication in Mr. Symonds's paper that any art of any specimen removed has been microscopically xamined. Even in the case where "a gland was nclosed in a ligature and part had to be left" we re led to believe that the gland was malignant with ut being referred to the testimony of the microscope. t the present time there is comparatively little information s to the extent of gland invasion in cases which, from other oints of view, are operable, and it is a matter for regret hen the record of a case affords no information on the icroscopic characters of the glands removed. It is most isleading to look upon the size or even the hardness of a land as proof of malignancy. Glands as large as a bean at e upper end of the ileo-colic chain are not infrequently bserved in cases where there is no suspicion of malignant or ther disease of the bowel. It is well that "experience hows that the presence of such glands need not weigh gainst excision."

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[1] The chief railways in both Norway and Sweden belong to the State but some few lines are still in the hands of private companies. The traveller should always obtain the current number of the official time tables before arranging a journey.

[1] The Lancet, June 12th (p. 1637) and 19th (p. 1707), 1897.

We have shown[2] that the whole of the ileo-colic chain of lands must be regarded as being primary to the cæcum and ppendix, glands at the extreme upper end of the chain ceiving direct vessels from the bowel and standing in the ime relation to it as those in contact with it. Assuming at by "a gland close to the spine," one of the uppermost embers of this chain is meant and bearing in mind the natomy of the chain, it does not seem to us that an obvious nlargement of such a gland, even if thought to be definitely alignant, should disturb the operator's intention or give rise o more apprehension than a diseased gland of the anterior r posterior ileo-colic groups which would certainly deter no ne from proceeding to excision. Gland disease limited to the leo-colic chain and not involving the great glands around the uperior mesenteric trunk should not forbid excision, other onditions being favourable, nor should the presence or absence of diseased glands determine the extent of the operation. In cases where there is no obvious change in the glands the whole of the chain should be removed, otherwise there is no reasonable certainty of complete removal of possibly infected glands. In cases where the glands are enlarged and possibly malignant there may be less certainty of complete removal. Shortly, we may say that this operation is the least and the most that may be done in carcinoma of the cæcum and ascending colon.—We are, Sir, yours faithfully,

J. F. DOBSON.
School of Medicine, Leeds. J. KAY JAMIESON.

A NOTE ON THE TREATMENT OF DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—Most practitioners are no doubt familiar with the excellent results obtained in severe cases of diphtheria marked by vomiting and cardiac depression by the adoption of Dr. Rolleston's method. This method consists in the administration by the mouth or rectum of a solution of adrenalin chloride with camphor water. In practice, however, it is sometimes inadvisable to give in the condition referred to *anything* by the mouth, and in other cases there may be intolerance of rectal injections.

For nearly two years past I have used at the Mortlake isolation hospital specially prepared tabloids, each containing $\frac{1}{100}$th of a grain of adrenalin chloride and $\frac{1}{100}$th of a grain of sulphate of strychnine, to make solutions for hypodermic injection and I have found this plan answer admirably.* One or two of these tabloids may be administered every two, three, or four hours according to the gravity of the case; the action of the adrenalin appears to be sustained by the strychnine, which, of course, has its own special value in diphtheria, and the treatment can be continued and carried to a happy issue when neither mouth nor rectal administration is possible.

The method is of service even in cases admitted in a desperate condition, but its greatest value, I think, is displayed when the administration of the two drugs is commenced immediately that vomiting or cardiac irregularity is noticed. We make it a part of the daily routine that immediately on the occurrence of vomiting all food, medicine, and throat treatment are stopped and adrenalin and strychnine be at once given hypodermically.

Some account of this treatment was given in a paper published in the *West London Medical Journal* for July, 1907, but a year's increased experience has amply confirmed my opinion of its usefulness.

I am, Sir, yours faithfully,
F. G. CROOKSHANK, M.D. Lond.,
Barnes, S.W., April 18th, 1908. Medical Officer of Health.

THE CONGENITAL PIGMENTATION OF MONGOLIANS.

To the Editor of THE LANCET.

SIR,—A curious condition has been brought to my notice by a very observant midwife: it is that every full-caste Chinese baby is born with a large-sized ecchymosis or bluish-black staining on each buttock in the centre of which is a still blacker spot. On the baby with which I had the chance of observing this strange mark the centre of intense colouration was on one side only, but both buttocks had a distinctly circumscribed bluish-black discolouration beneath the skin. I have examined other Chinese children and have found bluish-black areas up to the age of two years; in one baby six months of age it had already disappeared, but the father assured me it was there when it was born and also in all his children; in some families the spots were mostly situated high up on the sacrum.

I have seen a Japanese baby three months of age, but I cannot say that I found the discolouration except a slight stain on the sacrum, but even amongst them it is a well-known and looked-for sign, and its absence in the newly born is the cause of some amusement; they seem to know the white child does not possess this distinctive sign at birth.

I do not know if this peculiarity has been commented upon before. As the Chinese are intensely exclusive in matters connected with attendance on their women at child-birth it is the exception for a male doctor to be present. It was further stated by the midwife that she had observed it in the half-caste Chinese children but, curious to remark, on only one buttock, inferring that its incompleteness was indicative of Chinese intercourse with European women.

I am, Sir, yours faithfully,
EDWARD P. LEAVY, L.R.C.P. & S., L.M. Irel.,
Government Medical Officer, Geraldton.
Geraldton, Johnstone River, Queensland, Feb. 10th, 1908.

⁂ We publish on p. 1223 of this issue a brief annotation on Mr. Leavy's communication.—ED. L.

MEMORIAL TO THE LATE PROFESSOR ANNANDALE, PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

To the Editor of THE LANCET.

SIR,—Many friends and former pupils of the late Professor Annandale, in the belief that a scheme for establishing a memorial to perpetuate his name would be received with general approval, are taking steps towards its accomplishment. For this purpose a large and influential general committee has been formed, also a small executive committee.

It is proposed that a fund should be raised for the purpose of awarding a gold medal annually to the best student in clinical surgery at the final examination to be known as "The Annandale Gold Medal in Clinical Surgery." In addition to this it is thought that a bust of the late Professor should be placed in the lecture theatre of the Royal Infirmary, Edinburgh, so long associated with his teaching. As the late Professor Annandale identified himself so closely and for so many years with the athletic life of the University it has been suggested that if there should be any surplus after providing for these objects it might be devoted to some memorial in connexion with the athletic club.

The committee have appointed Mr. H. M. D. Watson, C.A., 13, Rutland-square, Edinburgh, to act as their secretary and treasurer, and those who desire to subscribe are requested to communicate with him as soon as possible, as it is thought important to carry through the scheme without delay.

Yours faithfully,
WM. TURNER,
Principal of the University of Edinburgh.
J. M. COTTERILL,
President of the Royal College of Surgeons Edinburgh.
H. M. D. WATSON,
Edinburgh, April, 1908. Secretary and Treasurer.

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[2] THE LANCET, April 27th, 1907, p. 1137.

arrears of payments, the medical staff would receive as net benefit two-thirds of the subscription. In other words, as matters now stand and when every subscription due is paid, the working expenses for the last quarter will not exceed one-third of the receipts. Further, the receipts during this last quarter, which is the third quarter during which the new dispensary service has been in existence, are the largest yet gathered in. Consequently the new institution is making progress. Nevertheless, the medical officers have lost several hundred pounds a year, and it is urged that a fund should be in existence to help the weaker members of the profession who are not in a position to make such sacrifices. But, of course, the time to create a fund of this description is when there is no struggle; it should be accumulated beforehand. To-day every new subscriber who comes in or who leaves the old Provident Dispensary to join the new dispensary service yields a larger profit than his predecessors because the initial expense is now covered. In the new service the patients all call at the surgeries of their medical officers, while in the old Provident Dispensary they have to go to the building belonging to that institution and have to wait there as at the out-patients' room of a hospital. After they have seen their medical officer the drugs are dispensed in the same premises. The new service has found it expedient to establish a dispensary of its own, for which each of the four medical officers had to subscribe £25. It employs a qualified dispenser, buys its own drugs, and is thus better able to control them, and they cost less. Now, if it had more patients this would occasion no further outlay in rent and salaries and the only extra cost would be the time given to them and the drugs which they would actually consume. Thus, it is thought that now that the initial expense and the salaries have been met a thousand more subscribers would only cost about £30 or £40 a year, while they would bring in £266. The number of subscribers is likely to increase, as little by little the public learn better to appreciate the fact that their true interests are identical with those of the medical profession. The real object is to prevent the reduction of medical attendance to a hurried and insufficient examination shortened so as to meet the smallness of the pay rather than the requirements of the patient. That is why the medical profession protests against hospital abuse as well as the abuse of club practice. The struggle with the Coventry Provident Dispensary is calculated to increase the abuse prevalent at the Coventry Hospital. The medical staff of the Coventry Provident Dispensary are not met in consultation by the other local members of the profession. Consequently, several of their patients, when they found that they could not get a second opinion, left the Provident Dispensary. Naturally, and so as to avoid this, such cases will if possible be sent to the hospital and thus the difficulty of not being able to call in a consultant will be avoided by increasing the sum total of hospital abuse.

Some members of the committee of management of the Provident Dispensary are also on the hospital committee of management. This places the hospital medical staff in an awkward position, for they are working under the authority to some extent of men concerned in an institution which is repudiated and condemned by the profession to which they belong. A subcommittee was appointed at the hospital a short time ago to ascertain what abuse existed and how it could be remedied. This committee consists of two medical men, two representatives of the workmen subscribers, and two or three members of the committee of management. The committee met once or twice and then adjourned for a month so that specific cases could be brought before it. This has now been done. Also the division of the British Medical Association passed a resolution bearing on the subject and sent it to the subcommittee. The number of hospital patients is so enormous that one single member of the honorary staff is sometimes expected to see no less than 60 patients in an hour and a half. Then there are some men who have seized the opportunity afforded by the dispute to leave the old Provident Dispensary and not to join the new one, trusting wholoy to the hospital should they fall ill. As the workers' subscriptions to the hospital increase yearly they think that they have a right to walk in and to receive whatever sort of medical treatment they may need. Thus the limit of efficiency of the hospital has long been passed by the excess of patients attending, and the dispute with the Coventry Provident Dispensary can only tend to increase this state of affairs. On the other hand, it is something to know that this latter institution has been hardly hit and that the abuses which it represents cannot continue with impunity. Moreover, the medical practitioners who have inflicted this blow though they have also lost a considerable portion of their income are gradually winning it back. In any case, what they have now is really theirs and will count as an asset when they want to sell their practices, whereas before they could not sell their posts on the Provident Dispensary, for it was not certain that the services of their successors would be accepted by that institution. But better than all these material considerations is the fact that the five medical officers who have made these considerable sacrifices are now acting in full harmony with their profession and hold an honourable position in its ranks.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Territorial Medical Corps (Manchester).

THE Royal Territorial Medical Corps (Manchester) has enlisted about 250 men who have generally joined for one or two years. But the officers of the corps have to enlist 725 men, to provide the staff for a general hospital, which will, according to report, be set up on mobilisation, and sanitary squads. In many respects the new arrangement of the medical service is an expansion of the medical service of the Volunteers. Thus the bearer companies and field hospitals of the Volunteer organisation become consolidated into field ambulances for cavalry and infantry and there are to be three of them for each division of the Territorial Force. New features, however, appear. There will be hospitals, stationary and general, the staffs of which will consist of civil hospital physicians and surgeons who, though "possessing no organic connexion with the divisions, will be raised in the same territorial area should the local staffs of the civil hospitals coöperate for work in time of war in the vicinity of their own civil hospitals." Also during operations for home defence the coöperation of medical men engaged in preventive medicine will be sought. In time of war they are to assist with their advice should troops be massed in the vicinity of their own spheres of work. Professor G. A. Wright has been appointed administrator-in-charge of the general hospital and Mr. W. Thorburn is the registrar and secretary. The unit for this hospital is to be 43 men, and the commanding officer wishes to get some of the Manchester University students and pupil teachers in elementary schools to join. Members of this unit will be required to attend one of the large military hospitals for training for "eight or 14 days in the year, where they will receive instruction in nursing, &c." There has been a cordial response to the call of the authorities by all the principal men on the staffs of the Royal Infirmary, the Ancoats Hospital, and the Salford Hospital to serve the general hospital on mobilisation, as would be expected by those who know them. 99 men are to be enlisted for the sanitary squads whose duty will be to supervise the sanitary arrangements in the field and to look after the water-supply. This fragmentary sketch of the organisation required in constructing even this small portion of the scheme of the army as recently elaborated shows how desirable, or rather how necessary, it is that the business should be put in hand during the days of peace.

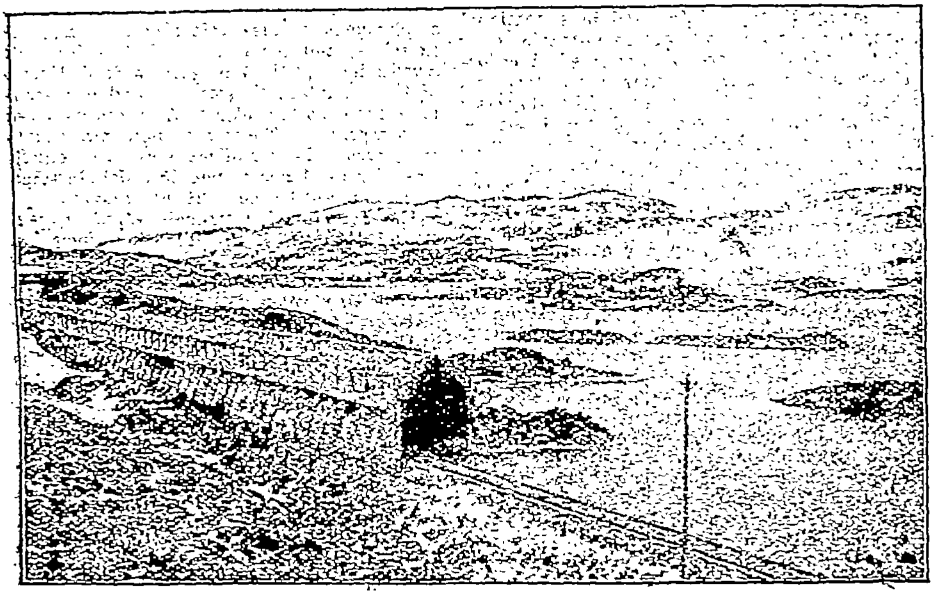
Mersey and Irwell Committee.

The meeting of the Mersey and Irwell committee on April 7th was marked by the resignation of the chairman, Sir John Hibbert, on account of his health. He has held the position for many years. Even if his health had continued good his advanced years would have entitled him to claim relief from public labours. In his letter of resignation he summarises the work that has already been done, and though, when the Mersey and Irwell are looked at or smelled, the purification remaining to be accomplished seems still very great, while the visible and olfactory evidences of noisome filth seem apparently much as they were years ago, it must be acknowledged that the committee has always been at work and that some good has been done. It has sometimes been thought that more energy might have been shown, but, as Sir John Hibbert says, much has been done for carrying out the powers entrusted to it, and "perhaps under the special circumstances of the specially foul state of the streams in the district much may have been left undone. Our motto has been the Latin proverb 'Hasten slowly,' thus giving both manufacturers and local authorities time for carrying

Dr. Parkes Weber* the opinion is expressed that the climatic state of the mountainous regions of Norway "can exert a bracing effect on invalids and healthy persons equal to that produced by climates of considerably higher altitude in the Swiss Alps." This seems to be undoubtedly the case and is indeed for many cases an advantage of no little importance.

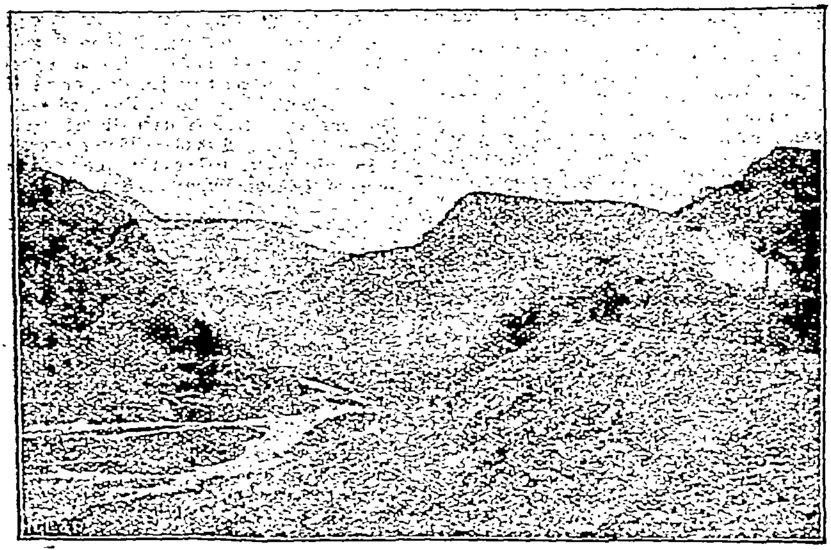
Norway is distinctly a mountainous country, having a mean altitude of about 1500 feet. It consists mainly of deep fjord-cut mountains, elevated mountain plateaux and valleys, extensive forests, and comparatively small areas of cultivated land. Its towns are small and its homesteads are widely scattered. From North to South its extent is 1100 miles, while its breadth varies from seven to 280 miles.

FIG. 1.



Snow tunnel on the new Bergen to Christiania Railway, 4260 feet above sea level.

FIG. 2.



View in the course of the new Bergen to Christiania Railway.

Sweden is a more extensive country. It is over 1000 miles long and has an area of 172,876 square miles. Whilst comparatively flat in its greater extent it is rich in lakes and rivers and in certain districts, particularly the far-extending Norrland, offers unlimited opportunities for the winter sportsman.

In both countries there can be found practically all the natural conditions desirable for a winter sanatorium, such as pure, rarefied, dry, dust-free, and bracing air, much sunlight, absence of irritating fogs, little wind, and moderate altitude. The snow-covered ground secures an absence of dust, a reflecting medium for the sun's rays, and a surface which lends itself to numerous forms of health-giving exercise. Snow does not fall frequently but usually comes at more or less definite times.

It should also be noted that the sanatoriums are often situated in forest regions where timber for construction is arrears of payments, the medical staff would receive as net benefit two-thirds of the subscription. In other words, as matters now stand and when every subscription due is paid, the working expenses for the last quarter will not exceed one-third of the receipts. Further, the receipts during this last quarter, which is the third quarter during which the new dispensary service has been in existence, are the largest yet gathered in. Consequently the new institution is making progress. Nevertheless, the medical officers have lost several hundred pounds a year, and it is urged that a fund should be in existence to help the weaker members of the profession who are not in a position to make such sacrifices. But, of course, the time to create a fund of this description is when there is no struggle; it should be accumulated beforehand. To-day every new subscriber who comes in or who leaves the old Provident Dispensary to join the new dispensary service yields a larger profit than his predecessors because the initial expense is now covered. In the new service the patients all call at the surgeries of their medical officers, while in the old Provident Dispensary they have to go to the building belonging to that institution and have to wait there as at the out-patients' room of a hospital. After they have seen their medical officer the drugs are dispensed in the same premises. The new service has found it expedient to establish a dispensary of its own, for which each of the four medical officers had to subscribe £25. It employs a qualified dispenser, buys its own drugs, and is thus better able to control them, and they cost less. Now, if it had more patients this would occasion no further outlay in rent and salaries and the only extra cost would be the time given to them and the drugs which they would actually consume. Thus, it is thought that now that the initial expense and the salaries have been met a thousand more subscribers would only cost about £30 or £40 a year, while they would bring in £266. The number of subscribers is likely to increase, as little by little the public learn better to appreciate the fact that their true interests are identical with those of the medical profession. The real object is to prevent the reduction of medical attendance to a hurried and insufficient examination shortened so as to meet the smallness of the pay rather than the requirements of the patient. That is why the medical profession protests against hospital abuse as well as the abuse of club practice. The struggle with the Coventry Provident Dispensary is calculated to increase the abuse prevalent at the Coventry Hospital. The medical staff of the Coventry Provident Dispensary are not met in consultation by the other local members of the profession. Consequently, several of their patients, when they found that they could not get a second opinion, left the Provident Dispensary. Naturally, and so as to avoid this, such cases will if possible be sent to the hospital and thus the difficulty of not being able to call in a consultant will be avoided by increasing the sum total of hospital abuse.

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* "Climatology and Balneology," by Sir Hermann Weber, M.D., F.R.C.P., and F. Parkes Weber, M.D., F.R.C.P., p. 184 (London, 1907.)

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Mersey and Irwell Committee.

The meeting of the Mersey and Irwell committee on April 7th was marked by the resignation of the chairman, Sir John Hibbert, on account of his health. He has held the position for many years. Even if his health had continued good his advanced years would have entitled him to claim relief from public labours. In his letter of resignation he summarises the work that has already been done, and though, when the Mersey and Irwell are looked at or smelled, the purification remaining to be accomplished seems still very great, while the visible and olfactory evidences of noisome filth seem apparently much as they were years ago, it must be acknowledged that the committee has always been at work and that some good has been done. It has sometimes been thought that more energy might have been shown, but, as Sir John Hibbert says, much has been done for carrying out the powers entrusted to it, and "perhaps under the special circumstances of the specially foul state of the streams in the district much may have been left undone. Our motto has been the Latin proverb 'Hasten slowly,' thus giving both manufacturers and local authorities time for carrying that no abuse could arise, and they complained that the medical officers in the service of the Coventry Provident Dispensary would not join them. The latter retorted that if they did they would lose some £2000 annual income without any sort of compensation or even the hope of putting an end to the abuses which existed. Later, however, when the British Medical Association took the matter up, the medical officers of the dispensary felt less isolated. They began to look forward to some outside support but they certainly missed the psychological moment at which they should have taken action. When the local division of the British Medical Association decided not to consult with the medical officers of the Coventry Provident Dispensary they should then and there have made their stand. Instead of this a year was lost in negotiations and attempts to effect a compromise. At last one of the dispensary medical officers had a dispute with the committee of management and his precipitated matters. As already related, five members of the dispensary medical staff resigned and ceased to work for that institution on June 25th last. Being compelled to give three months' notice the dispensary had time o obtain the services of three outsiders. One of these newcomers has displayed great energy and has acquired a certain popularity. Further, he took the bull by the horns and instead of waiting to be attacked for his action in helping to break the strike he actually attempted to prosecute the medical officers of the dispensary who had resigned. The case is described in full in the supplement of the *British Medical Journal* of Dec. 7th, 1907. The officers who had resigned were accused of sending a canvasser around to tout for patients. Of course, the accusation could not be maintained.

When the five members of the Coventry Provident Dispensary resigned they agreed to start a new dispensary service. Certainly it would have been better had they thrown in their lot with the organisation formed years ago by the majority of the Coventry practitioners precisely for the purpose of putting an end to the abuses connected with contract practice. However, this was thought to be too great a change, more than could be expected all at once, though perhaps it may ultimately be brought about. Nor could the local practitioners energetically urge such a course, because it might appear as if they were arguing in their own interests. Indeed, so great was their anxiety to avoid any such suspicion that the members of the Coventry Public Medical Service decided to refuse to accept any patients who had been attended by the five officers of the Provident Dispensary. Thus it cannot be said that they helped to produce the dispute in the hope of reaping some personal advantage. Though the rules of the new organisation are not so good as their own they are a great improvement on the Old Provident Dispensary. Thus the Coventry Public Medical Service has a wage limit of 30*s.* a week, and no medical officer can have more than 3000 subscribers on his books; the limit used to be 2000 but was extended in the hope of inducing practitioners to give up their private clubs. The new dispensary service has a £2 per week wage limit and no limit as to the number of subscribers on any one practitioner's books. This latter is a serious flaw, for it is impossible to do justice to a very large number of patients. Again, the Coventry Public Medical Service is open to all fully qualified medical practitioners, whereas to join the new organisation it is necessary to be elected by a two-thirds majority. One good point is that the new dispensary service is not managed wholly by its members but one member of the local division of the British Medical Association is added to them so that the general interests of the profession will be represented. Then there is a rule debarring any medical practitioner who has commenced practice in Coventry without an introduction from being elected for four years. Also, any member found guilty of infamous conduct in the professional sense can be expelled by a two-thirds majority.

Subscribers are enrolled in the new dispensary service whose yearly incomes do not average more than £2 a week, and he or she must pay 1*d.* per week. Persons over 60 years of age have to pay 10*s.* entrance fee and a collector is to call once a month for the money. Illnesses caused by drunkenness or immorality are not included in the treatment given. For confinements the charge to members is 1 guinea and a midwife's charge is 10*s.* Such are the rules of the new service which four out of the five medical officers of the old Provident Dispensary formed. The fifth lives so far away that it is not thought practicable for him to participate and those subscribers to the old dispensary who left when he left enrolled themselves in the personal, private club which he has established. When all this was arranged a collector was engaged at a fixed salary so that he has no interest in persuading people to join, that is to tout. Yet this is the man who was accused of touting. What he did was to call on all the patients of the four medical officers who had resigned their posts on the Provident Dispensary and to inform the patients that if they desired to continue to consult their usual medical adviser they could only do this by joining the new dispensary service. The collector did not call on any one who was not already on the books of the medical practitioner in whose name he spoke.

There is, of course, a good deal of dissatisfaction caused by the mere fact that an accusation against the very men whom the British Medical Association and all the profession were pledged to support was allowed to pass by the penal committee. Yet the four medical officers who had resigned were summoned to appear before the General Medical Council, only to be told when they got there that the charge against them had been withdrawn. On the other hand, if the British Medical Association takes action against medical practitioners who are considered to have acted in a reprehensible manner it cannot even publish the fact. Thus it appears that among the medical men who in various parts of the country have taken service for such condemned institutions as the Coventry Provident Dispensary there are some who belonged to the British Medical Association. Consequently they have been expelled from the Association and there is a regular form notifying such expulsions and yet these have not been used. There is, it appears, no rule in regard to publishing the fact that a member of the Association has been expelled, therefore the Association has, I understand, been informed by its legal advisers that it would not be wise to publish the names of the members who have been expelled. In these circumstances I would recommend the British Medical Association to study the Statutes of the French Medical Syndicates. These French medical associations can not only publish a full record of what they do, but they can punish as well as expel their members if these do not observe faithfully the principles laid down in the deed of association. The punishment consists of a fine of from 16*s.* to £20 and the civil tribunals, when it is necessary to appeal to them, confirm and enforce the sentence pronounced by the medical jury of the medical union. Therefore, if this law applied to the British Medical Association any member of that body taking service under the Coventry Provident Dispensary or other similar institution could not only be publicly expelled but could be fined £20. Obviously there is great need of disciplinary sanctions in the medical profession of Great Britain.

Nevertheless, some progress is made, though the cause at Coventry received a great blow in the sudden death of Dr. T. A. Hird. This gentleman was the most popular of all the medical officers formerly attached to the Coventry Provident Dispensary and had far the greatest number of subscribers on his books. A very large proportion of them would have desired to follow him when he left the Provident Dispensary, but he died on the very eve of the day when he had to appear before the General Medical Council to answer the charge mentioned above. By means of a locum-tenent an attempt has been made to carry on the practice and his son was fully qualified a week or two ago. Nevertheless, the following would, of course, have been greater but for this most untimely death. As it is, however, about 8000 members have left the old Provident Dispensary and joined the new dispensary service. The success of the movement would have been greater still had there been a relief fund to fall back upon, for a sixth member of the Provident Dispensary's staff was willing to join the strike if a sum of £200 a year could be guaranteed, as he was too old to begin life over again. Offers were made and the sum of about £100 was forthcoming. 40 local practitioners would have subscribed on an average £2 a year, so as to draw one more medical officer away from the staff of the Provident Dispensary, and this fact alone suffices to show how that institution is considered by the profession; then a small sum could have been obtained from the British Medical Association, but it was quite impossible to raise £200 a year; therefore only five medical officers left the dispensary, though a sixth would have done so had he been younger and better able to support himself.

With the members who have left the Provident Dispensary and joined the new dispensary service, if there were no the county and are not confined to one district. There would seem to be room here for a very useful investigation on the question as to whether any relation *does*, in fact, exist between the use of "cake" and isolated cases of anthrax. The Board, in a memorandum which is frequently circulated, offers to make an examination of food-stuffs where suspicion can be definitely traced to "cake" or other food as the cause of the disease. This is difficult to establish in any particular case, but by collecting information as to the use of "cake" on farms where cases of anthrax have occurred it would seem profitable, if *prima-facie* evidence were found to incriminate "cake," to inquire into the circumstances of the manufacture and methods of transport of "cake."

Sanitary Committee of the Newcastle Corporation.

The estimates of expenditure for the year ending March 31st, 1909, submitted by the sanitary committee to the city council totalled £51,020. The expenditure on rate account is estimated at £32,512, against £27,338 for 1907–08 and £26,383 for 1906–07. The estimated increase of expenditure over 1907–08 is therefore £5174, against an increase of £955 in 1907–08 as compared with 1906–07. Of this total increase of £5174 rather more than two-thirds, £3462, is absorbed by the increase in cost of the city isolation hospitals and is accounted for by the fact that at Walker Gate Hospital accommodation for an additional 74 beds over and above 105 at present in use has been provided, and it is hoped that this further accommodation will be almost immediately available for the reception of patients. It was not surprising, therefore, that the discussion on the estimates was chiefly directed to criticism of the cost of hospital administration. The estimates had already been severely handled in committee—in fact, consideration of the estimates had been adjourned four times on the initiative of Alderman Flowers "in order that they might go carefully into them, to see whether they could reduce them," and the result of this prolonged deliberation was that Alderman Flowers was able at the meeting of the council warmly to defend the estimates. During the course of the discussion in the council comparison was made between the relative cost of maintaining the workhouse infirmary and the infectious diseases hospitals, and it was shown that the cost of administration of the latter, where only infectious diseases were admitted, was not very much greater than the cost of administration of the workhouse infirmary, where no zymotic diseases were taken. The cost per bed in Newcastle (£411) also compared favourably with that of larger hospitals—e.g., in Liverpool £415 and in Edinburgh £559 per bed. Considerable argument also arose concerning the large numbers of the staff for the number of patients in hospital, which at that moment happened to be abnormally small. But the difficulties and the cost of administration of an infectious diseases hospital where several different diseases are treated is always a stumbling-block to those who have had no practical experience of fever hospitals. In the result the estimates were reduced by £4000 and this very probably largely in view of the immediate outlook in the main industry of the Tyne and in response to the appeal of Sir W. H. Stephenson that spending committees should bear this rather depressing outlook in mind and so arrange their expenditure that the rate should not exceed that of last year —viz., 4*s.* 11*d.* in the £. The decision of the council will no doubt be somewhat disappointing to the members of the sanitary committee and their able and energetic officer of health, Dr. Henry E. Armstrong, for it is universally admitted that Newcastle is in the proud position of being at least among the foremost sanitary administrations of the country; but, at the same time, they have the satisfaction of knowing that the thanks of the whole community are due to them for their wisdom and foresight in matters of preventive medicine, as well as the further satisfaction of knowing that theirs is not the only committee whose expenses have had to be curtailed in view of the present state of affairs.

April 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Royal Infirmary: Post-graduate Classes.

DURING the last two years carefully arranged post-graduate courses have been conducted at the Glasgow Royal Infirmary and have attracted practitioners not only from the city and neighbourhood of Glasgow but also from considerable distances. This year arrangements have been made for two separate courses: the first, mostly devoted to special subjects, will begin on Friday, May 1st, and will continue during the month; the second will commence at the beginning of September, the syllabus of which has still to be arranged. The following subjects will be included in the first course: Clinical medicine, by Dr. G. S. Middleton and Dr. W. K. Hunter; Clinical Surgery, by Mr. Henry Rutherfurd and Mr. A. N. McGregor; Surgical Diseases of the Urinary Organs, by Mr. David Newman; Clinical Examination of the Urine, by Dr. John Henderson; Gynæcology, by Dr. G. B. Marshall; Diseases of the Ear, by Dr. J. K. Love; Diseases of the Eye, by Mr. John Rowan; Diseases of the Skin, by Dr. A. Morton; Diseases of the Throat and Nose, by Dr. R. Fullerton; Gynæcology, by Dr. W. D. Macfarlane; Operative Surgery, by Mr. P. Paterson; and Bacteriology, by Mr. David McCrorie. Details of the course have appeared in the advertising columns of THE LANCET, and a syllabus may be had by applying to the superintendent of the infirmary, who will be pleased to supply any further information. As many of the classes are limited to a fixed number of members, practitioners desirous of joining any of the classes are recommended to apply for enrolment as early as possible.

Aberdeen Parish Council and Medical Appointments.

At the last monthly meeting of the Aberdeen parish council held on April 14th it was agreed to raise the resident medical officer's salary from £80 to £90. A motion that vaccination defaulters should not be prosecuted was defeated by a large majority. In connexion with the appointments of the district medical officers, who have hitherto held office *ad vitam aut culpam*, a motion was brought forward—

> That at the ordinary meeting on April 14th the parish council proceed to consider, and if thought fit to alter or vary, the appointment of all or any of the district medical officers.

It was also moved that, with the view of establishing a rotation, the senior medical officer should be now asked to retire and this ultimately became the finding of the meeting. The senior medical officer will now be asked to resign in accordance with the decision of the council. Dr. Clark, with a view to qualifying for the position, then intimated his resignation as a member of the parish council.

The Health Report for Keith.

Dr. R. S. Turner, medical officer of health of Keith, has just issued his report to the town council for the year 1907. Reference is made to the defective water-supply and the insanitary condition of many of the ash-pits and disused drains. Nothing has been done during the year to prevent the pollution of the Isla by trade effluents and the sewage purification scheme seems to be at a standstill. The death-rate has been 20·4, as compared with 19·4 for 1906, the increase having been chiefly in persons over 60 years of age.

The Public Health of Peterhead: Annual Reports.

In the course of his report to the Local Government Board the medical officer states that the birth-rate and death-rate are respectively 34·6 per 1000 and 19·5 per 1000 of the population. The mortality of children under one year is slightly increased for this year, the rate being 152·8 per 1000 births, in comparison with 149·8 per 1000 births for last year. On the periods 1–5 years, 5–15 years, and 15–25 years there is also a slight increase, as also in the mature and post-mature periods, on the preceding year. There have also been a good many deaths from zymotic causes, but the mortality from tuberculous disease is considerably less. Dr. Norman Davidson refers to the scarcity of houses for the working classes and regards the situation as one demanding serious attention. Certain parts of the town are seriously congested and overcrowded both as to the poorer class of house and better-class workmen's houses. For some time past the local authorities have recognised the need for improvement and have so far got a report from the burgh surveyor and town clerk regarding the advisability of erecting workmen's houses under the Housing of the Working Classes Act, 1890. In the sanitary inspector's report the facts regarding the new water-supply are noted. Great care is being taken to trace all springs to their sources and to exclude all doubtful water. Although filtration was not anticipated to be necessary, since the epidemic of enteric fever the question has been under consideration. New water mains are being largely substituted for the old and inadequate mains.

out the necessary works required of them." Of the 94 local authorities within the district, 80 urban and ten rural districts have works in operation, leaving two urban and one rural district with no scheme, and one urban district with a scheme under consideration. The enormous amount of consideration required before these schemes are allowed to escape from review is something to marvel at. The two rivers have on their banks 393 manufacturers, of whom 298 have efficient works, while 83 are in the unsatisfactory position of having works which are not efficient. 14 only let their effluent go without treatment, and there seem to be 26 works where, unless they have been closed, the effluent goes into the sewers. Our old opprobrium, the Gore Brook, receives, and well deserves, special mention, for "there is still the foul state of the Gore Brook to be remedied," but Sir John Hibbert knows that Gorton is to be amalgamated with Manchester and trusts "that this long-standing nuisance will at last be remedied." Though many think that more might have been done to make our streams a delight to the eye instead of a trial to the nose, it would not be fair not to give the testimony of the chief inspector that "the improvement of the rivers is evidenced by the appearance of the river bed, by the continued and increasing use of river water by the manufacturers, and particularly by the reduction in the number of complaints." Unfortunately it is not often that the eye can penetrate to the river bottom. The services of Sir John Hibbert, his kindness and urbanity, were warmly acknowledged. Mr. D. B. Hewitt of Davenham was elected to the chairmanship, and as he is a retired member of our profession he will understand the difficulties and also the possibilities of river purification.

"Potted Lobster."

A Southport firm was prosecuted the other week at Blackpool and fined £3 and costs for selling potted lobster "not of the nature and substance demanded by the purchaser." This stuff was said to have contained only 25 per cent. of pure lobster, while there were 50 per cent. of foreign fish. Colouring matter and a preservative were said also to have been introduced. A member of the firm denied the statement of the analyst that it contained bread but said that it did contain ground rice. He stated that formerly the label described this compound as a mixture, but when it was explained to him that he was the only one in the trade who did so he stopped it, "though he had no intention to defraud." However, he said that he had made provision in the future to fully explain on the label that the contents of the pot were lobster, choice fish, and other things.

April 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Lord Mayor of Liverpool and the University of Edinburgh.

AMONGST the recipients of the degree of Doctor of Laws at the spring graduation ceremony which took place at the University of Edinburgh on April 10th was Dr. Richard Caton (Lord Mayor of Liverpool). Sir Ludovic Grant, in presenting Dr. Caton, said that he possessed a triple qualification for the honorary degree of LL.D.—his services to medical science and medical education, his archæological achievements, his public activity and civic prestige. Dr. Caton was an alumnus of the University of Edinburgh. He was one of the band of labourers whose strenuous exertions were instrumental in calling into existence the University of Liverpool and he himself discharged the duties of professor of physiology for many years with conspicuous success.

The Dutton Memorial.

The fund being collected as a memorial to the late Dr. J. Everett Dutton, who died two years ago when on an expedition for the Liverpool School of Tropical Medicine, is now approaching completion. The object of the promoters of the memorial is to secure the means of endowing an additional chair in the Liverpool School of Tropical Medicine, to be called the "Dutton" chair. More than two-thirds of the required amount have been already promised, the activity of Sir Rubert Boyce, the indefatigable professor of pathology at the University, being largely responsible for this happy result. Dr. Dutton well deserves a permanent memorial at the University of Liverpool. He gave his life in the service of science and humanity and his achievements will ever remain one of the traditions of the Liverpool School of Tropical Medicine. The memorial to him will take the form of additional facilities for carrying on effectively the study of tropical diseases.

Closing of the Park Hill Civic Hospital.

The chairman of the hospitals committee (Mr. John Utting) at the recent meeting of the city council made the announcement that the Park Hill hospital for infectious diseases had been closed. The hospital contained 350 beds and they were all now out of commission. The committee, however, desired to keep a certain number of the beds in a state of constant preparedness. For that purpose it was retaining six officers in the hospital. They would have certain duties to discharge whilst the hospital was empty and they would be ready to take in any number of cases up to 40 should any sudden emergency arise. It was proposed to give the gentleman who had been the visiting physician a retaining fee, so that they might have his services when required. At present there were, fortunately, no small-pox cases in Liverpool, and the small-pox hospital was just now being used as a convalescent institution. As long as that continued they need not call upon the Park Hill hospital again. Mr. Utting regarded the new arrangement as a very valuable insurance against any misfortune which might befall the health of the city.

April 21st.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The College of Medicine.

THE University Easter term begins on Friday, April 24th. The registration of students at the College of Medicine commences on the 22nd and the books remain open until Saturday, April 25th. The first lectures of the summer session will be given on Monday, the 27th. In former years the summer session began on May 1st but in view of the alteration of the dates of the examinations it has been found necessary to antedate the commencement of the summer session. On the suggestion of Professor G. R. Murray a short course of post-graduate lectures, especially intended for medical practitioners, was given last summer on The Principles of Bacteriology and Immunity, with special reference to their application in the ordinary routine of medical practice. The number of practitioners who attended was so encouraging that a similar course will be given during the coming summer on Tuesday afternoons at 4 P.M., when it if hoped that the attendance will again be such as to warrant the authorities in making this a regular course of instruction.

Anthrax in Newcastle.

Some meat recently sent to the Newcastle market for sale as food—"subject to inspection"—was found on examination to be infected with anthrax. Inquiry at the farm whence the meat had been sent showed that there was a serious outbreak of anthrax among the beasts and other animals kept there. Several beasts, some pigs, and a pony were all found to be suffering from anthrax and some of them subsequently died from the disease. In this particular instance, happily, no further cases, either in man or animals, have been traced to the outbreak. In similar circumstances some few months ago three cases of anthrax in man were directly traced to an infected animal which had died suddenly. Two butchers who dressed the carcass contracted the disease, one of whom died, and a woman who bought some of the meat also suffered but recovered. During the first three months of this year ten cases of anthrax in bovine animals were notified in the county of Northumberland, and a study of the incidence of the disease points to "cake," which is largely used as a foodstuff, as the cause of the disease. After each case is notified the farm is visited by the chief veterinary inspector for the county and the burial of the carcass is carried out according to the instructions contained in the order of the Board of Agriculture under his immediate supervision. The efficiency with which the work is done is proved by the fact that it is very rarely indeed that a second case of the disease occurs on the same farm. In favour also of the view that the disease is imported is the fact that the cases are distributed all over lectures which were delivered in connexion with the exhibition, and which is to be carried out by Messrs. Maunsel and Co., 96, Middle Abbey-street, Dublin. The collection is to appear in three volumes. Of these, the first volume has been promised to be "ready early in April" and contains a preface by Her Excellency the Countess of Aberdeen, an account of the opening ceremony of the exhibition, and the following lectures: What the Public Can Do in the Fight against Tuberculosis, by Professor Osler; Tuberculosis in Ireland, by Sir Robert Matheson; On the Bearing of Tuberculosis on the Conditions of Ireland, by Mr. R. F. Tobin, F.R.C.S. Irel.; Why Tuberculosis is so Common in Ireland, by Sir John W. Byers; Some Aspects of the Tuberculosis Problem, by Dr. Lawson; on the Economic Aspects of Tuberculosis, by Professor J. A. Lindsay; and a catalogue of the above exhibition. The second volume of the series will deal with the sanatorium and dispensary treatment of the disease, &c.; while the third will be made to include a number of miscellaneous lectures bearing on the subject, inclusive of one dealing with Tuberculosis in the Lower Animals. The publication of the series should have a most beneficial effect in educating the public in their necessary duties in the campaign against tuberculosis.

A Memorial to the late Dr. Conolly Norman.

A meeting was held recently in the Royal College of Physicians of Ireland to consider the question of erecting a suitable memorial to the memory of the late Dr. Conolly Norman. The President of the College presided. Also present were Sir Henry R. Swanzy, President of the Royal College of Surgeons in Ireland; Dr. J. Little, Sir Francis R. Cruise, Sir Thornley Stoker, Dr. J. Magee Finny, Dr. W. R. Dawson, Dr. P. W. Maxwell, Dr. J. O'Conor Donelan, Dr. A. W. W. Baker, Dr. E. L. Fleury, Mr. H. M. Cullinan, Rev. M. Taylor, Mr. J. R. O'Connell, LL.D., and Dr. Carroll. Dr. Little and Sir Francis Cruise expressed sympathy with the object of the meeting. Sir Henry Swanzy paid tribute to the memory of the late Dr. Conolly Norman. After some discussion an executive committee was appointed. Dr. Dawson and Mr. O'Connell were appointed treasurers, and Dr. Donelan and Dr. Fleury secretaries.

The University Question: the Belfast View.

Mr. Birrell's Bill being now printed is undergoing very critical discussion in Ireland, and while there are the most marked divergencies of opinion on many of the details as to the two universities, and still more as to the line of settlement adopted by the Chief Secretary, all are agreed that the finances are not at all sufficient. Naturally, the President, professors, and lecturers at Queen's College, Belfast, are well satisfied, as is shown by the following motions adopted on April 7th:—

> 1. That we desire to express our extreme gratification that an earnest attempt is being made to settle the Irish University question on a permanent basis. 2. That we rejoice that the provisions of the Bill insure that the proposed new University in Belfast shall stand upon the same broad, non-sectarian, and purely academic basis on which Queen's College, Belfast, has worked since its establishment; that the University shall be free from religious tests and from all ecclesiastical control; that it is to be a free and completely self-governing university; and that public bodies, benefactors, professors, graduates, secondary teachers, women, and students will be represented on its governing body. 3. That, in our opinion, the elevation of this college to university rank will not only add much to the dignity of Belfast, making it a university city, but will give a great impetus to higher education here and throughout Ulster; that it will stimulate both teachers and students to show themselves worthy of the higher status now proposed to be granted by the Legislature; that it will excite much greater public interest in the college and attract an increasing amount of public support from local benefactors, and that it will largely stimulate literary and scientific research and promote the diffusion of knowledge and culture throughout the north of Ireland. 4. That a copy of these resolutions be forwarded to the Chief Secretary and to the press.

On the other hand, the friends of Magee College (which is the only constituent college of the Royal University not recognised by the new Bill) are up in arms, and at the closing meeting of the session on April 8th the President protested very strongly against Mr. Birrell's treatment of that institution. Then one of the visitors of Queen's College, the Right Hon. Thos. Sinclair, D.L., D.Lit., the leading layman of the Presbyterian Church, has written a letter to the papers denouncing the Chief Secretary's Bill and stating that he does not think "a more retrograde and mischievous proposal has yet been made"; and at a meeting of the executive committee of the Royal University Graduates Association held on April 9th it was unanimously decided to oppose Mr. Birrell's University Bill and a subcommittee was appointed to draft a statement and to consider further action.

The corporation of Cork has passed a resolution expressing its opinion that no settlement of the question can be considered final or satisfactory which does not provide Cork with independent university powers.

Belfast Ophthalmic Institution.

At the annual meeting of the friends of this hospital, held on April 13th, it was reported that during the past year there were in the extern department 1372 new eye patients and 703 suffering from affections of the nose, ear, and throat, while in the wards 173 patients were treated. There is a balance against the hospital of £150, and the total subscriptions received were £93. The medical staff is anxious for internal alterations and improvements in the hospital, which will cost about £500. It is hoped that an effort will be made to carry out these very necessary improvements and to free the institution from debt.

Benn Ulster Eye, Ear, and Throat Hospital.

At the annual meeting of the supporters of this hospital held on April 10th, it was reported that 354 patients had been treated in the wards during the past year and 2797 in the extern department. Financially, the debt on the hospital has been reduced to £194. 170 operations were performed under general anæsthesia, the latter including 54 operations for cataract.

The Proposed Dispensary for Consumption in Belfast.

A communication was read at the weekly meeting of the Belfast public health committee on April 9th from the Local Government Board, pointing out that it could not approve of the proposed arrangement with the Forster Green Hospital for the establishment of a dispensary for the treatment of consumption, as it had been advised that it could not legally do so. The Board suggested to the committee that it should if possible arrange with the committee of management of the hospital to place ten additional beds at its disposal, and it was resolved that the chairman should be authorised to negotiate with the hospital authorities with the view of acting on the advice of the Local Government Board.

The University Bill.

At a large meeting of the Belfast National Teachers' Association held on April 11th a motion was unanimously carried "emphatically protesting against the proposals in the Chief Secretary's Irish University Bill which exclude extern students from University examinations and which prohibit them from obtaining University degrees, as has been the custom for upwards of a quarter of a century." At a meeting of the higher education committee of the Presbyterian Church in Ireland held on April 15th it was agreed to request the Moderator to call a special meeting of the members to consider the proposed legislation of the Government with regard to University education in Ireland. The importance of this meeting lies in the fact that in Queen's College, Belfast, as is shown by the following figures for 1906–07 (the last available statistics), the Presbyterian students were actually 239 out of a total of 390, and consequently the Presbyterian Church is deeply interested in the proposed scheme.

Down District Asylum.

Mr. Michael J. Nolan, medical superintendent of the Down District Asylum at Downpatrick, has had his salary increased by the committee of management from £700 to £900 per annum.

Waste-paper Nuisance in Belfast.

The public health committee of Belfast, with a view to improve the appearance of the city, by preventing the scattering of waste-paper over the thoroughfares, has decided to adopt the plan used in Glasgow—that is, to supply canvas bags, in which the employees of shops are requested to place papers to be called for by the health authorities, instead of, as now, the papers being placed in a box or basket on the footpath along with the ashes. Householders are also requested to ask their servants when sweeping from the house door to the footway and on to the street to pick up pieces of paper and to burn them in the kitchen range instead of sweeping them on to the street.

Death of Mr. William Aickin, M.D. R.U.I.

A member of the medical profession, well-known for many years in Belfast, died at the age of 74 years, at his residence, Sandown Park, Knock, co. Down, on April 16th. He had been in practice in Belfast up to four years ago, when he retired owing to failing health. Dr. Aickin, who was the out the necessary works required of them." Of the 94 local authorities within the district, 80 urban and ten rural districts have works in operation, leaving two urban and one rural district with no scheme, and one urban district with a scheme under consideration. The enormous amount of consideration required before these schemes are allowed to escape from review is something to marvel at. The two rivers have on their banks 393 manufacturers, of whom 296 have efficient works, while 83 are in the unsatisfactory position of having works which are not efficient. 14 only let their effluent go without treatment, and there seem to be 25 works where, unless they have been closed, the effluent goes into the sewers. Our old opprobrium, the Gore Brook, receives, and well deserves, special mention, for "there is still the foul state of the Gore Brook to be remedied," but Sir John Hibbert knows that Gorton is to be amalgamated with Manchester and trusts "that this long-standing nuisance will at last be remedied." Though many think that more might have been done to make our streams a delight to the eye instead of a trial to the nose, it would not be fair not to give the testimony of the chief inspector that "the improvement of the rivers is evidenced by the appearance of the river bed, by the continued and increasing use of river water by the manufacturers, and particularly by the reduction in the number of complaints." Unfortunately it is not often that the eye can penetrate to the river bottom. The services of Sir John Hibbert, his kindness and urbanity, were warmly acknowledged. Mr. D. B. Hewitt of Davenham was elected to the chairmanship, and as he is a retired member of our profession he will understand the difficulties and also the possibilities of river purification.

"Potted Lobster."

A Southport firm was prosecuted the other week at Blackpool and fined £3 and costs for selling potted lobster "not of the nature and substance demanded by the purchaser." This stuff was said to have contained only 25 per cent. of pure lobster, while there were 50 per cent. of foreign fish. Colouring matter and a preservative were said also to have been introduced. A member of the firm denied the statement of the analyst that it contained bread but said that it did contain ground rice. He stated that formerly the label described this compound as a mixture, but when it was explained to him that he was the only one in the trade who did so he stopped it, "though he had no intention to defraud." However, he said that he had made provision in the future to fully explain on the label that the contents of the pot were lobster, choice fish, and other things.

April 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Lord Mayor of Liverpool and the University of Edinburgh.

AMONGST the recipients of the degree of Doctor of Laws at the spring graduation ceremony which took place at the University of Edinburgh on April 10th was Dr. Richard Caton (Lord Mayor of Liverpool). Sir Ludovic Grant, in presenting Dr. Caton, said that he possessed a triple qualification for the honorary degree of LL.D.—his services to medical science and medical education, his archæological achievements, his public activity and civic prestige. Dr. Caton was an alumnus of the University of Edinburgh. He was one of the band of labourers whose strenuous exertions were instrumental in calling into existence the University of Liverpool and he himself discharged the duties of professor of physiology for many years with conspicuous success.

The Dutton Memorial.

The fund being collected as a memorial to the late Dr. J. Everett Dutton, who died two years ago when on an expedition for the Liverpool School of Tropical Medicine, is now approaching completion. The object of the promoters of the memorial is to secure the means of endowing an additional chair in the Liverpool School of Tropical Medicine, to be called the "Dutton" chair. More than two-thirds of the required amount have been already promised, the activity of Sir Robert Boyce, the indefatigable professor of pathology at the University, being largely responsible for this happy result. Dr. Dutton well deserves a permanent memorial at the University of Liverpool. He gave his life in the service of science and humanity and his achievements will ever remain one of the traditions of the Liverpool School of Tropical Medicine. The memorial to him will take the form of additional facilities for carrying on effectively the study of tropical diseases.

Closing of the Park Hill Civic Hospital.

The chairman of the hospitals committee (Mr. John Utting) at the recent meeting of the city council made the announcement that the Park Hill hospital for infectious diseases had been closed. The hospital contained 350 beds and they were all now out of commission. The committee, however, desired to keep a certain number of the beds in a state of constant preparedness. For that purpose it was retaining six officers in the hospital. They would have certain duties to discharge whilst the hospital was empty and they would be ready to take in any number of cases up to 40 should any sudden emergency arise. It was proposed to give the gentleman who had been the visiting physician a retaining fee, so that they might have his services when required. At present there were, fortunately, no small-pox cases in Liverpool, and the small-pox hospital was just now being used as a convalescent institution. As long as that continued they need not call upon the Park Hill hospital again. Mr. Utting regarded the new arrangement as a very valuable insurance against any misfortune which might befall the health of the city.

April 21st.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The College of Medicine.

THE University Easter term begins on Friday, April 24th. The registration of students at the College of Medicine commences on the 22nd and the books remain open until Saturday, April 25th. The first lectures of the summer session will be given on Monday, the 27th. In former years the summer session began on May 1st but in view of the alteration of the dates of the examinations it has been found necessary to antedate the commencement of the summer session. On the suggestion of Professor G. R. Murray a short course of post-graduate lectures, especially intended for medical practitioners, was given last summer on The Principles of Bacteriology and Immunity, with special reference to their application in the ordinary routine of medical practice. The number of practitioners who attended was so encouraging that a similar course will be given during the coming summer on Tuesday afternoons at 4 P.M., when it if hoped that the attendance will again be such as to warrant the authorities in making this a regular course of instruction.

Anthrax in Newcastle.

Some meat recently sent to the Newcastle market for sale as food—"subject to inspection"—was found on examination to be infected with anthrax. Inquiry at the farm whence the meat had been sent showed that there was a serious outbreak of anthrax among the beasts and other animals kept there. Several beasts, some pigs, and a pony were all found to be suffering from anthrax and some of them subsequently died from the disease. In this particular instance, happily, no further cases, either in man or animals, have been traced to the outbreak. In similar circumstances some few months ago three cases of anthrax in man were directly traced to an infected animal which had died suddenly. Two butchers who dressed the carcass contracted the disease, one of whom died, and a woman who bought some of the meat also suffered but recovered. During the first three months of this year ten cases of anthrax in bovine animals were notified in the county of Northumberland, and a study of the incidence of the disease points to "cake," which is largely used as a foodstuff, as the cause of the disease. After each case is notified the farm is visited by the chief veterinary inspector for the county and the burial of the carcass is carried out according to the instructions contained in the order of the Board of Agriculture under his immediate supervision. The efficiency with which the work is done is proved by the fact that it is very rarely indeed that a second case of the disease occurs on the same farm. In favour also of the view that the disease is imported is the fact that the cases are distributed all over patients were allowed to walk about at their own discretion. Dr. Determann (Freiburg) spoke on the subject of the Viscosity of the Blood at High Altitudes. He has been able to examine patients in Freiburg, which is situated at an altitude of 280 metres above the sea, and in St. Moritz (1840 metres above the sea). In those places he found the viscosity to increase in some persons at once and in others after several days. The maximum was reached and remained constant after ten days. The natives of St. Moritz showed the same phenomenon, which was, in Dr. Determann's opinion, caused by the diminution of oxygen inhaled at those altitudes causing an acceleration of the circulation in the lungs, so that the hæmatogenic organ must develop increased activity. The viscosity was very important for the circulation, which depended on the force of the heart and of the vessels as well as on the quality of the blood. Dr. Selig (Franzensbad) read a paper on the Influence of Athletic Sports on the Heart. A rational indulgence in such sports was recommendable from a medical point of view. Experiments showed that both the blood pressure and the pulse-rate increased after moderate exercises. Even patients suffering from valvular diseases of the heart were able to do the test work and only in myocarditis symptoms of insufficiency appeared. After over-exertion, however, severe symptoms might appear; the pulse-rate might attain a frequency of 187 and a decrease of 40 millimetres of mercury in the blood pressure has been observed. Neurosis of the heart often developed in athletes and the history of patients suffering from heart diseases showed over-exertion more frequently than was generally supposed. Over-exertion in cycling was especially prejudicial to the heart, while tennis was less injurious because it required less exertion, but even tennis was dangerous for chlorotic girls if played for too long a time. The old German gymnastics by which the whole body was exercised generally were preferable to the modern forms of athletics. The treatment of anæmia was discussed by Dr. Ziegler (Breslau). With regard to internal treatment he said that certain medicines were undoubtedly able to improve the composition of the blood. Iron, for instance, had a stimulating action on the cells and on the secretion of internal glands. Arsenic acted by destroying certain cells and by a consequent over-production of new cells. Thus its action was very like that of venesection and of transfusion. The increase of the red corpuscles in high altitudes was only an apparent one and was caused by loss of water and by a quicker development of the corpuscles perhaps under the influence of the sun. Frequent examination of the blood was essential for ascertaining the efficacy of treatment in anæmia; the presence of normoblasts and of polychromatophilic erythrocytes gave a good prognosis. Dr. Kisch (Marienbad) read a paper on Spastic Constipation, of which the symptoms were painful defæcation, a feeling as if fæces were still left in the rectum after defæcation, hypersensibility of the abdominal walls, and spasm of the sphincter. For treatment he recommended rest and a strengthening diet, with exclusion of food which tended to cause flatulence. The administration of belladonna and of atropine was to be recommended, and good results were obtained by mud baths, whilst massage and electricity were contra-indicated. Dr. Riedel (Berlin) presented a report of his researches concerning the internal administration of radium in the form of radiogen. Radiogen was produced by pressing water through a filter containing radium. Radiogen was given for a long time without producing any obvious effect and in the urine even after the administration of 100,000 units no emanation of radium was present. Dr. Riedel has treated nearly 100 patients by radiogen, the result being that some of them were benefited whilst others were not influenced at all. Other papers read before the congress dealt with Neurosis of the Heart, by Dr. Jacob of Kudowa; the Diagnosis of Pulmonary Diseases by Radiography, by Dr. Kraft of Goerbersdorf; and the Treatment of Tuberculosis of the Joints, by Dr. Tietze of Breslau.

The Management of Labour.

According to a paper by Professor Martin in the *Monatsschrift für Geburtshülfe und Gynäkologie* and quoted in the *Berliner Klinische Wochenschrift* he allowed 100 women in whom delivery had been normal and whose internal organs were healthy to leave their beds the day after delivery. Care was taken that they sat in comfortable chairs, the abdomen being compressed by a firm bandage, and they were not permitted either to walk about or to do any kind of The results were very satisfactory, the bowels and urine no trouble, and the involution of the uterus proceeded in normal way. Professor Martin recommended this method in all normal confinements in cases where an infection is unlikely to occur.

Infection by Gonococci through the Skin.

At a recent meeting of the Berlin Ophthalmological Society Dr. Schoelor reported the case of a nurse who in nursing a child suffering from gonorrhœal conjunctivitis received a slight injury on the right forefinger. Necrosis of the epidermis and an ulcer developed, and on microscopical examination diplococci with a negative Gram-reaction were found. An abscess on the femur ensued and the patient died from septicæmia. This was the first case where a general septicæmia was caused by the entrance of gonococci through the skin.

April 20th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

The Finsen Medical Light Institute.

ON April 14th the King and the Royal Family honoured the memory of Niels R. Finsen in being present at the inauguration of the clinic for internal diseases in connexion with the Finsen Medical Light Institute. Ever since Professor Finsen began to study the action of actinic rays he regarded the universal effect of the rays on the organism as being of the highest interest and importance. In his last address to the board of directors of the Light Institute he expressed his belief that the light rays as a therapeutic means would be particularly valuable in the form of light baths in chronic diseases, such as diseases of the blood, of metabolism, or of the circulatory system. But Finsen did not live to see his ideas on this point carried out. After his death certain investigations on the universal action of light rays, made by Dr. K. A. Hasselbalch, now director of the Finsen Institute Laboratory, are claimed to support Finsen's ideas, particularly as regards certain diseases of the heart, and in consequence the new clinic has been erected. It accommodates 32 in-patients and has, moreover, a large out-patient department. Of course, the chief work of the clinic will be the study of the general action of the light rays on the diseased organism, but its magnificent equipment enables it to apply all modern methods of physical and dietetic treatment. To the best knowledge of your correspondent Denmark is so far the only country in which the medical profession has had any opportunity of testing the value of the new light bath treatment for diseases of the circulatory system as carried out in the Finsen Medical Light Institute. A report on the discussions on this topic in the medical societies of Copenhagen might therefore perhaps interest the readers of THE LANCET. When the director of the laboratory of the Copenhagen Institute, Dr. Hasselbalch, made his first communication on the subject he claimed that the treatment brought about a lasting dilatation of the vessels of the skin and simultaneously a decrease of the blood pressure lasting for more than a month after the light bath. He proposed, therefore, to apply the bath to diseased conditions in which a decrease of the arterial pressure was desired. At a meeting of the Medical Society of Copenhagen Dr. H. Jacobæus of the Finsen Institute reported on a series of 15 cases of angina pectoris treated in the way above mentioned. In a man aged 67 years the very grave and painful attacks ceased under the bath treatment, while another patient who for several years had suffered from anginous symptoms was completely relieved after a very short treatment; some months afterwards the attacks recurred but disappeared again after a second treatment. In 12 other cases greater or less improvement occurred and only in one case did the light bath treatment fail to influence the condition. Also other forms of heart disease seemed to benefit from the treatment. In the ensuing discussion Professor Chr. Gram said that the material was too small and the time of observation too short to allow of forming any opinion as to the curative effect of the light baths. Improvement in cases of angina pectoris was often observed either spontaneously even for somewhat long periods of time or as a result of the usual medical treatment. It was orehill reservoir is being enlarged in capacity from ,000,000 gallons to 6,000,000 gallons. Grange reservoir will remain untouched and will probably not be used for the burgh supply, as it is intended to provide a balancing clean water tank to hold 300,000 gallons. The tank will be covered to prevent contamination of the filtered water. The estimated cost of the whole works is £35,900. It is also proposed to expend a large sum of money on the main drainage of the town. A number of the sewers are built of stone and are in a most unsatisfactory condition. For these it is proposed to substitute fireclay sewers, and while much of the drainage of private property has been overhauled during the year there is still much to be done in this respect. The sanitary inspector also declares that, in spite of adverse circumstances, the town has enjoyed a hitherto unprecedented prosperity.

Death of Dr. John Reid.

On April 14th the death occurred at Clifton House, Dinnet, of Dr. John Reid, a man who was held in high esteem in the district. Dr. Reid, who was a graduate of the University of Aberdeen, was born at Logie Coldstone in 1836. At the age of 30 he was appointed medical officer to the Assam Tea Planting Company. He held this appointment for nine years and then took over the Deesang Tea Planting Company which he carried on for a number of years with marked success. Returning to this country he resolved to spend the declining years of his life near the spot where he was born and brought up, and there also he died. Dr. Reid was twice married and is survived by his widow but has left no family. The funeral took place in Coldstone churchyard in the presence of a large and representative gathering.

April 21st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Meath Hospital and County of Dublin Infirmary.

THE annual meeting of the supporters of the Meath Hospital and County of Dublin Infirmary was held on April 13th in the board room of the hospital. The financial report showed a balance against the hospital at the close of the year of £6610. The hospital has special claims on public support, for it is actually the first institution in which modern clinical teaching was initiated, its pioneers being Dr. Robert Graves and Dr. William Stokes. The cosmopolitan reputations of those pioneers has been "modernised" in the present generation by those of the present senior surgeon and senior physician of the institution—Sir Lambert Hepenstal Ormsby and Sir John William Moore—who have respectively contributed volumes of corresponding originality of scientific attainment and of mastery of scholarly exposition to the libraries of their own specialties. And as the former of these gentlemen forcibly put it in moving the adoption of the report, the institution has for 154 years been giving help to the suffering poor without distinction of class or creed, while the result of modern advances in surgery by accelerating cure enabled it to benefit a much larger number. In the somewhat stormy period of the introduction of antisepsis Sir Lambert Ormsby was, as is well remembered, one of the most earnest and intelligible of the speakers at the reiterated discussions. So that in many departments the Meath Hospital occupies a position which is unique among Dublin institutions.

Lady Governor of Richmond Asylum.

Mrs. MacDowell Cosgrave, the wife of a leading physician of Dublin and member of the professorial staff of the school of surgery of the Royal College of Surgeons, has been elected to the board of governors of the Richmond Lunatic Asylum. This is the first instance of the admission of a lady to the membership of that body or, I believe, to that of any corresponding body in Ireland. The election is an extremely popular one; the choice has been made by the municipal corporation, to which the energy and judgment of Mrs. MacDowell Cosgrave had become thoroughly familiar during a series of years as guardian of the North Dublin Union. The excellent quality of her aims and results during a prolonged period of Poor-law guardianship is well proved by the fact that these have won the confidence of a body of the members of which the great majority have been opposed to her both in creed and in politics. So that while the new lady governor is to be congratulated on her election our municipal corporation is to be congratulated on a display of liberality.

Women's National Health Association of Ireland: Its Inaugural Meeting.

On April 14th the first annual meeting of the Women's National Health Association of Ireland was held under the presidency of Her Excellency the Countess of Aberdeen. There were gathered together the representatives of all the important centres of Ireland, a truce being declared between opposing classes and creeds for the general betterment of the victims of disease and poverty. The association met in Leinster House, Kildare-street. Her Excellency took the opportunity of announcing the tangible results which had already been attained by the efforts made in connexion with the Tuberculosis Exhibition, laying stress upon the following points: 1. Everywhere the increase of open windows is remarkable and that, too, in the poorest parts of the towns visited. 2. Applications from tenants for alterations, so that windows and skylights may open without letting in the rain, are becoming common. 3. A great decrease in the habit of spitting is noticeable. 4. In some places various steps are being taken to secure a purer milk-supply. To mention one place in particular—Armagh—those supplying milk there have agreed to have all their herds submitted to the tuberculin test; and at the large lunatic asylum there a resolution has been passed to the effect that no milk will be accepted there unless it comes from herds so tested. 5. In several places the Poor-law guardians are considering the addition of inexpensive annexes or the setting apart of special wards for advanced consumptive cases. 6. In some places there is a movement for erecting inexpensive cottage sanatoriums. 7. Nurse visitors for cases of consumption have been established in three places and are being considered in others. These evidences and the eagerness of the people to learn more, to come to further lectures, and to talk over health matters, show how ready the soil is for further seed-sowing. It would appear that few crusades against disease have had so promising a first year's record, and there is every prospect that the enthusiasm and persevering energy of Her Excellency will secure a continuance of corresponding success while she retains the leadership. As regards the question of infant mortality Lady Aberdeen said: "We are only beginning our work in connexion with infant mortality, but several of the branches intend taking it in hand this summer and we would specially draw our members' attention to the success which has attended the experiment made in Belfast in one district by the establishment of a system for visiting newly made mothers or babies' clubs, on the line of the School for Mothers at St. Pancras, where young mothers are invited to come and to bring their babies for advice as to their management, where the children can be weighed, and where great good can be done in preventing wrong feeding and in preaching the pre-eminent value of breast-feeding. Irish mothers, happily, adhere to this practice more than most modern mothers, and it must be our aim not only to confirm them in this, but to see to it that the mothers themselves are properly nourished both before and after the birth of their children. You will notice that ere long we hope to have a Pasteurised milk laboratory here in Dublin, through the kindness of Mr. Nathan Strauss, and we shall hope to report satisfactorily regarding this later on. Please make people understand that we, as an association, hold that the only ideal milk is that which comes undiluted, uncontaminated, from a perfectly healthy cow, housed in a well-ventilated cowshed, and milked by clean hands. But we equally believe that such a supply of milk is practically an impossibility in our large towns at the present time. And so we advocate a careful system of Pasteurised milk as a makeshift to save our children from tuberculosis, summer diseases, and many other troubles. Meanwhile, let all our branches study the new Dairy and Cowshed Order issued by the Local Government Board, which comes into force on May 1st and which should do much to secure a purer milk-supply if properly enforced."

Literature of the Campaign against Tuberculosis in Ireland.

The issue[1] of Professor W. Osler's opening lecture at the Tuberculosis Exhibition held in Dublin, October, 1907, is but the preliminary step towards publication of the series of for the protection of poor helpless children from some of the dangers to which they are exposed. A league was formed one and a half years ago for carrying out these objects and during the whole of this time it has worked with unflagging energy. The league owns a large building in Budapest where destitute children are provided for, those who are ill being accommodated in the hospital section where medical attendance is gratuitous. Delicate children are sent to the seaside during the summer months. A large sanatorium is to be erected next year in the vicinity of Fiume on the Adriatic for the reception of scrofulous children. Contributions to the fund of the league are solicited on a very clever system. Once or twice in a year a day is appointed when merchants and manufacturers pay to the league a certain proportion (about 1 per cent.) of their takings for that day. They do this willingly, because what they lose by allowing 1 per cent. for the charity they regain from the profits on increased sales, because the benevolent portion of the public buys largely on this day when they know that a share of their money goes to serve a charitable purpose. This year the so-called "Children's Day" was kept on April 2nd. On this day the elementary schools are closed and in the streets ladies and girls are in charge of collecting boxes into which they invite the passers-by to drop contributions. Bands of music play in the streets and crowds of children assemble to listen to them; the theatres also hold children's matinées and the streets are as gaily decorated as on public holidays. Such a children's day might bring in from £8000 to £10,000 in the whole country. One town—*Nagyvarad*—*has sent in* £200. The above sum, considering the fact that administrative work is done gratuitously, is a fair amount.

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[1] This has already been published in pamphlet form by the Women's National Health Association of Ireland.

Reform of the Army Medical Corps.

A long-existing anomaly will be shortly abolished by the new organisation of the Army Medical Corps. The Government has been induced to take this step by the circumstance that for several years past there have been on an average only six applicants for ten vacancies. This was due to the low rate of pay and to the unsatisfactory position as regards relative rank of military surgeons in Austria-Hungary. The Minister of War now perceives that the dearth of military surgeons cannot be avoided without a substantial improvement in the rank and pay assigned to them. He has therefore lately decided that promotion shall be accelerated and that military surgeons shall have relative rank analogous to that of the combatant officers as is the case in the British Army Medical Service. Military surgeons will be accordingly designated surgeon-major, surgeon-colonel, and surgeon-general, in addition to which there will be several new titles created. A regular yearly allowance of £50 or £60 will also be given to medical students who undertake to enter the Army Medical Service after graduation.

April 16th.

Obituary.

MARY EDITH PECHEY-PHIPSON, M.D. BERNE, L.R.C.P. IREL.

THE death of Dr. Mary Edith Pechey-Phipson has removed from the ranks of medical women one who would have made her mark in any age and in any calling. It is now some 38 years since she went to Edinburgh to join Miss Jex-Blake in the struggle that was being made for the medical education of women. It is remarkable how great the courage and patience of that handful of women must have been, and "in those difficult and stormy days," writes Miss Margaret Todd, M.D., "Miss Pechey proved herself a loyal comrade and—what was wanted quite as much—an admirable student." It is not easy nowadays for a woman to surprise us greatly by the brilliancy of her record in the schools. 30 or 40 years ago the position was very different, for, handicapped by the shortcomings of their previous education, women found it no easy matter to shine in the examination room. But from the beginning of her career Edith Pechey raised a standard which has scarcely been overtopped. We again quote from Miss Margaret Todd's sympathetic letter to us:—"She brought to the study of medicine quickness of perception, neatness of hand, and a genuine love of science. Having passed a brilliant examination in arts, she proceeded to the classes of chemistry and physiology, and at the end of the session she stood first in chemistry among some 300 students, male and female, of her year. From that time on the curriculum of the women ran a somewhat chequered they had to build the walls of Jerusalem with the one hand and the trowel in the other; but in Pechey obtained her diploma from the Irish C Physicians and in the same year the degree of M.D. University of Berne. Immediately after graduation fortunate enough to obtain a post in Birmingham Lawson Tait, from whom she gained that experience minal surgery which was to stand her in such stead, and after practising for a short time in Leeds appointed to the control of the newly founded Kan pital in Bombay. The opportunity was a fine one was the very woman for the task. The whole sch providing medical aid for the women of India was its infancy and much of its subsequent success is du masterly fashion in which she planned out the work, acting in firm adherence to the best ethics of the pro A dispensary was speedily opened and by the end of a w patients were seen daily. The opening of the hospital fo with as little delay as might be, though the cosmo character of Bombay and the many races and castes had to be reckoned with made the task a very difficu Quickly establishing a creditable record in major she organised the work of the hospital and, in the te native prejudice, revolutionised the whole system of At the same time, her strong and picturesque pers gave her a position to which the women who followed steps owed much. She was appointed a member *Senate of Bombay University*, an honour which so fallen to the lot of no other woman. Some years befo she had married Mr. Herbert Phipson whose scientific proved a bond of common interest. Jointly they foun philanthropic sanatorium in the Deccan and purs study of many scientific and social questions."

From the first she had found the climate of Bomb trying, aggravated as were its effects by hard w heavy responsibility. After some 10 years of service she retired from her post with broken he on the outbreak of the plague in 1896 she was am first to organise and to take part in the house-to-hous tion. To the end of her life she retained her keenne intellect and her extraordinary grip of all que scientific and social—of the day. She was a loyal brilliant hostess, and a very kind woman. She died what unexpectedly from a chronic malady at Folke April 14th.

OSWALD AUCHINLECK BROWNE, M.D. CANT F.R.C.P. LOND.

To his many friends the news of the death of O Auchinleck Browne, which occurred on April 9th, have come as a sad surprise, for but little had heard of any illness. As a matter of fact, however, th stands thus. For some time past he had been subj attacks of acute abdominal pain and at last an op was considered necessary. This was performed succes when the trouble was found to be due to duoden among other causes. On the afternoon of April sudden attack of cardiac failure set in, from which he rallied. Dr. Browne was born in 1855 and wa cated at Harrow and at Trinity College, Cambridge, he received his medical training at St. Barthol Hospital, London. He qualified as M.R.C.S. En 1881 and from 1882 to 1883 held the post of physician to Dr. S. J. Gee. In 1884 he graduated Cantab., proceeding to the degree of M.D. in 1897. He b a Member of the Royal College of Physicians in 1886 Fellow in 1898. He was casualty physician at St tholomew's Hospital during the years 1886, 1887, and being also elected physician to the Royal Hospit Diseases of the Chest, City-road, in 1886. In 1890 h elected assistant physician to the *Metropolitan Hospit* in 1903 was appointed consulting physician, and same year he was appointed assistant registrar of the College of Physicians. Dr. Browne was a man of larly modest and retiring disposition and the many works which he did were known to very few others those who benefited thereby. He was an earnest Church and took a deep interest in the Universities Missio Central Africa, of the medical board of which he wa a long time a most valued member. Outside the more p medical aspects of his calling he was for many years o the churchwardens of the parish of St. Mary Magd Munster-square, where as chairman of the school mana son of Dr. J. B. Aickin of Belfast, studied at Queen's College, Belfast, and graduated M.D. of the old Queen's University in 1855 and in 1856 he became M.R.C.S. Eng. He practised in Belfast where he succeeded his father as surgeon to the Royal Irish Constabulary. He was also police surgeon and medical attendant to the members of the Fire Brigade. Dr. Aickin leaves a widow and family of three daughters and two sons.

April 21st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Stomatitis due to Grey Oil.

AT a meeting of the Hospitals Medical Society held on March 20th M. Gaucher and M. Bory brought forward eight cases of mercurial stomatitis due to the use of grey oil. Of these eight cases six proved fatal. The stomatitis began just like an ordinary stomatitis but in all cases on the right side; it then rapidly became of a gangrenous nature and mercurial necrosis of the maxilla occurred, preceded by necrosis of the submaxillary tissues. The cause of death was either asphyxia, despite the performance of tracheotomy, or else a general septic infection. The doses given were, it is true, large, for they amounted to ten centigrammes, but even larger doses of mercury have been given without evil result. M. Queyrat pointed out that the quantity of grey oil injected was an important point and so also was the technique of the injection. The fact that nodules persisted after the injection ought to have given warning that further injections should not be made. The treatment which he considered most successful in such cases was a daily injection of 0·05 cubic centimetre of colloidal platinum as well as an injection of isotonic sea-water. Further, before commencing the treatment the state of the mouth and of the renal functions should be carefully investigated, and the flask containing the grey oil should be well shaken so that the mercury contained in it should be uniformly distributed.

The Academy of Medicine.

On April 7th the Academy of Medicine nominated M. Dastre, already a member of the Academy of Sciences, as member in the section of anatomy and physiology.

A Hospital Drama.

On April 13th Dr. Civel, physician to the Civil Hospital at Brest, was seeing his patients, when one of them, aged 63 years, suddenly drew a six-chambered revolver and fired at him. The bullet missed Dr. Civel but found its billet in the right elbow of an old man who was in the room. The man tried to fire again but Dr. Civel grappled with him and succeeded in disarming him; the excuse of the assailant was that Dr. Civel had failed to cure him.

Obituary.

The Paris Faculty of Medicine has recently suffered severe loss by the death of two of its most eminent members, Professor Terrier and Professor Cornil. Professor Terrier, who died on April 8th, aged 71 years, was elected an *agrégé* professor of surgery in 1872. Later as surgeon to the hospital he became well known to the younger generation of students by his completion of Jamin's classic Handbook of Minor Surgery. He became a member of the Academy of Medicine in 1890 and professor at the Faculty in 1893, while he made the Bichat Hospital, at which he worked, a school of surgery and a centre of teaching the influence of which was very great. As director of the *Review of Surgery* he published, either alone or in collaboration with his pupils, a large number of works dealing with almost every branch of that art, more especially dealing with the surgery of the intestine, the stomach, and the liver, for which he had a universal reputation. He was a man of the highest integrity and of marked uprightness of character, though perhaps a little unbending. Four days after the death of Professor Terrier Professor Cornil passed away. He died on the evening of April 12th at Mentone, where he had been staying for some weeks with a view to re-establish his health, and with his death there passed away one of the greatest masters of pathological anatomy and of microscopical science. He was born at Cussey, in the department of the Allier, in 1837, and became an *agrégé* of the Faculty of Paris in 1869. He was physician to the hospitals and a member of the Academy of Medicine and in 1882 he succeeded Charcot in the chair of pathological anatomy. He was closely connected with Gambetta and was at first Deputy and then for 18 years a Senator for his native department of the Allier. At the last senatorial elections he was not again nominated and last year he was put on the retired list which affected him profoundly. This event, which coincided with his non-election to the Institute, was the signal for the decline of his health. His published work was considerable. His manual of "Pathological Anatomy," published in collaboration with Professor Ranvier, is acknowledged as a universal authority. He also published a treatise on "Bacteria" in collaboration with Dr. Babès, a treatise on "Diseases of the Kidney" in collaboration with Dr. Brault, and a number of other works of which I may mention one in collaboration with Professor Chantemesse on "Pneumo-enteritis in the Pig" and others upon "Metritis" and upon "Syphilis." His later works, which deal with diseases of the bones and cartilages, were published in collaboration with his pupil, Dr. Coudray, and at the time of his death he was bringing out a work on "Mammary Tumours." He was President of the Anatomical Society and was the first President of the International Association of the Medical Press. In the Senate he introduced the Bill for the Protection of the Public Health. He was the type of the kindly *savant* and an untiring worker; not a day of his life went by of which he did not spend many hours in his laboratory at the École Pratique, where he gave advice to all who sought it with exquisite courtesy.

A Workman's Compensation Act.

During the week ending April 11th there was a meeting of a commission, originally appointed in 1905, composed of representatives of the medical profession, of pharmacists, of trade unions, of employers' associations, and of insurance societies. The meeting was held at the Ministry of Labour and the matter under consideration was the tariff of fees due to medical men and pharmacists in the case of accidents to workmen. After a lengthy discussion, and following on certain observations made by the representative of assurance and provident societies, the commission came to the conclusion that the most efficacious way of safeguarding the free choice of a medical attendant for the victims of industrial accidents and of avoiding the piling up of expenses which might be a heavy tax upon labour was the following. It was proposed to establish, after consultation between the medical profession and the insurance societies, a normal tariff for medical expenses drawn up according to the different categories of accident. In the case of exceptional accidents, however, this tariff should be capable of being modified in either direction, and the amount of increase or reduction should be appraised by an arbitration committee representing the various interests at stake. The commission unanimously agreed to the principle of this solution of the question at issue.

April 21st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Balneological Association.

THE meeting of the German Balneological Association was held this year at Breslau, Professor Brieger being in the chair. Professor Strümpell (Breslau) read a paper on the Treatment of Bronchial Diseases by Electric Light Baths. He said that he had obtained good results, especially in dry bronchitis and in asthma; in every case a careful examination of the heart should be made previously to the treatment, because certain cardiac diseases and also sclerosis of the aorta might present the appearance of chronic bronchitis. Typical fits of bronchial asthma and chronic dyspnœa caused by bronchiolitis were both of them favourably influenced by exposure to the electric light. The treatment must be commenced very cautiously, beginning with an irradiation whilst the patient is in bed; afterwards he might be put into the inclosed bath chamber and stay there in the presence of the medical attendant. Inveterate bronchitis has been recovered from after five or six applications of the electric light. In very severe cases the use of the electric light might be combined with medicines, such as iodide of potassium. Absolute rest was essential for the treatment and for this reason better results were obtained in hospitals and sanatoriums than when for the quieter patients. There are tennis and croquet grounds for the nursing staff whose indoor comforts have also been carefully studied. The general bathing of the patients is on the spray system which has been found more expeditious and economical of water than the more general open bath system. As regards the various installations required in an institution of this kind, such as fire-extinguishing apparatus, departmental telephone service, and electric tell-tale apparatus, the hospital is well equipped. The low-pressure hot-water system is employed for heating the rooms and corridors. A central power station generates current for all necessary purposes. The committee is to be congratulated on having provided a pathological laboratory and an operating room, both well equipped; also rooms and appliances for electro-therapeutics, and all clinical appliances likely to be of service. These facilities, combined with the advantage of proximity to the Cardiff Infirmary and the laboratory of pathology and bacteriology at the Cardiff University College, will doubtless be appreciated by the medical staff of the new mental hospital and will tend to promote scientific work in connexion with it.

THE Royal Dental Hospital, Leicester-square, has received a donation of 50 guineas from His Majesty the King.

THE CASE OF CROPPER *v.* STOKES.—At an extraordinary meeting of the Islington Medical Society held on *April 14th it was resolved*:—

> That the members of the Islington Medical Society, in special meeting assembled, express their sympathy with Dr. Henry Fraser Stokes in respect of the case of Cropper *v.* Stokes. They refer especially to the extraordinary remarks of Judge Edge on the evidence of the defendant, an old and well-known member of the society, and the refusal of his honour to allow any appeal or facilitate any rehearing of the case.

LITERARY INTELLIGENCE.—Messrs. Cassell and Co. announce for publication to-day, Friday, April 24th, a volume upon "Electrical Treatment," by Dr. Wilfred Harris, and "Diseases of the Nervous System," by Dr. H. Campbell Thomson.—A new journal, entitled the *Zeitschrift für Laryngologie, Rhinologie, und ihre Grenzgebiete* (*Journal of Laryngology, Rhinology, and Allied Departments of Surgery*), will appear every two months, the annual subscription being 24 marks, to be paid to the publishers, Curt Kabitzsch (A. Stuber's Verlag), Würzburg. It will be edited by Dr. Felix Blumenfeld of Wiesbaden, with the coöperation of specialists.

THE MUNICIPAL EXHIBITION.—Having in view the great amount of interest which has been created in connexion with the use of x rays in hospitals, the management of the Municipal Exhibition, which will be opened at the Agricultural Hall on May 1st, has arranged with Mr. Alfred E. Dean to instal an x ray apparatus in a special building in the hall, and to give demonstrations illustrating its use, to be carried out at certain hours each day. The public are promised the opportunity of seeing the latest scientific developments in actual use. A new system of constructing fire-proof floors and partitions will also be on show, and will be of interest to the many medical men concerned in the conduct of institutions, such as hospitals, infirmaries, asylums, and retreats, where a rapid outbreak of fire would constitute a most appalling tragedy.

MEDICO-PSYCHOLOGICAL ASSOCIATION. — The spring meeting of the South-Eastern Division of this association will be held, by the courtesy of Dr. W. J. Seward, at the London County Asylum, Colney Hatch, on Tuesday morning next, April 28th. After inspection of the asylum and grounds, Dr. Seward will provide the members with luncheon (1.30 to 2.30 P.M.). Then follow a meeting of the divisional committee and at 2.45 P.M. the general meeting. After the transaction of formal business the following communications will be made:—Dr. Seward: "Notes on the History of Colney Hatch Asylum." Mr. W. C. Clifford Smith: "A Descriptive Account of the Buildings now in course of Erection at Colney Hatch Asylum." Dr. D. G. Thomson: "A few Remarks on the Teaching of Psychology." Dr. Harvey Baird: "Some Observations on Insanity in Jews." The members will dine together, after the meeting, at the Café Monico, Piccadilly Circus, London, W., at 7 P.M., provided that a sufficient number agree to dine. The price of the dinner is 5*s.*, exclusive of wine.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THE following answers to questions which were on t of Tuesday, April 14th, were circulated on the following

The Inspection of Imported Meat.

Mr. FIELD asked the President of the Local [illegible] whether he was aware that the Glasgow veterinary opinion that all meat imported from over seas ought to for examination in such form as would enable inspectors revise the previous work of inspection and thus form a the wholesomeness *for* human food, and that all boneless scrap should be entirely excluded; and whether the would consider the advisability of appointing and of inspectors.—Mr. BURNS wrote in reply: My attention called to this report. I propose that the regulations Health (Regulations as *to Food) Act which I have* in should deal with imported boneless scrap meat. Other relating to the wholesomeness of imported meat are attention, but I do not think that inspection of the kind the last part of the question would be practicable at the

The Post Office Medical Staff.

Mr. FIELD asked the Postmaster-General whether he would amount of sick leave and annual leave *respectively of each of* Office medical officers in London, male and female, during *last five years.—Mr. BUXTON replied: I annex a statement* sick leave of the Post Office headquarters medical staff during five years and the annual leave to which each medical officer is The third assistant medical officer and the resident medical been omitted, as they have not yet been employed for a full 1907 no sick absence was granted.

—	Sick absence.				Ann all
	1903.	1904.	1905.	1906.	
Chief medical officer	*Nil.*	*Nil.*	*Nil.*	3 days.	5 to
Second medical officer	5 days.	,,	,,	*Nil.*	
Female medical officer	*Nil.*	,,	,,	,,	
Assistant female medical officer ...	,,	,,	,,	,,	
First assistant to medical officer ...	,,	3 days.	,,	,,	4 to 5
Assistant to medical officer	,,	1 day.	104 days.	,,	4 to 5

Mr. FIELD also asked the right honourable gentleman to st name, age, length of service, medical qualification, salary imperial funds, and emoluments from other sources of each Post Office medical officers in London, male and female.—Mr. answered: There are over 90 medical officers in the London district in addition to the headquarters staff. The preparation return asked for by the honourable Member would involve consi labour without, as it appears to me, leading to any very useful re

Appointments.

Successful applicants for Vacancies, Secretaries of Public Instit and others possessing information suitable for this column, invited to forward to THE LANCET *Office, directed to the Editor, not later than 9 o'clock on the Thursday morning of week, such information for gratuitous publication.*

APPLEYARD, WILLIAM, M.B., B.S. Lond., F.R.C.S. Eng., has appointed Senior House Surgeon at the Wolverhampton Staffordshire General Hospital.

ASKINS, J., M.B., B.Ch., B.A.O. Dub., has been appointed Medical spector of School Children by the Merthyr Tydvil (Glamorgan Education Committee.

BARRY, J. P., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appoi Certifying Surgeon under the Factory and Workshop Act for Inistioge District of the county of Kilkenny.

CASEY, CHARLES, L.R.C.S. Irel., L.A.H. Dub., has been appoin Medical Officer and Medical Officer of Health to No. 2 Distric the North Dublin Union.

CURTIS, C. F., L.M.S.S.A. Lond., has been appointed Assistant Ho Surgeon at the General Infirmary, Stafford.

DAVIES, IVOR J., M.B., B.S. Lond., has been appointed Senior Ho Physician at the Royal Free Hospital.

DUNN, ARTHUR GIBSON, M.B., B.S. Durh., M.R.C.S., L.R.C.P. Lon has been appointed Resident Medical Officer at the Newcastle-up Tyne Dispensary.

EDWARDS, H. J., M.D. Durh., D.P.H., has been appointed Certify Surgeon under the Factory and Workshop Act for the Lyn District of the county of Devon.

FOTHERGILL, W. E., M.D., C.M. Edin., has been appointed Honora Assistant Gynæcological Surgeon to the Manchester Roy Infirmary.

FERGUSON, J. M., L.R.C.P. & S. Edin., D.P.H., has been appointed Cer fying Surgeon under the Factory and Workshop Act for the Sou Burnley District of the county of Lancaster.

robable that suggestion played a prominent part in obtaining the good results. Professor Israel-Rosenthal agreed with Professor Gram. In one case which he had seen there was pronounced improvement after each bath, but the disease (chronic nephritis and myocarditis) nevertheless progressed with extraordinary rapidity. Professor Friedenreich pointed out that it was often very difficult to arrive at a prognosis in cases of angina pectoris and that the patients often rallied spontaneously in a most surprising way. One patient, whose condition he had regarded as hopeless, lived for 15 or 20 years afterwards. Professor Henriques discussed the theoretical foundation of the treatment. That it brought about hyperæmia of the skin could not be doubted. Dr. Hasselbalch had further found that the pressure in the brachial artery was lessened, but this did not show that the aortic pressure also decreased, so that the chief contention on which the treatment was based could not be considered proved. But even if the aortic pressure really became less the treatment might be dangerous in many cases; for instance, in hypertrophy of the heart in renal affections, for in these patients the high blood pressure is very important. Dr. Jacobæus agreed with Professor Henriques in what he had said about the aortic pressure. But it was undeniable that dilated hearts contracted under the light treatment, so that it was necessary to presume that the dilatation of the vessels of the skin brought about a decrease in the aortic pressure.

Recently a fresh discussion on the same subject took place on the occasion of a communication made by Dr. Bie and Dr. Bing to the Society for Physical Therapeutics and Dietetics. These investigators had tried to apply the treatment to heart diseases and other affections in the Kommune Hospital of Copenhagen. Instead of using a 150 ampères arc lamp, as Dr. Hasselbalch and Dr. Jacobæus had done, they had employed the far less costly "uviol lamp," a mercury incandescent lamp with "uviol" glass. The light of this lamp contains plenty of the effective ultra-violet rays but only few of the particularly heating rays, so that it is possible to place the lamp quite near to the skin. An illumination of the skin for a period varying from 15 to 30 minutes with the lamp at a distance of from 15 to 30 centimetres results in a very pronounced erythema of the same intensity and duration as that brought about by the arc lamp. The skin retains its scarlet colour for about one week, after which desquamation sets in and pigmentation takes place, so that after two weeks the skin becomes of a brownish tinge. But even several months after the light bath a slight remnant of dilatation of the vessels of the skin was discernible. Though it is scarcely to be expected that the dilatation takes place in more than a few tenths of a millimetre of the uppermost layers of the skin, it is not a small quantity of blood that the skin can absorb in this way. How this may influence the circulation can scarcely be estimated in the present state of physiological knowledge. The patients treated had chiefly suffered from neurasthenia or diseases of the circulatory system. The most pronounced improvement occurred in the neurasthenic cases. The patients suffering from heart disease were, as a rule, improved to a certain degree, in so far as they complained less of pain or insomnia. But trustworthy data for the estimation of the improvement were unfortunately not available. Further investigations were needed in order to make out the indications of the light bath treatment. Dr. Hasselbalch thought it important for the future of the new treatment if a cheaper and less intense source of light than that which is used in the Finsen Institute should prove useful. He said that his latest investigations had shown that the light treatment, amongst other effects, brought about (1) an increase of the total capacity of the lungs, due to augmentation of the inspiratory innervation; (2) a decrease in the respiratory frequency; and (3) an augmentation of the *so-called* pulse pressure. Dr. Jacobæus said that he regarded the light bath as a valuable help in various diseases, including cardiac affections, and that he had particularly noted its good effect on the painful attacks of angina pectoris. Dr. E. E. Faber said that in his opinion the alteration of the respiration and circulation brought about by the treatment was too small to explain the good results and that the treatment perhaps had more of psychical influence than was *commonly* supposed by its advocates. Professor Israel-Rosenthal said that he felt somewhat astonished at the roseate tints in which Dr. Jacobæus had depicted the results of the treatment. He had himself seen eight or nine of the patients treated at the Finsen Institute and of these not one had been conspicuously improved. Only one had improved considerably and this improvement had merely been transitory. In all the remaining patients the effect had been *nil* or very slight and transitory, probably due to suggestion. It was not to be forgotten that the whole apparatus and procedure of the light bath treatment were admirably fitted to act by the power of suggestion, and pain, even if due to organic lesions, might undergo temporary relief due to suggestion. He felt bound to mention that he had heard of two cases with good results, but even in these the improvement soon passed away. His experience was consequently the opposite of that of Dr. Jacobæus. Dr. Clod-Hansen reminded the meeting of the many wonderful cures of stenocardiac attacks effected by Pastor Kneipp in Germany only by pouring cold water on the feet and legs of the patients. In these diseases suggestion counted for much.

Postponement of a Medical Congress.

It is much to be regretted that the political tension existing between Sweden on the one side and Denmark and Norway on the other, ever since the declaration of independence on the part of Norway, threatens to prevent the Scandinavian medical men from meeting as usual at the Congress of Internal Medicine which was to be held in Bergen this summer. The Congress has been postponed, as the Swedish members of the committee have resigned. Representatives of the four nationalities concerned—namely, Denmark, Finland, Norway, and Sweden—will presumably meet in Copenhagen and consider the best means of restoring the good understanding which ought always to reign amongst members of our profession.

Death of Professor Lennander.

By the death of Professor Karl Gustav Lennander of Upsala Swedish surgery has lost one of its most eminent representatives. He was only 51 years old when he died, having for several years struggled with exceptional fortitude against chronic heart disease. Professor Lennander was particularly interested in abdominal surgery and was the author of a long series of important contributions to this branch of modern surgery. His investigations into the sensibility of the different organs, and particularly of the peritoneum, made his name very widely known. He suggested an original method of avoiding thrombosis of the veins of the lower extremities after abdominal operations, the chief point being the elevation of the foot of the bed. The deceased has bequeathed his considerable fortune and library to Swedish medical institutions.

April 20th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Urethroscopic Diagnosis of Gonorrhœa.

ONE of the most active of the Hungarian urologists, Dr. Joseph Sellei, has written a small work on the diagnosis of urinary diseases. He was induced to undertake this task, as he says in the preface, by having had under his observation a great number of cases of gonorrhœa which had persisted in spite of treatment. On inquiring into the reason of this he came to the conclusion that the want of success was due to improper therapeutic measures owing to incorrect diagnosis. Most patients stated that no urethroscope was used in their treatment. Dr. Sellei says that the use of the urethroscope is indispensable for arriving at a proper diagnosis and in his opinion a urethroscopic examination is not complete unless a magnifying glass is used. Methods of magnifying the visual field have been suggested by several experts but their instruments have not been favourably received by the specialists. Dr. Sellei has, however, succeeded in devising a urethroscope which answers all requirements. He adapts an auxiliary rail to the handle of the lamp-holder and on this there is mounted a magnifying glass which can be pushed to and fro and the centre of which coincides with the optical axis of the urethroscope. This glass can be turned into a variety of positions in order to allow the introduction of a small tampon into the tube. With this modification the dispersion of light is avoided so that the image becomes clearer and the visual field is also considerably enlarged.

The Protection of Children.

A couple of years ago a movement was started in Hungary

Notes, Short Comments, and Answers to Correspondents.

POISONING BY TRIONAL.

THE following brief note of an interesting case of poisoning by trional has been sent us by a well-known medical man who regrets that his name must not appear in connexion with it. The patient is to be congratulated upon the prompt and skilful treatment which he received:—

> After taking, on his own initiative and without medical advice, 15 grains of trional for 32 nights a man suddenly became comatose. Found at 7 A.M. in his bedroom in this state; the writer saw him at 7.50 A.M. He was absolutely stupefied, could in no way be roused, all reflexes absent, respirations eight per minute, temperature (rectal) 97·2°; no water in bladder. The writer tied a catheter in the bladder and relied on saline injections, subcutaneous and rectal. Urine began to dribble from the bladder in an hour (exactly) and by pushing the salines a steady flow of urine was established. As soon as the kidneys were deemed to be doing good work food was given per rectum at regular intervals. From 7 A.M. till 2 A.M. of the next morning the coma did not lift. After 19 hours (but probably much longer as we had no data as to the time of its incidence) the coma began to have intervals, querulous and questioning, with long lapses of minor coma and finally long sleeps. From the time he was found till the time he recognised the writer (whom he knows well) was 72 hours. His proper adjustment of vision did not ensue for five days and the power over his bladder did not completely return for six days. The writer has never before seen toxæmia from this drug and probably the bare facts may be of interest to your readers.
>
> M.D.

MEDICAL FEES UNDER THE MIDWIVES ACT.

To the Editor of THE LANCET.

SIR,—In October last the guardians of Nottingham issued circulars to the medical practitioners of the district informing them that they had adopted the recommendation of the Local Government Board and that "if the guardians are satisfied that the husband or natural guardian of the patient is too poor to pay for her necessities they will exercise the powers given them and pay a fee of 21*s.* in each case (and a higher fee where exceptional circumstances warrant it) in which medical assistance has been rendered on the application of a midwife."

About two months ago I was sent for by a midwife who had difficulty in delivering the after-coming head. I sent in an account for 21*s.* to the guardians and the enclosed is a copy of the clerk's reply. I hold that this was a case that should be paid. The man had to make an allowance to his wife's parents for board for two people.

No county court judge would make an order against a man earning only 20*s.* a week and yet the guardians think he is quite able to pay. Any case poorer than this one would expect to be attended by the parish doctor. I would be glad to have your opinion and that of your readers on the subject.

I am, Sir, yours faithfully

Nottingham, April 18th, 1908. WILFRID J. H. HEPWORTH.

[INCLOSURE.]

Poor Law Offices, Nottingham,
Feb. 18th, 1908.

Midwives Act, 1902.

DEAR SIR,—With reference to the case of *Mrs. S—— of ——street* and your claim upon the guardians for payment of a fee of 21*s.*, I am instructed to refer you to the woman's *husband for payment* of the fee. The man earns 20*s.* a week, has no children, and lives with his *wife's parents, consequently* the guardians consider he should be responsible for it.

Yours truly,
G. M. HOWARD,
W. H. Hepworth, Surgeon. Clerk to the Guardians.

⁂ We should certainly have thought that the fee, though the lowest fee possible in the circumstances, was out of the range of the patient's husband.—ED. L.

HEALTH REFORM IN GLASGOW.

DR. A. K. Chalmers, medical officer of health of Glasgow, recently delivered an interesting lecture on the subject of Practical Health Reforms under the auspices of the Glasgow Health Culture Society. In dealing with the subject he referred more especially to the problem *of town* population, which was increasing to such an extent that now almost 75 per cent. of the population lived in towns. It was being earnestly asked what was the effect of town life on individual resistance to disease. It was not wholly a question of fatal disease, but of the vigour of the survivors. He believed that the two were *correlated, although* the *reports* of some friendly societies appeared to indicate that both the sickness-rate at given age periods was *now greater* than *formerly,* and that the sums paid annually in sick relief exceeded the annual contributions and could only be met *from* the proceeds of invested capital. These were serious suggestions if they righ the facts. The facts, however, were not wholly tions of town life. The average boy in secondary was physically fitter than the average boy of rural was wanted was not a record of mortality but of vit to be accomplished by a national stocktaking of and fitness, medical inspection of school children, an of hygiene. There would be fewer dirty and unventila a much better selection of the foodstuffs for househol the teaching of hygiene to children undertaken in th the recent circular of the Education Department ducing. The modern city was ill-adapted to the need There was need for a playground for each tenement, atmosphere, and a pure milk-supply.

IMPROPER ADVERTISEMENTS.

A MEDICAL man has sent us the red cover of a p magazine, dated April 23rd, on the inner page of wh what astonishing array of advertisements. Ther advertisements of so-called "Ladies' Remedies," and the advertisement is worded so that it may make th that she is purchasing something that will bring on period. They are said to contain pennyroyal or apiol *fail to give relief,* although they do not contain penny is not one of them that cannot be detected at once advertisement, in *view of the fact that during the* period suppression of menstruation is generally due There are four *invitations to* "weak" men or "nervou pamphlets which will teach them how to re-create the there are ordinary advertisements of quacks. We fear anything in the matter, though we are obliged to our for inviting our attention to it. We could pillory the pr paper in question, but he must know the way in whi is being made, so that there is no reason to suppose he his tactics. Nothing that we said about the morals of people who prey upon the sexual weaknesses of the cause them to suppress their advertisements. As lo obtain a place for their advertisements in newspaper they advertise. Our opinion of their character is, of consequence to them. The public has the remedy in If a large section of the public were to write to the pro paper in question and say that they declined to enter hi competitions until he had purged his advertise from filth, every one of these advertisements would next day. They are inserted *because there is money* they would be suppressed the moment money began them.

RETURN TO LIFE.

A SENSATIONAL story *has been going around conc* return to life of a dead patient. Medical men bored lately by sensational and unwarranted stat the frequency with which burial alive takes p *suggestion being frequently* added that these hor medical carelessness. We have no doubt whateve *case is filed for future reference* as one of suspend where the medical man was deceived into believing th was dead, and it may be so used for platform purposes turned out that the medical man had never believed be dead, but that the patient's friends had misunder said and had already taken steps to draw the insurance patient and his family came of a thrifty race.

◆

J. P. B.-P.—The corrected proof did not arrive in alterations to be made.

COMMUNICATIONS not noticed in our present issue will rece in our next.

METEOROLOGICAL READI

(Taken daily at 8.30 a.m. by Steward's Instrum

THE LANCET Office, April

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.
April 17	30·34	N.E.	...	102	58	41	40	43
" 18	30 00	N.E.	...	100	49	42	43	48
" 19	29 84	N.E.	...	88	45	40	39	44
" 20	29 74	N.E.	0·10	91	44	35	38	38
" 21	29 80	W.	0·05	66	49	34	39	40
" 22	29 74	S.W.	0 04	100	55	40	44	46
" 23	29 67	N.E.	0·01	52	44	40	39	41

During the week marked copies of the following ne have been received:—*Whitby Gazette, Cardiff News. Belfast Whig. Glasgow Evening Tim Evening Telegraph. Belfast News Letter. Montreal mouth Evening News. Scotsman. Preston Post, Daily Freeman's Journal, Birmingham Gazette, Morning P Standard, Leeds Post, Glasgow Record, Brighton and Sussex Da chester Courier, Dundee Advertiser, Darlington Star, Daily Express, Mercury, Sheffield Telegraph, &c.*

his medical knowledge found much scope for good Like his namesake Sir Thomas Browne, he was the the cultured and learned physician, one who ever him the motto of Manchester al Mondo—

that would end his dayes well must spend them well."

RY COLLIER LECKY, M.A., B.M., B.CH. OXON., D.P.H. OXON.

announced a fortnight ago, Dr. H. O. Lecky died ex County Hospital, Brighton, on March 31st. commenced with dramatic suddenness, as he a shop at Brighton, was taken to his rooms, found to be suffering from a right-sided pleurisy. later pneumonia developed; subsequently the g became involved and death occurred at about the third week. Up to the time of his illness for Dr. Lecky had been acting as medical officer of Brighton; previously to this he had for two years acted as resident medical officer of h sanatorium and deputy medical officer of Brighton; he had also held important resident at St. Thomas's Hospital, London, and the Infirmary, Oxford. Death has thus cut short at what promised to be a more than usually useful career, for Dr. Lecky was but 29 years Highly trained, devoted to his scientific studies, a l and exact investigator, and one who never t and laborious work, it seemed to his numerous friends that he had a splendid future before him. had much to do with students writes: "A loss knew him personally, he is no less a loss to the profession. He will pass in my memory to a very of young men of the highest promise, eight or . Throughout life he possessed to a remarkable power of making friends and no one was ever the friendship."

Brighton a similar testimony to Dr. Lecky's winning , for a medical friend writes from there: "In we had known him at Brighton we had come him. His brightness, unselfishness, and unfailing kindness to all compelled affection. I never a word I would have wished unsaid and never do a thing I would have wished undone. His was almost a source of weakness, so over anxious always not to hurt another's feelings. I cannot er character quite like his."

that these brief lines in memory of Dr. Lecky's personality and of the high standard of life which himself will be a source of gratification to the who are now regretting his untimely death.

Medical News.

SCHOOL OF TROPICAL MEDICINE.—The students of the above school successfully passed tion in Tropical Medicine held at the end of the session, January to April, 1908:—

inner, M.B., Ch.B. Aberd.; *A. R. Short, M.D., B.S. *J. Jackson, Major, I.M.S., M.B., B.Ch. R.U.I.; *W. T. M.B., Ch.M. Sydney; *C. W. Branch (Colonial Service), M. Edin.; *R. P. Cockin (Colonial Service), M.B., B.C. M.A. Camb.; *A. A. Myers (Colonial Service), M.R.C.S. R.C.P. Lond.; *C. D. Dawes, Major, I.M.S., M.R.C.S. R.C.P. Lond.; E. J. Porteous (Colonial Service), M.B., ; J. McConaghy (Colonial Service), M.B., B.A.O., B.Ch. A. E. Neale (Colonial Service), M.D. Durh., M.B., B.C. C. M. Goodbody, Captain, I.M.S., M.R.C.S. Eng., L.R.C.P. D. Burrows (Colonial Service), L.R.C.P. & S. Edin.; J. S. (Colonial Service), M.R.C.S. Eng., L.R.C.P. Lond.; W. F. (Colonial Service), M.D., C.M. Montreal; L.A.H. Irel.; Morehead (Colonial Service), L.R.C.P. & S. Edin.; J. H. (Colonial Service), M.D. Tor., L.R.C.P. Edin.; and R. (Colonial Service), L.R.C.P. & S. Irel.

* With distinction.

IGN UNIVERSITY INTELLIGENCE.— (*School of Medicine*): Dr. Weber, *agrégé* of the Faculty of Medicine, has been appointed to the chair ogical Anatomy and Histology in succession to M. *Amsterdam:* Dr. W. M. de Vries has been reco- *privat-docent* of Ophthalmology.—*Berlin:* Dr. W. , Assistant in the Strasburg Pharmacological Insti- been appointed First Assistant in the Pharmaco- Institute of this University in succession to Professor Langaard. The title of Professor has been granted to Dr. Sigmund Gottschalk, *privat-docent* of Gynæcology; Dr. Leopold Spiegel of the Chemical Department of the Pharmacological Institute of the University; and to Dr. Paul Kroemer *privat-docent* of Gynæcology.—*Berne:* Dr. A. Schönemann, *privat-docent* of Laryngology and Otology, has been granted the title of Professor.—*Bologna:* Dr. Giuseppe Stasi has been recognised as *privat-docent* of Surgery.—*Bonn:* The chair of Pharmacology from which Dr. C. Binz recently retired has been filled by the appointment of Dr. Hans Leo, Extraordinary Professor and Director of the Medical Policlinic. The new professor studied chemistry in his earlier days and is a Doctor of Philosophy as well as Doctor of Medicine. Before going to Bonn in 1900 he was Assistant in the Medical Policlinic in Berlin for 16 years.—*Erlangen:* The Bavarian Academy of Sciences has granted Dr. Richard Fuchs, *privat-docent* of Physiology, 1500 marks (£75) for the purpose of his researches on the effects of the air at high altitudes on the human body.—*Florence:* Dr. Antonio Mori has been recognised as *privat-docent* of Operative Medicine.—*Königsberg:* Dr. Siegfried Hammerschlag, *Oberarzt* of the Gynæcological Clinic, has been appointed Professor of Gynæcology.—*Paris:* Dr. Gley, whose researches on the physiology of the thyroid gland are well known, has been appointed to the Chair of General Biology in the Collège de France.—*Padua:* Dr. Luigi Peserico has been recognised as *privat-docent* of Medicine.—*Palermo:* Dr. Santi Pusateri has been recognised as *privat-docent* of Otology and Laryngology.—*Pavia:* Dr. Gaetano Ronzoni has been recognised as *privat-docent* of Internal Pathology, and Dr. Domenico Pane as *privat docent* of Bacteriology.—*Philadelphia* (*Jefferson Medical College*): Dr. Hiram L. Roux has been appointed Assistant Professor of Diseases of the Genito-Urinary Organs.—*Prague* (*German University*): Dr. Konrad Helly has been recognised as *privat-docent* of Pathological Anatomy.—*Strasburg:* Dr. Heinrich Kraft, *privat-docent* of Hydrotherapeutics, has been granted the title of Professor.—*Tomsk:* Dr. A. Lindström of Kieff has been appointed Extraordinary Professor of Dermatology.—*Vienna:* Dr. Hans Eppinger of Gratz has been recognised as *privat-docent* of Medicine.—*Zürich:* Dr. M. Rodari has been recognised as *privat-docent* of Gastro-Intestinal Diseases.

CARDIFF CITY HOSPITAL FOR MENTAL DISEASES.—This institution was formally opened by the chairman of the visiting committee, Councillor Morgan Thomas, on April 15th, in the presence of the Lord Mayor of Cardiff, the corporation, and a large number of guests. After a tour of inspection, during which great satisfaction was expressed with the arrangements for the patients' comfort, visitors were entertained to tea in the recreation hall by the chairman and members of the visiting committee. The buildings are grouped about a main corridor of horse-shoe shape, the wards being arranged in intercommunicating blocks which radiate from the convex aspect and face south, whilst the administrative offices, power-station, shops, &c., are on the inner aspect. The building has only two floors which will be found a great convenience in practice. The architects are Messrs. Oatley and Skinner of Bristol. There is no separate accommodation for private patients. In view of the undoubted need for suitable accommodation for mentally afflicted persons of the middle-class in South Wales, it is to be hoped that the committee may ere long see its way to erect two separate houses, for the two sexes, on the estate which covers 120 acres. The cost of the site was very considerable, the land being "accommodation" land, well suited for the purpose in view, with a gravelly soil, and only 15 minutes from Cardiff by rail. On the other hand, since building operations were commenced a suburb has sprung up round about the hospital, causing it to be somewhat overlooked and increasing the anxieties with regard to the supervision of patients. The total cost of the land and the buildings is approximately £350 000. The cost of furnishing and equipment, including all fixtures and also the church and recreation hall and farm equipment, amounts to £24,000. The wards accommodate 750 patients but administrative accommodation for 1250 exists, so that future extension of wards is provided for. The medical superintendent's residence is situated some 250 yards from the building and the three assistant medical officers provided for are housed in a block communicating with the corridor of administration. Gardens for exercising the patients are laid out on the southern aspect of the building and include tennis courts

Communications, Letters, &c., have been received from—

A.—Ardath Tobacco Co., Lond.; Messrs. H. Abraham and Son, Southampton; American Therapeutic Society, Philadelphia; Messrs. Andrews and Co., Lond.

B.—Mr. G. N. Biggs, Lond.; Dr. G. Burnside Buchanan, Glasgow; Messrs. Barnes Bros., Matlock; Dr. E. Coey Bigger, Dublin; Rev. J. P. Bacon-Phillips, Crowhurst; Dr. S. R. Bonnet, Lond.; Dr. W. H. Bishop, Wylam-on-Tyne; Messrs. J. H. Booty and Sons, Lond.; Bolingbroke Hospital, Lond., Hon. Secretary of; British Home and Office Telephone Co., Lond., Manager of; Messrs. Blundell and Rigby, Lond.; Messrs. Charles Birchall, Liverpool; Mr. W. G. Burcombe, Lincoln; Blackburn Infirmary, Secretary of.

C.—Dr. J. Cropper, Chepstow; Mr. Edred M. Corner, Lond.; Cornwall County Council Sanitary Committee, Truro, Chairman of; Mr. N. Close, Chard; Clinical Research Association, Lond., Managing Director of; Cardiff Infirmary, Secretary of.

D.—Dr. G. H. R. Dabbs, Lond.; Messrs. Down Bros., Lond.; Dr. Hamilton Drummond, Newcastle-on-Tyne; Mr. Charles Doréé, Lond.; D. A. W.

E.—E. S., Glasgow; E. E. T.; E. D; Mr. T. Enke, Stuttgart.

F.—Mr. Alexander Fleming, Lond.; Dr. G. W. Francis, Tunstall; Dr. W. J. Fischer, Waterloo, Canada; Messrs. Falk, Stadelmann and Co., Lond.; F. V.

G.—Dr. Alfred Greenwood, Blackburn; Staff-Surgeon W. H. O. Garde, R.N., Queenstown; Mr. J. W. T. Gilbert, Folkestone; Dr. Edwin Goodall, Whitchurch; Greenock Infirmary, Secretary of.

H.—Mr. A. G. Hausmann, Basel; Mr. Noel A. Humphreys, Surbiton; Dr. Heinrich, Alt-Damm; Dr. Victor G. Heiser, Manila; *Harveian Society, Lond.*, Hon Secretary of; Mr. J. M. F[illegible]es, Lond.; Dr. J. B. Hellier, [illegible]; Messrs. C. J. Hewlet[illegible]n, Lond.; Mr. C. Higg[illegible], Lond.; Huddersfield Corpo[illegible]on, Town Clerk of.

J.—Dr. Watkin W. Jones, Worthing.

K.—Dr. T. N. Kelynack, Lond.; Messrs. Knoll and Co., Lond.; Dr. E. E. Keener, Demorest, U.S.A.; Messrs. R. A. Knight and Co., Lond.

L.—Mr. I. P. Llewelyn, Lond.; Leeds and West Riding Medico-Chirurgical Society, Senior Secretary of; Lynn-Thomas and Skyrme Fund, Cardiff, Hon. Secretary of; Mr. A. Leckie, Lond.; Dr H. W. Lyle, Bromley; Mr. S. H. Ley, Teddington; Ladies' Public Health Society, Manchester, Hon. Secretary of; Leeds General Infirmary, Manager of; L. W. H. J.

M.—Mr. J. D. Mortimer, Lond.; Dr. John C. McVail, Glasgow; Messrs. Mabbett and Edge, Lond.; Dr. H. W. G. Macleod, Lond.; Mr. B. G. A. Moynihan, Leeds; Dr. Horace Mander, Lond.; Messrs. Maple and Co., Lond.; Dr. K. Manson, Hordle; Mr. J. H. Morris-Jones, Conway; Dr. E. L. Mansel, Swatow; Mr. K. V. G. Menon, Tellicherry; Mr. R. Mosse, Berlin; Motor Supply Co., Lond.; Mr. H. H. Moffat, Lond.; Dr. H. A. D. Moore, Rotherham; Medico-Psychological Association (South-Eastern Division), Hon. Secretary of; Municipal Exhibition, Lond., Organising Manager of; Mr. Christopher Martin, Birmingham; Mr. K. M. Mackenzie, Brighton.

N.—Mr. A. Nicholls, Manchester; Dr. David Newman, Glasgow; North of England Obstetrical and Gynæcological Society, Liverpool, Hon. General Secretary of; Messrs. Neale and Wilkinson, Lond.; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.; Mr. Martinus Nijhoff, 's-Gravenhage.

O.—Odol Chemical Co., Lond., Manager of; Dr. Oliver, Ayr.

P.—Dr. D. Montgomerie Paton, Melbourne; Messrs. A. R. Pillai and Co., Trivandrum, India; Prince of Wales General Hospital, Tottenham, Director of; Pahang, State Surgeon of; P. H. S.; Messrs. Peacock and Hadley, Lond.

R.—Mr. J. P. Roughton, Kettering; Royal Sanitary Institute, Lond.; Royal College of Surgeons of England, Secretary of; Mr. R. Redpath, Newcastle-on-Tyne; Royal Dental Hospital of London, Secretary of; Dr. J. Reid, Lond.

S.—Lieutenant-Colonel D. B. Spencer, I.M.S., Bombay; *Société Bordeaux-Nectar*, Bordeaux; Stafford County Asylum, Superintendent of; Messrs. W. H. Smith and Son, Lancaster; *South Wales Argus*, Newport, Manager of; S. H. S.; *Shrewsbury Chronicle*, Manager of; Society for the Study of Disease in Children, Hon. Secretary of; *Symons's Meteorological Magazine*, Lond., Editor of; Stockport Infirmary, Secretary of; Messrs. G. Street and Co., Lond.; Storr's Agricultural Experiment Station, Eagleville, U.S.A., Director of; Messrs. F. Stearns and Co., Detroit, U.S.A.; Mr. G. Stoker, Lond.; Society of Authors (Incorporated), Lond.; Seamen's Hospital Society, Lond., Secretary of; Messrs. W. H. Smith and Son, Southport; Scholastic, Clerical, &c., Association, Lond.; Messrs. Spiers and Pond, Lond.; Mr. G. Steinhall, Paris.

T.—Toilet Novelties Co., Bristol.

U.—Union Reklame, Lucerne; United Services Medical Society, Lond.

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Mr. C.
Warman, Lond.;
Watson, E
Willcox, Lond.;
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Letters, each with enclosure, are acknowledged from—

A.—Anglo-American Pharmaceutical Co., Croydon, Secretary of; A. H. B.; A. B.; A. W. L. J.; Army and Navy Male Nurses' Co-operation, Lond., Secretary of; A. J. L.

B.—Mr. Heather Bigg, Lond.; Messrs. Bedford and Co., Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Buxton House, Earls Colne, Proprietress *of*; Mr. G. W. J. Baker, Stourbridge; Captain Beverley Bird, Mere; Buckinghamshire County Education Committee, Aylesbury, Secretary of; Mr. W. G. Ball, Lond.; Dr. W. Bigg, Rhynie; Dr. W. J. Barlow, Los Angeles; *Hon. E. T. Born, Port Stanley*, Falkland Islands; Miss Jex Blake, Southborough.

C.—Dr. H. Campbell, Lond.; Mr. B. M. Collard, Llandilo; Messrs. *H. Cook* and Co., Lond.; Messrs. T. Cook and Son, Lond.; Coventry and Warwickshire Hospital, Secretary of; Cosmos, Clifton; Messrs. J. Clarke and Sons, Richmond.

D.—Mr. H. Davies, Lond.; Mr. F. W. Daniels, Newport, Monmouthshire; The Paul E. Derrick Advertising Agency, Lond.; Derbyshire Royal Infirmary, Secretary of; D. W.; Denver Chemical Manufacturing Co., Lond., Manager of; Dr. W. T. Dougal, Pittenweem.

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H.—Mr. J. Heywood, Manchester; Messrs. Haasenstein and Vogler, Cologne; H. B.; Messrs. R. *Hogg* and *Son, Lond.*

I.—Imperial Accident Insurance Co., Lond., Managing Director of.

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Hospital,
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South Devon and
Hospital, Plym
of; St. George's
tute, Lond., Secre

T.—Mr. H. M. Th
Mr. S. Thrower,
Hospital, Torquay
Mr. J. Thin, Edi
T. H. A.

W.—Mr. J. F.
Dr. H. T. M. Whi
Bosworth; Mr. C.
Mr. A. H. Wade,
Dr. E. B. Wi
U.S.A.; Wolver
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Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements should be forwarded.

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THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United King tisements are also received by them and all other Advertising Agents.

E. G., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon at the Royal Free Hospital.

A. D., M.B., B.S. Lond., has been appointed Senior Resident Officer at the Royal Free Hospital.

C. W., M.B., B.S. Edin., D.P.H., has been appointed Certifying on under the Factory and Workshop Act for the Haddenham of the county of Cambridge.

M. W., L.R.C.P. & S. Irel., has been appointed Certifying on under the Factory and Workshop Act for the Killanne rict of the county of Wexford.

A., M.B., B.S. R.U.I., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Killough rict of the county of Down.

W. R., M.B., M.S. Aberd., has been appointed Assistant ician to the Aberdeen Royal Infirmary.

Stanley James, M.B., C.M. Edin., has been appointed cal Inspector of School Children by the Llanelly (Carmarthen-) Education Committee.

Alex. H., M.B., Ch B. Aberd., has been appointed House on at the Great Northern Central Hospital.

rederick, M.B., B.S. Aberd., has been appointed Assistant thetist to the Aberdeen Royal Infirmary.

W. A., M.D., M.S. Edin., has been appointed Certifying on under the Factory and Workshop Act for the Loftus ict of the county of York.

Frank Leslie, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., een appointed Honorary Medical Officer to the North Devon mary, Barnstaple.

Chisholm, F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., Lond., has been appointed Medical Officer to the X Ray rtment at St. John's Hospital for Diseases of the Skin, ter-square.

R. H., M.B., Ch.B. Vict., D.P.H., has been appointed Officer of Health for the Combined Sanitary Districts of ing Borough and East Preston.

J. D., M.B., B.S. Dub., has been appointed Certifying on under the Factory and Workshop Act for the Clonmel ct of the county of Tipperary.

Vacancies.

r information regarding each vacancy reference should be made to the advertisement (see Index).

Carnarvonshire and Anglesey Infirmary.—House on. Salary £80 per annum, with board, washing, and g.

and East Lancashire Infirmary.—Junior House Sur-. Salary £70 per annum, with board, washing, &c.

Children's Hospital.—House Surgeon. Salary £100.

Glamorgan County Asylum.—Junior Assistant Medical . Salary £150 per annum, with board, apartments, attend-, and washing.

General Hospital.—Assistant House Physician. Salary with board, residence, &c.

Hospital (Free), Fulham-road, London, S.W.—Honorary ician.

Infirmary.—House Physician for six months. Salary £30, board, residence, and laundry.

Hospital and Wakefield General Dispensary.—Junior Surgeon, unmarried. Salary £80 per annum, with board, , and washing.

Research Association.—Assistant Director of the Labora-y. Salary £250 per annum.

ought Hospital, Greenwich.—Assistant Physician; also ant Physician or Surgeon for Diseases of the Throat, Nose, Ear.

a Hospital for Sick Children, Southwark Bridge-road, don, S.E.—Honorary Anæsthetist. Also House Physician for months, and House Surgeon for six months. Salary in each at rate of £60 per annum, with board, residence, and hing.

Yarmouth Hospital.—House Surgeon, unmarried. Salary 0 per annum, with board, lodging, and washing.

ock Infirmary.—Assistant House Surgeon. Salary £40 per num, with board and residence.

tal for Sick Children, Great Ormond-street, London, W.C.— Surgeon, also Assistant Casualty Medical Officer, both for months, and unmarried. Salary in each case £20, with board residence. Also House Physician, unmarried, for six months. ary £20, with board and residence.

Français, 172, Shaftesbury-avenue, W.C.—Junior Resident cal Officer, unmarried, for six months. Salary £50 per annum, full board.

field, County Borough of.—Assistant Medical Officer of th (female). Salary £130 per annum.

East Suffolk and Ipswich Hospital.—Third House Sur-. Salary £50 per annum.

Hospital, Queen-square, London, W.C.—House Surgeon for months, renewable. Salary £60 per annum, with board and dence.

ward VII. Sanatorium, Midhurst, Sussex.—Senior Assistant ical Officer, unmarried. Salary £150 per annum, with board, g, and attendance.

Workhouse, Renfrew-road, Lower Kennington-lane, S.E.— ant Medical Officer. Salary £125 per annum, with board, ments, and washing.

ter, County Lunatic Asylum.—Assistant Medical Officer for summer months. Salary 3 guineas per week, with board, ing, and washing.

General Infirmary.—House Physician, also Ophthalmic Surgeon, for six months. Board, lodging, and washing ided.

County Hospital.—Junior House Surgeon, unmarried, for months. Salary £30, with board, residence, and washing.

Lincoln General Dispensary.—Resident Junior House Surgeon, unmarried. Salary £175 per annum, with apartments, fire, and gas provided.

Liverpool Dispensaries.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

London County Asylum, Horton, Epsom, Surrey.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

London Hospital, Whitechapel.—One Medical and Two Surgical Registrars. Salary in each case £100 per annum.

London Lock Hospital and Rescue Home, Harrow-road, W.—Honorary Dental Surgeon to Females.

London Throat Hospital, 204, Great Portland-street, W.—Assistant Surgeon.

Lowestoft Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

Medical Mission Hospital, Settlement of Women Workers, Canning Town.—Assistant Doctor (female) for six months. Board, residence, and laundry.

New Hospital for Women, Euston-road.—Anæsthetist (female).

Northumberland, Tynemouth Infirmary.—Two House Surgeons. Salary £50 per annum each, with rooms, board, &c.

Norwich, Norfolk and Norwich Hospital.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

Nottingham City Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, &c.

Nottingham General Hospital.—Assistant House Physician, also Assistant House Surgeon. Salary in each case £60 per annum, with board, lodging, and washing.

Plymouth, South Devon and East Cornwall Hospital.—House Physician for six months, renewable. Salary £50 per annum, with board, residence, and washing.

Preston, County Borough of.—Schools Medical Officer. Salary £250 per annum.

Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary is at rate of £50 per annum, with board, residence, and washing. Also Physician to Out-patients.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

Royal Dental Hospital, Leicester-square.—Morning House Anæsthetist. Salary £50 per annum.

Royal Navy, Medical Department.—Examination for not less than 15 Commissions.

Ryde, Royal Isle of Wight County Hospital.—Resident House Surgeon. Salary £100 per annum.

Salisbury Infirmary.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Surgeon.

Shrewsbury, Salop Infirmary.—House Physician for six months. Salary at rate of £50 per annum, with board and apartments.

Singapore, Straits Settlements, Municipal Health Department.—Assistant Municipal Health Officer, unmarried. Salary $4200, rising to $4800.

Stafford, Staffordshire County Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with board, lodging, and attendance.

Sunderland Infirmary.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

Wolverhampton and Midland Counties Eye Infirmary.—House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Insch, in the county of Aberdeen; at Birr, in King's County; at Tintern, in the county of Monmouth; and at Barnoldswick, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

Nicoll.—On April 17th, at Abingdon Villas, Kensington, the wife of Charles Vere Nicoll, M.R.C.S., L.R.C.P. Lond., of a son.

Quirke.—On April 10th, at Lillie-road, S.W., the wife of John J. Quirke, M.R.C.S., L.R.C.P., of a son.

MARRIAGES

Fletcher—Browne.—On April 18th, at Llandaff Cathedral, by the Rev. Hugh Williams, M.A., assisted by the Rev. Canon Buckley, B.D., Vicar of the parish, Nigel Corbet Fletcher, B.A., M.B., B.C. Cantab., M.R.C.S. Eng., of 122, Haverstock Hill, N.W., to Mabel Isabel Browne, youngest daughter of the late Thomas Browne.

Owles—Owles.—On April 23rd, at St. Stephen's, Clapham Park, by the Rev. Digby Gritten, Chaplain to the Royal Hospital for Incurables, Putney, Oscar Wm. Owles, M.R.C.S. Eng., L.R.C.P. Lond., of Beccles, Suffolk, to Ethel, second daughter of the late F. J. Owles, of Norfolk House, Balham, and of Mrs. Owles, 291, Trinity-road, Wandsworth Common, S.W.

DEATHS

Pechey-Phipson.—On April 14th, at Grimston Gardens, Folkestone, Mary Edith Pechey-Phipson, M.D.

Walker.—On April 13th, at Wolverton, Beckenham, Joseph Walker, M.D., M.R.C.S. Eng., L.D.S., in his 83rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

iary for the ensuing Week.

SOCIETIES.

OF MEDICINE, 20, Hanover-square, W.

ECTION (Hon. Secretaries—H. H. Tooth, H. P.): at 5.30 P.M.

ICAL AND PHARMACOLOGICAL SECTION (Hon. Secre- Gray Duncanson, H. O. Cameron) at Apothecaries' ckfriars, E.C.: at 4.30 P.M.

Guthrie: Remarks on Rheumatism and Chorea in

f the Society are entitled to attend and to speak at all Meetings.

Y OF LONDON, 11, Chandos-street, Cavendish-

P.M., Colonel D. Bruce, R.A.M.C.: Malta Fever. ck: Appendicitis a Cause of Pyosalpinx.

EDICO-CHIRURGICAL SOCIETY, West London ith-road, W.

M., Prof. H. Spencer: The Advantage of Abdominal amination in Pregnancy. Dr. S. Taylor: Some edies.

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P.M., Dr. D. Arthur: Diagnosis of Chest Diseases ustrated by lantern slides). Dr. R. Roche: Notes t Cases of Extra-Uterine Fœtation.

DDRESSES, DEMONSTRATIONS, &c.

ION OF GREAT BRITAIN, Albemarle-street,

P.M., Mr. W. Bateson: Mendelian Heredity. (Tyndall Lectures.)

Annual Meeting. 9 P.M., Prof. J. Larmor: The k of Lord Kelvin.

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ROPOLITAN HOSPITALS.

ondon (2 P.M.), St. Bartholomew's (1.30 P.M.), St. M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), ecological, by Physicians, 2 P.M.), Soho-square pædic (4 P.M.), Gt. Northern Central (2.30 P.M.), 30 P.M.), London Throat (9.30 A.M.), Royal Free 1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), M.), West London (2.30 P.M.).

ondon (2 P.M.), St. Bartholomew's (1.30 P.M.), St.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), West- West London (2.30 P.M.), University College ge's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2 P.M.), Metropolitan (2.30 P.M.), London Throat itan (9.30 A.M. and 2.30 P.M.), Throat, Golden-), Soho-square (2 P.M.), Chelsea (2 P.M.), Central nd Ear (2 P.M.), Children, Gt. Ormond-street Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

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